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ANNUAL REPORT

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OF THE

COMMISSIONER OF PATENTS

FOR

THE YEAR 1867.

VOLUME I.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.
1868.

IN THE SENATE OF THE UNITED STATES,

January 29, 1868.

Resolved, That 4,000 additional copies of the letters from the Commissioner of Patents, transmitting Annual report of that office, be printed for the use of the Senate.

IN THE HOUSE OF REPRESENTATIVES,

June 5, 1868.

On motion of Mr. LAFLIN, from the Committee on Printing,

Resolved, That there be printed 15,000 extra copies of the Report of the Commissioner of Patents, 10,000 for the use of the House, and 5,000 for the Commissioner.

R E P O R T
OF
THE COMMISSIONER OF PATENTS
FOR
THE YEAR 1867.

JANUARY 14, 1868.—Referred to the Committee on Patents and ordered to be printed.

UNITED STATES PATENT OFFICE,
Washington, D. C., January 14, 1868.

SIR: I have the honor to transmit herewith the annual report of this office for the year 1867, to be laid before Congress.

I am, very respectfully, your obedient servant,

T. C. THEAKER,
Commissioner of Patents.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

UNITED STATES PATENT OFFICE,
January 14, 1868.

SIR: I have the honor to submit the following report of the business of this office during the year 1867.

The receipts and expenditures of the office for the year, and the condition of the patent fund at its close, are shown by the following statements:

No. 1.

Number of applications for patents during the year	21, 276
Number of patents issued, including reissues and designs	13, 015
Number of caveats filed during the year	3, 597
Number of applications for extensions of patents	106
Number of patents extended	95
Number of patents expired	1, 005

Of the patents granted, there were to—

Citizens of the United States	12, 651
Subjects of Great Britain	191
Subjects of the French empire	80
Subjects of other foreign governments	93

No. 2.

Statement of money received during the year.

On applications for patents, reissues, appeals, &c	\$597, 205 75
For copies and for recording assignments	49, 376 17
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	646, 581 92
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No. 3.

Statement of expenditures from the patent fund.

For salaries (including the extra 20 per cent.)	\$156, 546 50
Contingent expenses, miscellaneous	260, 812 85
Permanent improvements in the model room, library, draughts- man's room, and examiners' rooms	46, 301 98
Temporary clerks, (including the extra 20 per cent.)	155, 339 91
Withdrawals	200 00
Refunding money paid by mistake	1, 085 80
Judges in appeal cases	261 25
To this add the following items not heretofore paid from the patent fund, viz:	
For illustrations for report	16, 819 60
For expenses of copyrights	1, 895 43
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Total	639, 263 32
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No. 4.

Amount to the credit of the patent fund January 1, 1867	\$264, 125 88
Amount of receipts during the year	646, 581 92
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Total	910, 707 80
From which deduct for expenditures	639, 263 32
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Leaving a balance to the credit of the patent fund January 1, 1868	271, 444 48
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Table exhibiting the business of the office for 31 years ending December 31, 1867.

Years.	Applications filed.	Caveats filed.	Patents issued.	Cash received.	Cash expended.
1837			435	\$29,289 08	\$33,506 98
1838			520	42,123 54	37,402 10
1839			425	37,260 00	34,543 51
1840	765	228	473	38,056 51	39,020 67
1841	847	312	495	40,413 01	52,666 87
1842	761	391	517	36,505 68	31,241 48
1843	819	315	531	35,315 81	30,766 96
1844	1,045	380	502	42,509 26	36,244 73
1845	1,246	452	502	51,076 14	39,395 65
1846	1,272	448	619	50,264 16	46,158 71
1847	1,531	553	572	63,111 19	41,878 35
1845	1,628	607	660	67,576 69	58,905 84
1849	1,955	595	1,070	80,752 78	77,716 44
1850	2,193	602	995	86,927 05	80,100 95
1851	2,258	760	869	95,738 61	86,916 93
1852	2,639	996	1,020	112,056 34	95,916 91
1853	2,673	901	958	121,527 45	132,869 83
1854	3,324	868	1,902	163,789 84	167,146 32
1855	4,435	906	2,024	216,459 35	179,540 33
1856	4,960	1,024	2,502	192,588 02	199,931 02
1857	4,771	1,010	2,910	196,132 01	211,582 09
1858	5,364	943	3,710	203,716 16	193,193 74
1859	6,225	1,097	4,538	245,942 15	210,278 41
1860	7,653	1,084	4,819	256,352 59	252,820 80
1861	4,643	700	3,340	137,354 44	221,491 91
1862	5,038	824	3,521	215,754 99	182,810 39
1863	6,014	787	4,170	195,593 29	189,414 14
1864	6,972	1,063	5,020	240,919 98	229,868 00
1865	10,664	1,937	6,616	348,791 84	274,199 34
1866	15,269	2,723	9,450	495,665 38	361,724 28
1867	21,276	3,597	13,015	646,581 92	639,263 32

Valuable reports of sections have been received from the officers in charge relating to the subjects coming under their cognizance; their accompanying exhibits show that in each department the number of applications has increased, and the character of the inventions proves that the inventive faculty is still alive and usefully employed. The reports, however, generally agree in stating that, with some exceptions, the improvements are mainly in detail, perfecting and adapting what may be considered substantially as existing contrivances and processes.

Changes in the classification and in the alignment of cases having been lately made, a tabular account of the rate of increase of work in the different classes cannot be given satisfactorily. The purpose of the change, so far as it affects subjects, has been to secure more homogeneity in the classes, and to allot more systematically the floating cases, whose distribution has previously been rather arbitrary than consistent. Another incentive to reorganization in this particular has been the increase in the number of examiners and assistants, which is now one-fourth larger than at the date of my last annual report.

The new classification is nearly completed, and will shortly be printed. The number of classes has risen from 22 to 36, a number of subjects being now recognized individually which were formerly merged with others under a more generic title. Among these are builders' hardware, felting, illumination, paper, and sewing machines, to each of which subjects so much attention has been directed by inventors that a division became a necessity to secure a proper apportionment of work among the corps of examiners.

The American system, as it may be fairly called, has proved itself to be well

adapted to carry out the purpose of the law and the clause in the Constitution under which, in the interest of science and the useful arts, Congress has power to secure to inventors, for limited times, the exclusive right to their discoveries. The office has now a corps of experts to whom applications for patents are assigned for examination, who are intimately acquainted with the details of their respective classes, and whose judgment is worth to an inventor, in an average case, many times the cost of making the application for a patent.

It is believed that the value of the system, great as it is admitted to be, is not adequately understood, and to some the thorough acquaintance of an examiner with his class is simply regarded as a possible obstacle in the way of obtaining a patent. Such an apprehension cannot be felt by one who truly values the system, as, for instance, a *bona fide* inventor who has unwittingly followed in a path previously travelled by another; to him, though disappointed, the truth had far better come in this way than after expense has been incurred in operating under a patent whose worthlessness is only made apparent when the invention proves itself valuable and provokes litigation.

The student is well aware that the English practice of granting patents was originally a system of monopoly, extending to such things as tanning, the sale of salt in a given district, the importation of certain articles, and similar exclusive powers which proved vexatious exactions to the public.

The act of Parliament to discourage monopolies, passed some two centuries since, recites the legitimate subjects for such grants, and the wisdom of the conclusion then arrived at has not since been successfully called in question.

The advance made by the American system upon the practice which followed the legislation of the Parliament of King James consists in giving an intelligent examination to each application instead of granting a patent as a matter of course, and remitting the patentee to the public and the courts, when a few minutes examination by an expert would have determined to the inventor's ultimate satisfaction, though present chagrin, perhaps, that the invention was worthless on the ground of want of novelty or its inherent radical faults.

Viewing the office as a self-sustaining bureau under the control of the government, the accompanying exhibit is a cause for congratulation to all concerned: the inventors whose genius and industry have supported, and the legislators who have wisely recognized the rights of the inventors and the interests of the public, which are identical.

A glance at the tabular statement of the office business for a series of years shows that the constant increase in the number of applications has not been attended by a proportionate increase in the expenses of the office; this is true even of this year, although over \$100,000 has been expended, as shown in the financial statement, for permanent improvements and other objects out of the ordinary course. The machinery is working with less friction and loss; economy and system have been equally studied, and while details may yet be amended to complete the symmetry of the organization, the office is deservedly popular and respected as an American institution, the legitimate exponent of the useful arts, whose progress it was designed to promote.

The following table shows the average cost of each examination for a series of years, the calculation being based upon the number of applications and the gross expenditure of the office in each year:

1840.....	\$51 00	1849.....	\$39 75
1841.....	62 18	1850.....	36 52
1842.....	41 05	1851.....	38 49
1843.....	37 55	1852.....	36 34
1844.....	34 68	1853.....	49 71
1845.....	31 62	1854.....	50 28
1846.....	36 29	1855.....	40 48
1847.....	27 35	1856.....	40 31
1848.....	36 18	1857.....	44 35

1858.....	\$36 01	1863.....	\$31 49
1859.....	33 78	1864.....	32 97
1860.....	33 04	1865.....	25 72
1861.....	47 49	1866.....	23 69
1862.....	36 28	1867.....	30 04

The expenditure in 1867 for 20 per cent. extra salaries, (according to act of Congress,) permanent improvements, illustrations for report and copyright expenses, (see financial statement No. 3,) divided among the applications of the year, renders the average nearly \$5 higher than it would otherwise appear.

The increase in the clerical force, both expert and routine, and the multiplication of the office records, drawings, and books of reference, has not been accompanied by an adequate extension of room and facilities for work. The urgent pressure in the examiners' department has been somewhat relieved by the assignment of additional rooms, but the employés in other sections are suffering from lack of space wherein to arrange and execute their work. In fact, the public passages and rooms cut off from them are now used to afford accommodation, incomplete as it is, for those employés for whom no rooms can be found.

The librarian again calls my attention to the inadequacy of the room for the proper display and the convenient handling of the books. I have nothing to add to my report of last year on this subject, except that the necessity for more room is every year more apparent, and the limitation more irksome as the books become more closely crowded and the space available for their consultation is diminished.

The space and facilities for the arrangement of the caveats are altogether inadequate and unsuitable. It has been my desire to isolate them in a manner consistent with their official character, but want of room has precluded the perfecting of any suitable arrangement therefor.

The great assemblage of drawings of patented and rejected applications occupies much room, but needs more. A very thorough style of improvement in the substitution of sliding and tilting drawers for the ordinary portfolios, has made their handling and consultation much more convenient and expeditious. They, however, cannot be kept within the present bounds, and the constant augmentation aggravates the inconvenience.

The drawings now number over 100,000, and are becoming torn and soiled by the constant but legitimate wear to which they are exposed. Photography seems to offer the only means for renewing them. For some time past I have had it in contemplation to have photographic copies of uniform size made from the current issues and the drawings of former patents, so as to furnish to each examiner a copy of all the drawings appertaining to his class, enabling him to consult them without going to the draughtsman's room, where the space is insufficient for the purpose. This would much facilitate the examination of applications, which becomes a heavier task annually as the drawings accumulate. A set of the drawings might be bound and placed in the library for public inspection, and copies furnished to other public institutions which might be disposed to order them. Copies of the drawings might thus be furnished at a reasonable price and afford a revenue to the office.

If this plan were adopted, applications might be filed with but a single drawing, instead of two, as is the present practice, and a fac-simile of the drawing of record, in most cases of even size with the face of the patent, might be attached thereto.

It has been my purpose to commence by photographing each week the current issues and several hundreds of the back issues, so as gradually to accumulate a full copy of the record, and where a drawing may be lost to take a photographic view of the model, which might stand in its place. The copies thus made would be of even size and smaller than the average of the originals, which would

enable them to be placed in compact form and greatly to economize the room occupied by them.

The printing of the specifications was commenced November 20, 1866, and the size of the patents was reduced from 15 by 20 to 10 by 15 inches. The letters patent are thus of a more convenient size for all purposes. A number of copies of each are struck off while the type is set. One copy is attached to the face of the letters patent, of which it forms the "accompanying specification;" one is bound with its fellows in consecutive order to form a book of records; two are sent to the commissioners of English patents, as a slight, though utterly inadequate, return for the magnificent series of English patents which have been and continue to be furnished gratis to us by them as they are issued.

Printed copies are now furnished to all who order them at one-half the former price for the manuscript, and at a profit to the office about equal to the loss on each under the former practice, which was about four cents per hundred words for each copy.

The condensation of the matter, incident to printing, gives compactness to the record, secures exact correspondence between the original and the record, and is a safeguard against change in either.

The time will soon arrive in which it will be prudent to dispose of all models of rejected applications; the amount of room they take can be much better occupied. The model saloon in the west wing of the office is now almost entirely devoted to them, and will soon be required for the display of models of patented inventions. The office will remain in possession of the files and drawings in each rejected case, which will be sufficient for its purpose in preserving the record.

The business of the office is now reported by the examiners of classes as being up to date, so that applications are examined without delay, which is much more satisfactory to all parties than formerly, when it was weeks, and in very many cases months, in arrears. This is in the face of the fact that the business of the office is rapidly increasing, as is shown in the exhibit appended, the number of applications being three times the number received in 1864.

All of which is most respectfully submitted.

T. C. THEAKER,
Commissioner.

ALPHABETICAL LIST OF PERSONS WHOSE PATENTS FOR INVENTIONS AND DISCOVERIES HAVE EXPIRED DURING THE YEAR 1867.

No.	Name and invention.	Date.	Class.
9, 826	Abbé, Alanson. Instruments for correcting lateral deviations of the spine...	July 5, 1853	XX.
10, 146	Adams, Calvin. Window-shutter fastener and holder.....	Oct. 25, 1853	II.
9, 606	Adams, Seth. Printing presses.....	Mar. 8, 1853	XVIII.
9, 616	Aldrich, Warren. Turning lathes.....	Mar. 15, 1853	XIV.
10, 083	Alexander, Thomas J. Machines for sawing sticks for broom handles.....	Sept. 20, 1853	XXII.
9, 582	Allen, Horatio, and D. G. Wells. Adjustable cut-off gearing for puppet-valve engines.....	Feb. 15, 1853	VI.
9, 792	Allen, Horatio, and D. G. Wells. Cut-off for steam engines.....	June 21, 1853	VI.
10, 270	Allen, Samuel F. Fluid lamps.....	Nov. 29, 1853	V.
10, 201	Allen, Samuel S. Gear of grain and grass-cutting harvesters.....	Nov. 8, 1853	I.
9, 962	Allen, Zachariah. Counterpanes.....	Aug. 23, 1853	III.
10, 001	Allison, Thomas. Straw-cutters.....	Sept. 6, 1853	I.
10, 083	Anderson John E. Throttle valve arrangements.....	Oct. 4, 1853	VI.
10, 978	Appleton, Charles T. Process in dyeing. (Antedated Aug. 30, 1853).....	May 30, 1854	IV.
9, 891	Armstrong, S. T., assignee of Henry L. Norris. Preserving India-rubber in the liquid state. (Patented in England February 24, 1853; in France, March 13, 1853).....	July 26, 1853	IV.
10, 329	Armstrong, J. B. Cotton presses.....	Dec. 20, 1853	XII.
9, 512	Arnold, James P. Machine for hackling flax and hemp.....	Jan. 4, 1853	III.
9, 984	Asbury, James T. Straw-cutter.....	Sept. 6, 1853	I.
9, 836	Ashcroft, Edward H. Pressure gauges.....	July 12, 1853	VI.
10, 320	Atwood, Charles. Attaching hooks and eyes to cards.....	Dec. 20, 1853	XXI.
9, 630	Atwood, Luther. Preparing lubricating oils.....	Mar. 29, 1853	IV.
9, 951	Same.....Process for purifying alcohol.....	Aug. 23, 1853	IV.
4, 906	Auger, Hezekiah, (James Auger, administrator of.) Improvement in machines for carving.....	Dec. 23, 1846	
9, 944	Babbitt, William H. Hill-side plows.....	Aug. 16, 1853	I.
9, 705	Bachelor, A. G. Countersinks.....	May 10, 1853	XIV.
9, 761	Baker, Henry. Converting rotary into reciprocating motion.....	June 7, 1853	XIII.
10, 062	Baker, Joel. Car wheels.....	Oct. 4, 1853	X.
10, 007	Baldwin, M. W. Gear of variable cut-off valves for steam engines.....	Sept. 13, 1853	VI.
10, 174	Ballard, William. Protecting bulwarks for war vessels.....	Nov. 1, 1853	VII.
10, 348	Bard, Edmund H., and Henry H. Wilson. Gold pens.....	Dec. 20, 1853	XVIII.
9, 986	Barnes, James. Edging machine for leather straps.....	Sept. 6, 1853	XVI.
9, 852	Barnes, Samuel T. Press-mold candlesticks.....	July 19, 1853	V.
9, 592	Bates, William G., assignee of William H. Johnson. Sewing machines.....	Feb. 22, 1853	III.
10, 331	Battershall, D. E. and M. Candle-mold machines.....	Dec. 20, 1853	IV.
9, 541	Bauder, Charles L. Bedstead fastenings.....	Jan. 18, 1853	XVII.
10, 332	Baxendale, James. Machine for stamping patterns on rollers.....	Dec. 20, 1853	XVIII.
9, 528	Bayliss, Thomas, and Daniel Williams. Rakes to harvesters.....	Jan. 11, 1853	I.
9, 931	Baynes, G. W., Thomas Hinty, and M. Jackson. Bedstead fastenings.....	Aug. 16, 1853	XVII.
9, 892	Bazin, James A. Reed musical instruments.....	Aug. 2, 1853	XVIII.
9, 932	Beach, William. Meat tenderers.....	Aug. 16, 1853	XVII.
10, 124	Beard, Ebenezer. Propellers.....	Oct. 18, 1853	XII.
9, 987	Beaumont, Victor. Printing presses.....	Sept. 6, 1853	XVIII.
10, 147	Beauregard, G. T. Self-acting bar excavators.....	Oct. 25, 1853	IX.
9, 552	Bell, John. Method of joining corners of boxes, &c.....	Jan. 25, 1853	XIV.
9, 766	Belson, R. W. Boilers for cooking stoves.....	June 7, 1853	V.
10, 279	Benedict, E. B. Coupling shafts to axles.....	Nov. 29, 1853	X.
10, 063	Benson, Elihu R. Slat machine for window blinds.....	Oct. 4, 1853	XIV.
9, 881	Benton, Ezra R. Bran-dusters.....	July 26, 1853	XIII.
9, 741	Berdan, Hiram. Machines for pulverizing auriferous quartz and amalgamating the gold.....	May 24, 1853	II.
9, 657	Berlin, William. Harrows.....	Apr. 12, 1853	I.
10, 247	Beschke, William. Joining and riveting metallic plates.....	Nov. 22, 1853	II.
9, 519	Bidwell, J. C., and John Hall, executors of Samuel Hall. Hill-side plows.....	Jan. 4, 1853	I.
10, 292	Bigelow, E. B. Looms for weaving pile fabrics.....	Nov. 15, 1853	III.
4, 696	Same.....Improvement in power looms.....	Aug. 18, 1846	
4, 696	Bigelow, Erastus B. Improvement in power looms.....	Aug. 18, 1846	
9, 923	Binder, John. Hinges for folding bedsteads.....	Aug. 16, 1853	XVII.
10, 224	Birkinbine, Henry P. M. Supplemental valve to the equilibrium pipe of the Cornish engine.....	Nov. 15, 1853	VI.
9, 873	Bisbee, Cyrus C. Shower-bath tables.....	July 26, 1853	XX.
9, 622	Black, Horatio W. Steam hydraulic pumps.....	Mar. 22, 1853	XI.
10, 024	Black, James. Planetary hydraulic steam engine.....	Sept. 20, 1853	VI.
9, 553	Black, James, and Orson Beecher. Working the condenser attached to diaphragm steam pumps.....	Jan. 25, 1853	XI.
9, 743	Blair, John B. Engraving machine.....	May 24, 1853	XVIII.
9, 985	Blake, Philus, Eli W., and J. A. Nut-crackers. (Antedated Mar. 6, 1853).....	Sept. 6, 1853	XVII.
9, 643	Bloodgood, John H. Process of forming yarn by felting.....	Apr. 5, 1853	III.
10, 271	Bloom, J. Condensing smoke and gases.....	Nov. 29, 1853	V.
10, 202	Blue, John. Carriers to grain separators.....	Nov. 8, 1853	I.
10, 333	Bolton, James, M. D. Hot-air furnaces.....	Dec. 20, 1853	V.
10, 351	Botter, Andres E. Wardrobe or folding bureau bedstead.....	Dec. 20, 1853	XVII.
9, 554	Bourgard, Charles. Manufacturing wigs.....	Jan. 25, 1853	XXI.
10, 125	Bowditch, Edwin B. Sofa beds.....	Oct. 18, 1853	XVII.
10, 025	Boyden, Uriah A. Turbines.....	Sept. 20, 1853	XI.
10, 026	Same.....same.....	Sept. 20, 1853	XI.
10, 027	Same.....Hydraulic motors.....	Sept. 20, 1853	XI.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
9, 898	Boynton, C. S. Paper-ruling machine	Aug. 2, 1853	XVIII
9, 573	Boynton, Nathaniel A. Hot-air furnaces	Feb. 8, 1853	V.
9, 590	Bradford, H., and E. Fitzgerald. Apparatus for separating ores or other substances of different specific gravities	Feb. 22, 1853	II.
9, 983	Bradway, Abel, assignee of Elijah Valentine. Shingle machines	Aug. 30, 1853	XIV.
9, 555	Bretney, Henry. Tanning hides and skins	Jan. 25, 1853	XVI.
9, 742	Brick, Samuel R. Gas burners	May 24, 1853	V.
9, 583	Briggs, John. Railroad car seats	Feb. 15, 1853	X.
9, 631	Briggs, Schuyler, and John G. Talbot. Winnowers of grain	Mar. 29, 1853	I.
10, 101	Brinckerhoff, Cornelius R. Plows	Oct. 11, 1853	I.
9, 874	Bristol, Richard C. Rotary steam engines	July 26, 1853	VI.
9, 854	Brown, Alexander H. Feathering paddle wheels for steamers. (Patented in England March 5, 1853)	July 19, 1853	VII.
9, 849	Brown, Charles F. Adjustable screw propellers	July 12, 1853	VII.
9, 584	Brown, Darius C. Machines for manufacturing harness for looms	Feb. 15, 1853	III.
10, 925	Brown, James. Daguerreotype apparatus	Nov. 15, 1853	XVIII.
10, 320	Brown, John E., and S. S. Bartlett. Grain and grass harvesters	Dec. 20, 1853	I.
10, 555	Brown, William. Preparing paraffine oil	Sept. 27, 1853	IV.
10, 248	Browne, Gardner S., M. D. Body braces	Nov. 22, 1853	XX.
10, 064	Bruce, Gardner A. Corn planters	Oct. 4, 1853	I.
9, 513	Bruen, J. T., and J. G. Wilson. Machines for sawing stone	Jan. 4, 1853	XV.
10, 226	Bulkley, Charles S. Electro-magnetic annunciators	Nov. 15, 1853	XXII.
9, 644	Burrall, Thomas D. Grain harvesters	Apr. 5, 1853	I.
9, 875	Burton, William V. Plows	July 16, 1853	I.
9, 658	Bushnell, Edwin L. Spring mattresses	Apr. 12, 1853	XVII.
4, 452	Butterworth, Joshua H. Improvement in door locks	Apr. 11, 1846	
10, 102	Byram, Henry P. Hullers of grass-seed	Oct. 11, 1853	I.
9, 670	Calvert, Francis A. Feed motion in willowers	Apr. 19, 1853	III.
10, 196	Calvert, George. Beehive	Nov. 1, 1853	I.
9, 837	Camp, Chauncey W. Shot-chargers	July 12, 1853	XIX.
9, 913	Canby, Samuel. Winnowers of grain	Aug. 9, 1853	I.
10, 334	Cantel, Lezare. Metallic trunk frames	Dec. 20, 1853	XVI.
9, 585	Carey, Joshua C. Adjustable heading lever in spike machines	Feb. 15, 1853	I.
4, 912	Carhart, Jeremiah. Improvement in bellows for musical instruments	Dec. 28, 1846	
4, 547	Carmichael, Daniel, (Eliza Carmichael, administratrix of.) Improvement in dredging machines	May 30, 1846	
9, 882	Carothers, Jacob H. Corn planters	July 26, 1853	I.
10, 175	Carpenter, Calvin, jr. Magneto-electric machines. (Patented in France April 18, 1853)	Nov. 1, 1853	VIII.
10, 335	Carrol, David. Shuttles	Dec. 20, 1853	III.
10, 300	Carson, Alfred. Mode of ringing fixed bells. (Antedated June 6, 1853)	Dec. 6, 1853	XXII.
4, 595	Cary, Daniel, (Norman, Sheldon, and Jane Cary, administrators of.) Improvement in horse power	June 27, 1846	
9, 598	Case, Asa N., and Alden. Bedstead fastenings	Mar. 1, 1853	XVII.
9, 894	Caswell, Lebbeus. Seed planters	Aug. 2, 1853	I.
10, 250	Champion, Samuel and Thomas. Transporting bridges. (Antedated May 22, 1853)	Nov. 22, 1853	IX.
9, 722	Chandler, Thomas A. Pendulum levels	May 17, 1853	VIII.
9, 529	Chapin, Nathan. Lathes for turning interior and exterior surfaces	Jan. 11, 1853	XIV.
10, 281	Chapman, Samuel, jr. Stone saws	Nov. 29, 1853	XV.
9, 934	Charpie, P. F. Gun locks	Aug. 16, 1853	XIX.
9, 574	Chase, George. Centre board and rudder of vessels for shoal water	Feb. 8, 1853	VII.
10, 176	Chatham, A. P. Car couplings	Nov. 1, 1853	X.
10, 028	Chatman, Alfred F. Razor straps	Sept. 20, 1853	XXI.
10, 008	Chilcott, John, and Robert Snell. India-rubber soles for boots and shoes	Sept. 13, 1853	XVI.
10, 021	Same. Screw fastenings for boots and shoes	Sept. 13, 1853	XVI.
10, 177	Clarke, Gilbert S. Pen and pencil case	Nov. 1, 1853	XVIII.
9, 514	Clarke, James J. Self-winding telegraphic register	Jan. 4, 1853	VIII.
10, 128	Same. same	Oct. 18, 1853	VIII.
9, 814	Clark, Horatio. Bobbins	June 28, 1853	III.
9, 609	Clemens, S. A. Machines for breaking and dressing flax	Mar. 8, 1853	III.
10, 251	Same. Ventilating railroad cars	Nov. 22, 1853	V.
9, 895	Cline, Samuel R. Apparatus to regulate the supplying of water to steam boilers	Aug. 2, 1853	VI.
9, 723	Coburn, Moses. Violins	May 17, 1853	XVIII.
10, 306	Cochran, James. Hydrant valve	Dec. 13, 1853	XI.
9, 945	Cocs, Aury G. Screw wrench	Aug. 16, 1853	II.
10, 122	Coffin, John E., assignee of John A. Elder. Machine for cutting binders' boards	Oct. 11, 1853	XVIII.
9, 848	Coffin, Nathan T. Forming teeth on mill saws	July 12, 1853	XIV.
9, 856	Same. Hanging saws	July 19, 1853	XIV.
9, 683	Coleman, Ezra. Machines for folding envelopes	Apr. 26, 1853	XVIII.
9, 946	Coleman, William and S. G. Ship's blocks	Aug. 16, 1853	VII.
10, 103	Collan, John B. Detachable lining for the fire boxes of steam boilers	June 21, 1853	XVIII.
9, 793	Colley, Benjamin E. Piano-fortes	Oct. 11, 1853	VI.
9, 632	Colver, Lewis W. Machines for breaking hemp	Mar. 29, 1853	III.
9, 623	Comly, John P. Separating paper by single sheets	Mar. 22, 1853	XVIII.
9, 988	Compton, William. Piano-fortes	Sept. 6, 1853	XVIII.
10, 307	Comstock, John. Bit stocks of braces	Dec. 13, 1853	XIV.
9, 896	Conant, H. B. Abdominal supporters	Aug. 2, 1853	XX.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11, 050	Contaret, Dominique Emile. Manufacture of sulphuric acid. (Antedated December 16, 1853).	June 13, 1854	IV.
9, 543	Contner, Joseph. Saddle trees.	Jan. 18, 1853	XVII.
9, 857	Conway, Charles J. Lamps.	July 19, 1853	V.
9, 544	Cook, George and David. Driving circular saws, &c.	Jan. 18, 1853	XIV.
9, 671	Cook, James M. Excluding dust from railroad cars.	Apr. 19, 1853	X.
10, 308	Cook, Norman. Mode of fixing the colors of cotton umbrellas.	Dec. 13, 1853	XXI.
9, 682	Cook, Samuel. Smut machines.	Apr. 26, 1853	XIII.
10, 203	Cooper, Cornelius S. Violins, &c.	Nov. 8, 1853	XVIII.
10, 178	Cormack, J. W. Cane and maize cutters.	Nov. 1, 1853	I.
10, 167	Coughlan, William. Soda fountains.	Oct. 25, 1853	IV.
10, 283	Crabtree, John, and Joseph Hopkinson. Tightening of engine and pump-pistons packing.	Nov. 29, 1853	VI.
9, 645	Crane, John E. Chain-cable stopper.	Apr. 5, 1853	VII.
10, 139	Crawford, Benjamin. Condensers for steam engines.	Nov. 1, 1853	VI.
10, 321	Creamer, William G. Operating brakes by signal cord.	Dec. 20, 1853	X.
10, 126	Crighton, William. Shuttle motions for power looms.	Oct. 18, 1853	III.
9, 740	Cressler, William. Seed planters.	May 17, 1853	I.
10, 127	Crider, Henry S., and David Williams. Attaching artificial teeth to the metallic plate.	Oct. 18, 1853	XX.
10, 168	Crocker, Nelson. Attaching the head cringle to the yards of vessels.	Oct. 25, 1853	VII.
9, 591	Croll, Alexander A. Gas meters.	Feb. 22, 1853	IV.
10, 180	Crosby, C. O. Machines for sticking pins.	Nov. 1, 1853	II.
10, 181	Same. Same.	Nov. 1, 1853	II.
10, 182	Same. Same.	Nov. 1, 1853	II.
9, 827	Cross, J. Brushes.	July 5, 1853	XVII.
10, 265	Crygier, James H. Bank locks.	Nov. 22, 1853	II.
10, 269	Cummings, W. B., N. P. Dadman, and C. A. Blood, assignees of W. B. Cummings and N. P. Dadman. Machines for dressing millstones.	Nov. 22, 1853	XIII.
9, 720	Da Costa, John C., assignee of James M. Patton and William F. Ferguson. Tonguing, grooving, and molding.	May 10, 1853	XIV.
9, 515	Dale, John D. Machines for planing moldings.	Jan. 4, 1853	XIV.
9, 516	Same. Same.	Jan. 4, 1853	XIV.
9, 794	Danforth, William H. Power printing presses.	June 21, 1853	XVIII.
9, 684	Daniels, Reuben. Straw cutters.	Apr. 26, 1853	I.
10, 098	Davie, O. J., and Thomas W. Stephens. Machines for punching metal.	Oct. 4, 1853	II.
10, 104	Davis, Gilman. Ash pans for locomotive engines.	Oct. 11, 1853	VI.
10, 002	Davis, Levis H. Corn shellers.	Sept. 6, 1853	I.
10, 292	Davis, John. Indicating electro-magnetic telegraphs.	Dec. 6, 1853	VIII.
10, 169	Davis, Nathan C. Seed planters.	Oct. 25, 1853	I.
9, 883	Davis, Sylvester. Beehives.	July 26, 1853	I.
10, 148	Dawes, Ezra H. Devices of a convertible dung fork.	Oct. 25, 1853	I.
9, 828	Day, A. M. Clavicle adjuster.	July 5, 1853	XX.
10, 092	Dean, William C. Guide for dowelling feloes for wheels.	Oct. 4, 1853	X.
10, 336	D'Homergue, John. Car brakes.	Dec. 20, 1853	X.
9, 936	Delano, Benjamin F. Rudder brace.	Aug. 16, 1853	VII.
10, 183	Demarest, David. Hose protector.	Nov. 1, 1853	XI.
10, 010	Demeure, Pierre, and Auguste Manritz. Bed bottoms.	Sept. 13, 1853	XVII.
9, 885	Deschamps, F. O. Omnibus lanterns.	July 26, 1853	V.
9, 914	Dibben, F., and L. Bollman. Multiplying gearing.	Aug. 9, 1853	XIII.
10, 058	Dick, James M. Railroad switches.	Sept. 27, 1853	IX.
9, 838	Dickey, E. J. Butter workers.	July 12, 1853	XVII.
10, 003	Dickinson, Porter. Corn shellers.	Sept. 6, 1853	I.
10, 065	Dickson, A. A. Machines for topping cotton in the field.	Oct. 4, 1853	I.
9, 839	Dinmock, George M. Apparatus for illustrating the motion of a pendulum upon the earth's surface.	July 12, 1853	VIII.
10, 149	Dimpfel, Frederick P. Propelling vessels.	Oct. 25, 1853	VII.
9, 915	Dodge, Daniel, and P. Burgess. Life boats.	Aug. 9, 1853	VII.
9, 777	Dodge, Levi P. and William F. Pumps.	June 7, 1853	XI.
9, 706	Dodge, Nehemiah. Pump valves.	May 10, 1853	XI.
9, 744	Dodge, Thomas H. Kettle balls.	May 24, 1853	V.
9, 953	Duff, James B. Soap-cutting machines.	Aug. 23, 1853	IV.
10, 105	Dugdale, Samuel G. Apparatus for opening and closing gates.	Oct. 11, 1853	IX.
9, 762	Dugdale, Thomas A. Washing machines.	June 7, 1853	XVII.
9, 884	Durkee, Ziba. Beaters of smut machines.	July 26, 1853	XIII.
4, 606	Dutcher, Warren W. Improvement in looms.	June 27, 1846	
9, 966	Dyott, M. B. Hot-air furnaces.	Aug. 30, 1853	V.
9, 937	Dyott, Michael B. Facing buildings.	Aug. 16, 1853	IX.
9, 897	Eddy, Thomas J. Railroad-car wheels.	Aug. 2, 1853	X.
10, 282	Edwards, Richard. Machine for washing ores.	Nov. 29, 1853	II.
9, 916	Eichell, George W. Setting up ten-pins, and returning balls.	Aug. 9, 1853	XXII.
9, 795	Elder, John A. Apparatus of Jacquard looms.	June 21, 1853	III.
10, 150	Eliærs, Augustus. Lounges.	Oct. 25, 1853	XVII.
10, 151	Same. Library step chairs.	Oct. 25, 1853	XXII.
10, 227	Elliott, Joseph D. Machine for dressing staves.	Nov. 15, 1853	XIV.
9, 767	Ellsworth, Oliver. Operating and locking knob bolts.	June 7, 1853	II.
9, 672	Emmons, Phineas. Machines for planking hat bodies.	Apr. 19, 1853	XXI.
9, 693	Ennis, William. Hot-air furnaces.	Mar. 29, 1853	V.
9, 624	Enos, Roswell, and Bela T. Hunt. Tanning.	Mar. 22, 1853	XVI.
9, 707	Evans, Evan L. Washing machines.	May 10, 1853	XVII.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10, 304	Evans, R. M., and Asa Weeks, assignees of R. M. Evans. Cutters for planing moldings	Dec. 6, 1853	XIV.
9, 545	Everett, Edw'd., and Sam'l T. Thomas. Harness boards for Jacquard looms	Jan. 18, 1853	III.
9, 768	Falconer, Ralph James. Hose coupling	June 7, 1853	XI.
10, 057	Fales, Daniel P. Car wheels	Sept. 27, 1853	X.
9, 530	Farmer, Moses G. Porous cells for galvanic batteries	Jan. 11, 1853	VIII.
9, 634	Same. Electric telegraphs	Mar. 29, 1853	VIII.
10, 184	Farnsworth, Joseph. Car wheels	Nov. 1, 1853	X.
9, 861	Farrel, John. Fire-proof lining for safes	July 19, 1853	V.
4, 363	Fasket, William. Improvement in machinery for making hat bodies	Jan. 23, 1846	
10, 185	Faught, Luther R. Regulating the speed of steam engines	Nov. 1, 1853	VI.
10, 029	Fay, Isaac. Railroad car-seats	Sept. 20, 1853	X.
9, 517	Feaga, George, and George W. Grain washers	Jan. 4, 1853	I.
9, 635	Fenn, Benjamin. Pendulum balance for quick weighing	Mar. 29, 1853	XII.
9, 558	Fenwick, S. E., and H. F. Wilson, assignees of W. H. Lazelle. Machines for paring apples	Jan. 25, 1853	XVII.
10, 153	Filkins, J. D., and Wm. H. De Puy. Attaching horses to plows	Oct. 25, 1853	L.
9, 576	Filson, John. Hanging farm gates	Feb. 8, 1853	IX.
9, 968	Finch, R. R., jr. Stove-pipe collar	Aug. 30, 1853	V.
10, 093	Finley, Marshall. Daguerreotype plate holder	Oct. 4, 1853	XVIII.
10, 066	Fisher, M., and John H. Norris. Apparatus for polishing anvils	Oct. 4, 1853	II.
9, 778	Fitch, Charles B. Mode of cutting tenons	June 14, 1853	XIV.
10, 129	Flanders, Charles. Steering apparatus	Oct. 18, 1853	XVI.
10, 067	Flanders, Joseph F. Machines for rubbing and polishing leather	Oct. 4, 1853	VII.
10, 152	Flanders, Wooster A. Beehives	Oct. 25, 1853	I.
9, 745	Fletcher, John C. Radiators for stoves	May 24, 1853	V.
9, 724	Fobes, Edwin. Vertical pianos	May 17, 1853	XVIII.
10, 120	Foreman, Yelland. Life boats	Oct. 11, 1853	VII.
9, 823	Foster, J., jr., and Platt Evens, jr. Metallic boxes for presses, &c. (Disclaimer August 24, 1853)	June 28, 1853	XII.
10, 337	Frankenberg, Alexander. Soda-water fountains	Dec. 20, 1853	IV.
10, 322	Franklin, Benjamin H. Manure and other forks	Dec. 20, 1853	I.
10, 130	Fraze, Benjamin. Mode of operating mill saws	Oct. 18, 1853	XIV.
10, 266	Fraze, Lawrence P. Life boat	Nov. 22, 1853	VII.
10, 030	Freed, David. Toilet furniture	Sept. 20, 1853	XXI.
9, 796	Freeman, E. L. Bog-cutting cultivators	June 21, 1853	I.
10, 228	Fruit, Franklin. Chuck for cutting barrel heads	Nov. 15, 1853	XIV.
9, 659	Fulton, H. L. Smut machines	Apr. 12, 1853	XIII.
9, 840	Fulton, John J. Tanning	July 12, 1853	XVI.
9, 518	Gallahue, John S., jr. Crutches	Jan. 4, 1853	XX.
9, 947	Gallahue, Alpheus C. Machines for pegging boots and shoes. (Antedated February 18, 1853)	Aug. 16, 1853	XVI.
9, 769	Gardiner, P. G. Arrangement of quartz pulverizer and gold amalgamator	June 7, 1853	II.
9, 610	Gardiner, Samuel, jr. Magnetic machine for washing and separating gold	Mar. 8, 1853	VIII.
10, 685	Gardiner, Herman. Quartz crushers. (Antedated July 5, 1853)	Mar. 21, 1854	II.
9, 954	Gardner, Morris J. Oscillating steam engines	Aug. 23, 1853	VII.
10, 352	Garlick, Isaac D. Self-acting machine for weighing grain	Dec. 20, 1853	XII.
9, 636	Garretson, Isaac H. Seed-planters	Mar. 29, 1853	I.
4, 645	Garsed, Richard. Improvement in operating treadle and cams in looms for tweeling	July 20, 1846	
9, 938	Geahart, Aaron W. Machines for preparing spoke timber	Aug. 16, 1853	XIV.
9, 532	George, Ammi M. Mode of operating circular saws	Jan. 11, 1853	XIV.
10, 229	Gilbert Banford. Propellers	Nov. 15, 1853	VII.
10, 118	Same. Griddles	Oct. 11, 1853	XVII.
9, 533	Gilliland, John L. Fire-polishing glass	Jan. 11, 1853	XV.
9, 726	Gilliland, Lewis L., and J. R. Wagoner. Sofa bedsteads	May 17, 1853	XVII.
10, 230	Gilson, Leonard. Machinery for dressing circular sash, &c	Nov. 15, 1853	XIV.
10, 223	Gledhill, John. Power looms	Nov. 15, 1853	III.
10, 302	Glenn, James. Illuminated clocks	Dec. 6, 1853	VIII.
10, 323	Goble, Uriah H. Grain and grass harvesters	Dec. 20, 1853	I.
10, 262	Goldmark, Joseph M. D. Facing ends of percussion caps	Nov. 22, 1853	XIX.
9, 770	Goldsmith, H., jr. Water-closets	June 7, 1853	XIII.
10, 293	Goodfellow, Simeon. Arrangement of screw-cutting dies in the die stock	Dec. 6, 1853	II.
9, 816	Goodman, Horatio N. Melodeons	June 28, 1853	XVIII.
9, 969	Gore, Thomas S. Stoves	Aug. 30, 1853	V.
10, 043	Gorman, George. Cotton stalk-cutters and pulverizers	Sept. 20, 1853	I.
9, 530	Gould, Benj., assignee of Joseph W. Webb. Valves of rotary steam engines	Jan. 18, 1853	VI.
10, 084	Graham, Edmund H. Magazine guns	Oct. 4, 1853	XIX.
10, 069	Graham, Robert A. Plows	Oct. 4, 1853	I.
4, 390	Granger, R. D. Improvement in cooking stoves	June 13, 1846	
10, 284	Graves, Israel, and Charles A. Bogert. Shingle machine	Nov. 29, 1853	XIV.
9, 917	Green, Benjamin H. Carpenter's clamps	Aug. 9, 1853	XIV.
10, 220	Green, S., and C. Arnett, assignees of Samuel Green. Window shutter bolts	Nov. 8, 1853	II.
10, 657	Green, Henry. Grain and grass harvesters. (Antedated Sept. 21, 1853)	Mar. 21, 1854	I.
10, 206	Greene, J. rome B. Temples for looms	Nov. 8, 1853	III.
10, 205	Greenbald, James, jr. Power looms	Nov. 8, 1853	III.
10, 011	Greenleaf, William P. Shape of scythes	Sept. 13, 1853	I.
10, 349	Greenough, B. F. Separating alcohol from water and other heavier fluids	Dec. 20, 1853	IV.
9, 791	Greenough, J. J. Manufacture of plate glass	June 14, 1853	XV.
10, 185	Griffith, Levi B. Plow beams	Oct. 4, 1853	I.
9, 547	Griffiths, John. Screw-cutting dies	Jan. 18, 1853	II.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10, 131	Griffiths, R., assignee of R. Griffiths and George Shield. Machines for making railroad chairs	Oct. 18, 1853	IX.
10, 132	Griswold, George W. Implements for cloth cutting	Oct. 18, 1853	XXI.
10, 272	Gritzner, M. C. Gold separator	Nov. 29, 1853	II.
9, 841	Groom, Smith. Hose coupling	July 12, 1853	XI.
10, 245	Grover, Hosea H. Rotary churns	Nov. 15, 1853	I.
9, 600	Gustine, R. F. Match splint machines	Apr. 12, 1853	XIV.
4, 735	Gwynne, James S. Improvement in separating oleic and stearic acid	Sept. 3, 1846	
9, 625	Hackley, M. A. Cheese presses	Mar. 22, 1853	XII.
10, 267	Hall, William K. Grass harvesters	Nov. 22, 1853	I.
9, 589	Hallam, Edward R., assignee of Edward R. Hallam and Thomas B. Barnard. Gas meters	Feb. 8, 1853	IV.
10, 044	Halvorson, Halvor. Looms for weaving hair cloth	Sept. 27, 1853	XIII.
10, 294	Hanson, Ebenezer W. Penholders	Dec. 6, 1853	XVIII.
10, 070	Hargreaves, Thomas C. Maize husking machines	Oct. 4, 1853	I.
9, 509	Harg, Augustus C. Swivel-nibbed keys for door locks	Mar. 1, 1853	II.
10, 108	Harris, Joseph, jr. Driving circular saws	Oct. 11, 1853	XIV.
10, 107	Harrison, Nathan, and John W. H. Metcalf. Hill-side plows	Oct. 11, 1853	I.
10, 309	Hart, Carmi. Car wheels	Dec. 13, 1853	X.
9, 746	Hartin, John. Water meters	May 24, 1853	XI.
9, 918	Same. Method of drying paper	Aug. 9, 1853	III.
9, 673	Hartupee, James T., and A. Alexander. Machines for rolling bar iron	Apr. 19, 1853	II.
4, 548	Harvey, Thomas W., (Hayward A. Harvey, administrator of.) Improvement in machinery for cutting screws	May 30, 1846	
4, 613	Same. Improvement in machines for dressing screw heads	Aug. 18, 1846	
9, 661	Hatcher, Jacob J. Coin safe and detector	Apr. 12, 1853	XXII.
10, 338	Hatfield, W. J. Machines for jointing table tops	Dec. 20, 1853	XVII.
9, 727	Hawes, John H. H. Calendar clocks	May 17, 1853	XIII.
9, 812	Hawes, R. L. Envelope folding machine	June 21, 1853	XVIII.
9, 662	Hawes, Samuel W. Manufacturing rosin oil	Apr. 12, 1853	IV.
9, 752	Hawes, Samuel W., assignee of Madison Page. Process of distilling rosin oil	May 24, 1853	IV.
9, 789	Hay, A. K., and James M. Brookfield, assignee of Faatz & White; James M. Brookfield and Ephraim V. White being the original applicants. Faatz is declared by Judge Morsell to be joint inventor with White. The patent was accordingly issued to Hay & Brookfield. Glass manufacturing	June 14, 1853	XV.
9, 534	Hayden, P. P. R. Buckles	Jan. 11, 1853	XVI.
10, 097	Hayes, John P. Cooking ranges	Oct. 4, 1853	V.
9, 829	Hazlewood, George H. Cradle and tête-à-tête	July 5, 1853	XVII.
9, 535	Hedges, Silas A. Manure spreaders	Jan. 11, 1853	I.
9, 728	Heim, Matthäus. Cooking stoves	May 17, 1853	V.
10, 290	Hepworth, John J., assignee of William Baird. Power looms	Nov. 29, 1853	III.
9, 763	Hewitt, Henry W. Propellers	June 7, 1853	XVII.
9, 919	Hickok, Samuel. Railroad car seats	Aug. 9, 1853	X.
10, 109	Hill, Daniel. Attachment of a harrow to a land roller	Oct. 11, 1853	I.
10, 133	Hinkley, Thomas. Instruments for plotting	Oct. 18, 1853	XVIII.
9, 887	Hinman, Daniel B. Dyeing yarn parti-colored	July 26, 1853	IV.
9, 695	Hinsdale, Richard L. Elastic exercising machines	May 3, 1853	XX.
10, 045	Hochstrasser, Henry. Sash fastener	Sept. 27, 1853	II.
9, 546	Hogeland, James S. Wool condensers	Jan. 18, 1853	III.
9, 520	Hollings, Richard. Hose pipes	Jan. 4, 1853	XI.
10, 268	Holt, S. R. Self-acting presses	Nov. 22, 1853	XI.
9, 970	Hopkins, Lansing E. Conductors in machines for forming hat bodies	Aug. 30, 1853	III.
9, 955	Horn, Peter. Seed planters	Aug. 23, 1853	I.
9, 646	Horney, Solomon, jr. Plows	Apr. 5, 1853	I.
9, 775	Hornig, Julius, and Ludwig Suess. Artificial stone	June 7, 1853	IV.
10, 071	Horsfall, William. Annunciators for hotels	Oct. 4, 1853	XXII.
10, 311	Hotchkiss, F. S., and C. W. Blakeslee. Spring clamps for clothes lines	Dec. 13, 1853	XVII.
4, 464	House, Royal E. Improvement in magnetic printing telegraphs	Apr. 18, 1846	
9, 817	Hovey, Daniel H. Machine for twisting waxed ends	June 28, 1853	XXII.
10, 231	Same. Machine for creasing straps of leather	Nov. 15, 1853	XVI.
9, 542	Howard, Cyrus G., assignee of D. H. Chamberlain. Machinery for reducing metal bars	Jan. 18, 1853	II.
9, 737	Howard, Rufus L., assignee of William F. Kethum. Track clearers to harvesters	May 17, 1853	I.
9, 797	Howe, Frederick W. Machine for planing metal	June 21, 1853	XIV.
4, 726	Howe, William, (Joseph Stone administrator of.) Improvement in truss bridges	Aug. 28, 1846	
9, 764	Hubbell, W. S., and A. Barrett. Compositions for treating wool	June 7, 1853	IV.
10, 291	Hume, Nelson A., assignee of Frederick Nicholson. Screw jacks for raising buildings	Nov. 29, 1853	XII.
9, 876	Hunt, F. B. Mills for grinding apples and other substances	July 26, 1853	XIII.
9, 989	Hunt, Henry. Sealing preserve canisters	Sept. 6, 1853	XVII.
10, 354	Hunt, N., assignee of Henry Edwards. (See Blodget, S. C.) Sewing machines	Dec. 20, 1853	III.
10, 355	Huntington, W. T., assignee of Wm. H. Atkins. Time registers for showing the day of the week and month	Dec. 20, 1853	VIII.
9, 565	Hutchinson, Charles B. Machinery for cutting barrel heads	Feb. 1, 1853	XIV.
10, 094	Same. Machine for jointing staves	Oct. 4, 1853	XIV.
10, 154	Hutchinson, Samuel. Cutting and planting potatoes	Oct. 25, 1853	I.
9, 779	Huyett, William G. Harvesters of grain and grass	June 14, 1853	I.
9, 663	Ingersoll, Simon. Shingle machines	Apr. 12, 1853	XIV.
9, 799	Same. Feed motion in plug-cutting machines	June 21, 1853	XIV.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
9, 920	Ingraham, Lewis S. Winnowers	Aug. 9, 1853	I.
9, 971	Irving, Benjamin. Steam boilers. (Patented in France May 12, 1853; in Belgium May 17, 1853)	Aug. 30, 1853	VI.
10, 000	Same. Paddle wheel	Sept. 6, 1853	VII.
9, 858	Jackson, John. Spinning jacks	July 19, 1853	III.
4, 816	Jackson, Timothy D., (Alfred Judson and Elizabeth N. Jackson, administrators of.) Bell telegraph	Oct. 17, 1846	
9, 877	James, David A. Processes for making glue	July 26, 1853	IV.
9, 771	Jarossou, Leon. Painting on cloth	June 7, 1853	IV.
9, 521	Jenkins, Benjamin F., and Luke L. Knight. Lathes for turning irregular forms	Jan. 4, 1853	XIV.
10, 032	Jenkins, Samuel. Seed planters	Sept. 20, 1853	I.
9, 921	Jenkins, John W. Iron posts for fences	Aug. 9, 1853	IX.
9, 665	Johnson, William H. Feeding clamps for sewing machines	Apr. 12, 1853	III.
10, 207	Jones, John, and Alexander Lyle. Cutting gear of straw cutters	Nov. 8, 1853	I.
10, 110	Jones, Thomas B. Cob and stalk cutters	Oct. 11, 1853	I.
10, 254	Kain, James R. Apparatus for cutting screws on bedstead rails	Nov. 22, 1853	XVII.
10, 208	Karns, Samuel. Fastening the teeth to clover-hulling cylinders	Nov. 8, 1853	I.
9, 754	Keck, Philip H. Cultivators	May 31, 1853	I.
10, 111	Keller, Henry M. Winnowers of grain	Oct. 11, 1853	I.
10, 166	Kellogg, Charles H., assignee of William Wheeler. Cutting the bars and teeth of curry combs	Oct. 25, 1853	II.
10, 186	Kelsey, Christopher P. Grain cradles	Nov. 1, 1853	I.
10, 252	Kelly, Oliver A. Looms	Nov. 22, 1853	III.
9, 696	Kendall, George. Candle-mold apparatus. (Patented in England November 12, 1852)	May 3, 1853	IV.
9, 702	Kent, Joseph, assignee of Samuel R. Willmot. Apparatus for drawing water from wells	May 3, 1853	XI.
10, 072	Ketcham, Richard. Straw cutters	Oct. 4, 1853	I.
9, 593	Kimball, Alpheus. Scythe fastenings	Feb. 22, 1853	I.
9, 548	Kingsley, John L. Compounds for stereotype plates	Jan. 18, 1853	XVIII.
9, 790	Same. Molding gutta-percha stereotype plates	June 14, 1853	XVIII.
9, 527	Kipp, Charles T., assignee of Walter Hunt. Bottle stoppers	Jan. 4, 1853	XXII.
9, 765	Kittle, Samuel P. Door fastener	June 7, 1853	II.
10, 209	Knowles, Jonathan. Looms	Nov. 8, 1853	III.
10, 518	Same. Process of treating vegetable fiber. (Antedated September 4, 1853)	Feb. 14, 1854	
10, 197	Lapham, Seneca. Devices for sheering cultivators	Nov. 1, 1853	I.
10, 210	Lash, Abraham, and Miles Moore. Screens of winnowers	Nov. 8, 1853	I.
4, 744	Latrobe, J. H. B. Improvement in stoves	Sept. 5, 1846	
10, 119	Latta, Alexander B. Oscillating engines	Oct. 11, 1853	VI.
9, 973	Leavitt, O. S. Hemp and flax-breaking machines	Aug. 30, 1853	III.
10, 033	Same. Hemp brake	Sept. 20, 1853	III.
10, 034	Same. Drawing frames for hemp and flax	Sept. 20, 1853	III.
10, 232	Leeds, Joseph. Ventilators	Nov. 15, 1853	V.
9, 922	Leonard, George. Fire-arms	Aug. 9, 1853	XIX.
10, 198	Leonard, William B. Fluid meters	Nov. 1, 1853	XI.
9, 586	Leslie, Richard M. Paging books	Feb. 15, 1853	XVIII.
9, 923	Lewis, John. Printing presses	Aug. 9, 1853	XVIII.
10, 233	Lewis, William, and William H. Coating box for daguerreotype plates	Nov. 15, 1853	XVII.
10, 255	Same. Boxes for supplying business cards	Nov. 22, 1853	XXII.
9, 966	Lindner, Joseph R. Horse collars	Sept. 6, 1853	XVI.
9, 647	Lindsay, William H. Water meters	Apr. 5, 1853	XI.
10, 086	Littlefield, Archibald S. Self-acting switches	Oct. 4, 1853	IX.
10, 749	Livermore, George W. Crozing the ends of staves. (Antedated August 31, 1853)	Apr. 4, 1854	XIV.
9, 729	Longley, Abner H. Machine for cutting wooden screws	May 17, 1853	II.
10, 600	Loveland, Samuel. Sectional dry dock. (Antedated Sept. 7, 1853)	Mar. 7, 1854	I.
9, 825	Lucas, Napoleon B. Threshers and separators of grain	June 28, 1853	IX.
9, 961	Lucas, William F., (administrator of L. A. B. Walbach.) Cannon boring	Aug. 23, 1853	XIX.
9, 747	Lupton, Lewis. Construction of harrows	May 24, 1853	I.
10, 134	Lynahon, Daniel. Cutting boots	Oct. 18, 1853	XVI.
9, 759	Lynde, John D., assignee of Arnold Buffum. Gold washer and amalgamator	May 31, 1853	II.
10, 234	Lyon, Sergius P. Self-acting dampers for air-tight stoves	Nov. 15, 1853	V.
10, 035	Lyon, Warren. Metal drills	Sept. 20, 1853	II.
10, 155	Mackey, D. S., and J. R. Smith. Winnowers	Oct. 25, 1853	I.
10, 012	Mann, Zadoc H. Safety valves for steam boilers	Sept. 13, 1853	VI.
10, 073	Same. Car wheels	Oct. 4, 1853	X.
9, 626	Mansfield, William. Knitting machines	Mar. 22, 1853	III.
9, 692	Marsh, David, and B. Whitney. Rice hullers	Apr. 26, 1853	I.
10, 087	Maring, Leonard S. Cutter for boring wheel hubs	Oct. 4, 1853	XIV.
9, 611	Mascher, J. F. Daguerreotype cases	Mar. 8, 1853	XVIII.
10, 016	Mason, Nicholas. Cooking ranges	Sept. 27, 1853	V.
10, 135	Mason, William. Power looms	Oct. 18, 1853	III.
9, 929	Massachusetts Arms Co., assignees of Joshua Stevens. Repeating fire-arms	Aug. 9, 1853	XIX.
9, 730	Mathesius, Frederick. Upholstering furniture	May 17, 1853	XVII.
10, 295	Matthew, David. Spark burner and water heater for locomotives	Dec. 6, 1853	VI.
10, 156	Matthews, E. G. Machines for stone dressing	Oct. 25, 1853	XV.
9, 637	Maxwell, John. Knitting machines	Mar. 29, 1853	III.
9, 537	Mayer, Andrew. Arrangement of screw-cutting dies	Jan. 11, 1853	II.
10, 047	McCarthy, Henry. Manufacture of sheet iron	Sept. 27, 1853	II.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11, 004	McCormick, Samuel. Impressing the threads upon screw blanks. (Ante-dated March 20, 1853)	June 6, 1854	II.
9, 753	McDougall, Duncan E. Door fastener	May 31, 1853	II.
10, 256	McDougall, S. T. Platform scales	Nov. 22, 1853	XII.
9, 600	McKay, James. Rotary steam engines	Mar. 1, 1853	VI.
4, 488	McMay, John. Improvement in plows	May 2, 1846	
4, 608	McMullen, John. Improvement in netting machines	June 27, 1846	
9, 674	McPherson, Alexander. Cooking ranges	Apr. 19, 1853	V.
9, 994	Meredith, Stephen. Feed apparatus to gas generators	Sept. 6, 1853	IV.
10, 211	Merewether, William H. Wire fence	Nov. 8, 1853	IX.
9, 685	Merriam, W. P., A. C. Harris, William Wheeler, and E. N. Merriam. Construction of iron candlesticks	Apr. 26, 1853	V.
4, 411	Merrick, Solyman, (A. D. Briggs, administrator of.) Improvement in feeder for screw machines	Mar. 7, 1846	
10, 313	Merrill, W. E., and F. Tupper. Bedstead fastenings	Dec. 13, 1853	XVII.
10, 199	Merritt, William T. Mode of opening and closing gates	Nov. 1, 1853	IX.
9, 755	Middleton, Richard H. Compound rails	May 31, 1853	IX.
10, 273	Miller, Benjamin F. Iron fence	Nov. 29, 1853	IX.
9, 676	Miller, Samuel. Cotton-seed planters	Apr. 19, 1853	I.
9, 748	Millet, Stanislas. Meat cutters	May 24, 1853	XVII.
9, 924	Millis, Eben L. Corn shellers	Aug. 9, 1853	I.
9, 708	Minnis, Thomas S. Locomotive invalid chairs	May 10, 1853	XX.
10, 340	Mitchell, James A. Hand looms	Dec. 20, 1853	III.
9, 992	Montague, Charles. Printing presses	Sept. 6, 1853	XVIII.
9, 993	Same..... same	Sept. 6, 1853	XVIII.
10, 324	Montgomery, Joseph and James. Shoes to winnowers	Dec. 20, 1853	I.
9, 538	Montgomery, Richard. Method of connecting the sheets of shut-flue and water-space steam boilers	Jan. 11, 1853	VI.
9, 738	Montgomery, Elizabeth, assignee of Richard Montgomery. Corrugated plates for steam boilers, &c. (Patented in England Feb. 17, 1853)	May 17, 1853	VI.
9, 964	Moore & Crosby, assignees of Snow Magoun. Machine for cutting and bevelling printers' rules	Aug. 23, 1853	XVIII.
9, 595	Moreland, James. Mortising machines	Feb. 22, 1853	XIV.
10, 187	Morewood, Edmund, and George Rodgers. Coating sheets of metal	Nov. 1, 1853	II.
9, 709	Morrill, Jonathan W. Ditching machine	May 10, 1853	IX.
10, 263	Morrison, Enoch R. Shingle machine	Nov. 22, 1853	XIV.
10, 188	Morse, Russel S. Adjustable springs for carriages	Nov. 1, 1853	X.
4, 453	Moses, Samuel F. B. Improvement in electro-magnetic telegraphs	Apr. 11, 1846	
10, 048	Mott, Jordan L. Cooking stoves	Sept. 27, 1853	V.
10, 049	Same..... Bathing tubs	Sept. 27, 1853	XX.
9, 991	Moyle, John. Straw cutters	Sept. 6, 1853	I.
9, 940	Mumma, Jacob. Draught apparatus of seed planters	Aug. 16, 1853	I.
10, 235	Muntz, William H. Paddle wheels	Nov. 15, 1853	VII.
9, 757	Murphy, Thomas P. Bank locks	May 31, 1853	II.
10, 096	Murrill, James H. Looms for weaving coach lace	Oct. 4, 1853	III.
9, 756	Neer, Charles. Fire places and stoves	May 31, 1853	V.
9, 749	Nelson, Thomas. Watches and chronometers	May 24, 1853	VIII.
10, 325	Nelson, Thomas F. Manure crushers and sowers	Dec. 20, 1853	I.
10, 314	Nelson, Joseph E. Harvesters and binders. (Patented in England August 27, 1853)	Dec. 13, 1853	I.
9, 648	Newbury, Thompson. Apparatus for feeding blanks to screw machines	Apr. 5, 1853	II.
9, 677	Same..... Machines for threading screw blanks	Apr. 19, 1853	II.
9, 801	Newcomb, D. H. B. Hill-side plows	June 21, 1853	I.
11, 099	Newell, John. Camphene lamps	Oct. 4, 1853	V.
10, 036	Nichols, James R. Oil or fluid cans	Sept. 20, 1853	V.
9, 975	Nishwitz, Frederick. Grain harvesters	Aug. 30, 1853	I.
9, 649	Noll, Henry R. Arrangement of sash fasteners	Apr. 5, 1853	II.
10, 077	Norcross, Josiah, assignee of Edward Brown. Burglar alarms	Oct. 4, 1853	XXII.
9, 629	Norfolk, E. S., assignee of S. D. Tripp. Machines for pegging boots and shoes	Apr. 12, 1853	XVI.
9, 948	North, Gibson. Oven doors for cooking stoves and ranges	Aug. 16, 1853	V.
9, 832	North, John. Trusses	July 5, 1853	XX.
9, 809	Norton, Benjamin R. Metallic-pointed pens	June 21, 1853	XVIII.
10, 019	Norton, Frederick Wm. Manufacture of plain and figured fabrics	Sept. 13, 1853	III.
9, 925	Northrup, Joel G. Printing presses	Aug. 9, 1853	XVIII.
9, 526	Nunns, Robert, and John Clark, assignees of Rudolph Kreter. Covering plano-forte hammers	Jan. 4, 1853	XVIII.
9, 872	Oerter, H. J., assignee of Frederick Hesse. Paper-cutting machine	July 19, 1853	XVIII.
9, 612	Orcutt, Lysander A. Machines for molding in flasks	Mar. 8, 1853	II.
9, 710	Osgood, Enoch. Fastening leather beltings	May 10, 1853	XVI.
10, 257	Owen, J. Parsons. Machine for cutting screws on bedstead rails, &c	Nov. 22, 1853	XVII.
10, 315	Page, Charles. Sectional bedsteads	Dec. 13, 1853	XVII.
9, 556	Palmer, Freeman. Feed motion in sewing machines	Jan. 25, 1853	III.
9, 687	Palmer, Stephen F. Towing apparatus for canal boats	Apr. 26, 1853	VII.
4, 834	Palmer, B. Frank. Improvement in artificial legs	Nov. 4, 1846	
11, 051	Palmer, William Russell. Threshers. (Antedated April 11, 1853)	June 13, 1854	I.
9, 566	Parker, Elijah F. Frames for lanterns	Feb. 1, 1853	V.
10, 341	Parker, Ephraim. Machine for sawing and planing clapboards	Dec. 20, 1853	XIV.
9, 956	Parker, Frederick B. Hay rakes	Aug. 23, 1853	I.
10, 112	Parker, J. J. Straw cutters	Oct. 11, 1853	I.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
9, 760	Parker, James M., assignee of John Jordan, and Eliza Millington, executrix, and William S. Toole, executor of Charles Millington; Jordan and Millington being the assignees of William H. Jennison. Compositions for a filter	May 31, 1853	IV.
10, 061	Parrish, Stephen E. Clamps for laying floors	Sept. 27, 1853	XIV.
9, 926	Patterson, James. Friction rollers	Aug. 9, 1853	IX.
10, 296	Payson, Ira F. Soap ingredients	Dec. 6, 1853	IV.
9, 577	Peacock, George. Core bars for forming cores of casting pipes	Feb. 8, 1853	II.
9, 539	Pease, Daniel, jr. Smut machines	Jan. 11, 1853	XIII.
9, 731	Pease, Julius A. Seeding hoes	May 17, 1853	I.
9, 522	Peckham, M., and L. O. Palmer. Ore washer	Jan. 4, 1853	II.
10, 274	Peer, John W. Trip hammer	Nov. 29, 1853	II.
10, 137	Pender, John. Power looms	Oct. 18, 1853	III.
10, 189	Perkins, Howard. Carpenters' brace and bit fastener	Nov. 1, 1853	XVI.
9, 557	Perkins, Samuel M. Manufacture of seamless felt, wearing apparel, &c.	Jan. 25, 1853	XXI.
10, 157	Perley, Charles. Ships' side lights	Oct. 25, 1853	VII.
10, 037	Perrin, Henry, and William Ruddock. Seed planters	Sept. 20, 1853	I.
9, 578	Peters, Charles. Molds for uniting steel to cast-iron	Feb. 8, 1853	II.
10, 212	Peterson, Abram B. Grain threshers and separators	Nov. 8, 1853	I.
10, 285	Phelps, Charles. Supporting falling table leaves	Nov. 29, 1853	XVII.
10, 236	Phillips, George. Seed-planting cultivators	Nov. 15, 1853	I.
9, 843	Phineas, Myer. Metallic pens	July 12, 1853	XVIII.
9, 862	Pierce, Hiram, and George E. Cady, assignees of Bradford Rowe. Gripes for holding leather	July 19, 1853	XVI.
10, 258	Pierpont, William. Cutters of grain and grass harvesters	Nov. 22, 1853	I.
9, 559	Piffaut, J. Frames of piano-fortes	Jan. 25, 1853	XVIII.
9, 888	Pitman, Levi. Plotting theodolite	July 26, 1853	VIII.
10, 059	Platt, Charles H. Ships' blocks	Sept. 27, 1853	VII.
10, 286	Poague, John B. and William F. Forming pipes of hydraulic cement	Nov. 29, 1853	V.
9, 833	Porter, William, and Edward A. Tuttle. Lanterns	July 5, 1853	IV.
9, 561	Potter, Abiather F. Gold washer and amalgamator	Jan. 25, 1853	II.
10, 013	Potts, George. Revolving mandrel for lining cylinders with metal	Sept. 13, 1853	II.
10, 088	Powers, Hiram. Files and rasps	Oct. 4, 1853	II.
9, 860	Pratt, Ralph C. Machines for ditching	July 19, 1853	IX.
9, 680	Proprietors of locks and canals on Merrimack river, assignees of Samuel L. Dana. Purifying rosin oil	Apr. 19, 1853	IV.
9, 562	Prosser, Thomas. Expanding drills	Jan. 25, 1853	II.
9, 784	Purden, Fergus. Mortising machines	June 14, 1853	XIV.
9, 783	Pusey, Lea. Self-waiting dining tables	June 14, 1853	XVII.
10, 158	Quantin, Alphonse. Valve-gauge for bottles	Oct. 25, 1853	XXII.
4, 443	Race, Washburn. Improvement in registers for stoves	April 4, 1846	
9, 977	Ralstin, Andrew. Saw-mills	Aug. 30, 1853	XIV.
10, 237	Randlett, Timothy. Mop-heads	Nov. 15, 1853	XVII.
10, 020	Rankin, James. Hanging mill-saws	Sept. 13, 1853	XIV.
9, 889	Rapp, Jackson A., and E. S. Waight. Straining saws by compressed air	July 26, 1853	XIV.
9, 567	Read, George B. Screw wrench	Feb. 1, 1853	II.
9, 878	Redmond, Owen. Lamps	July 26, 1853	V.
9, 901	Reeder, John M. Construction of steam boilers	Aug. 2, 1853	VI.
9, 697	Reid, Daniel. Manure carts	May 3, 1853	I.
9, 698	Reid, George W. Corn shellers	May 3, 1853	I.
9, 819	Reynolds, Levi S. Bran dusters	June 28, 1853	XIII.
10, 138	Rice, Benjamin F. Looms for weaving fancy goods	Oct. 18, 1853	III.
9, 711	Richards, John W. Registering apparatus for printing presses	May 10, 1853	XVIII.
10, 160	Richards, William W. Making shovels, spades, &c.	Oct. 25, 1853	II.
9, 902	Richardson, John, R. J. Westerman, and E. Wilder. Machines for making spikes	Aug. 2, 1853	II.
10, 060	Richardson, William. Centrifugal draining machine	Sept. 27, 1853	XI.
9, 627	Riley, James, and William Allen. Processes for distilling rosin oil	Mar. 22, 1853	IV.
4, 417	Ripley, Ezra. Improvement in tea-kettles	Mar. 14, 1846	
10, 190	Ritterband, Henry M. Gold washer	Nov. 1, 1853	II.
9, 957	Roberts, Milton. Arrangement of cutters for turning	Aug. 23, 1853	XIV.
10, 117	Robertson, H. G. Washing machines	Oct. 11, 1853	XVII.
10, 213	Robertson, William. Finger-board for keyed violins	Nov. 8, 1853	XVIII.
9, 844	Robinson, H. G. Coin safe and detector	July 12, 1853	XXII.
10, 056	Robinson, L. F., assignee of Caleb B. Burnap. Method of veneering	Sept. 27, 1853	XIV.
9, 803	Rohr, George. Seed planters	June 21, 1853	I.
10, 259	Rood, Morgan L. Revolving fire-arms	Nov. 29, 1853	XIX.
9, 941	Root, E. K. Drop hammers	Aug. 16, 1853	II.
10, 275	Ropes, David N. Attaching handles to the blades of table knives	Nov. 29, 1853	II.
10, 015	Ross, Henry S. Fences	Sept. 13, 1853	IX.
10, 808	Roth, Augustus, and Joseph Lea. Process for bleaching flax. (Antedated May 26, 1853)	Apr. 18, 1854	III.
10, 095	Roth, J. Augustus. Processes of dechlorinating bleached fabrics	Oct. 4, 1853	III.
9, 982	Roy, Franklin, and Edward Wilcox, assignees of Elliot Savage. Machinery for cutting and bending metallic disks	Aug. 30, 1853	II.
10, 089	Ruger, Philip P. Machine for turning spiral moldings	Oct. 4, 1853	XIV.
9, 904	Ruggles, Stephen P. Printing presses. (Antedated February 2, 1853)	Aug. 2, 1853	XVIII.
9, 978	Same. Machine for cutting sheet metal	Aug. 30, 1853	VI.
10, 159	Russell, Henry L. Metallic piston packing	Oct. 25, 1853	II.
9, 651	Rust, Samuel. Sector presses	Apr. 5, 1853	XII.
10, 074	Rutter, Benjamin, and Henry Rouzer. Smut machines	Oct. 4, 1853	XIII.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
9, 863	Salmon, George B. Grain winnowers. (Antedated July 6, 1853)	July 19, 1853	I.
10, 075	Salomon, J. C. F. Rotary steam engines	Oct. 4, 1853	VI.
9, 785	Sampson, Alexander H. Brick machines	June 14, 1853	XV.
10, 264	Sampson, Elnathan. Platform scales	Nov. 22, 1853	XII.
9, 845	Sanford, Samuel T. Boring machines	July 12, 1853	XIV.
10, 605	Sands, Hiram, and Gary Cummings. Brick machines	Sept. 6, 1853	XV.
10, 161	Sargent, Benjamin P. Expanding horseshoes	Oct. 25, 1853	II.
10, 162	Sargent, Jacob T. Garden and other hoes	Oct. 25, 1853	I.
9, 879	Satterlee, Milton. Seed planters	July 26, 1853	I.
9, 652	Savage, Elliott. Machine for cutting the threads of wood screws	Apr. 5, 1853	II.
10, 316	Sawyer, Joseph, and Lyman Clark. Peg rasps	Dec. 13, 1853	XVII.
9, 523	Schaffer, Francis C. Potato diggers	Jan. 4, 1853	I.
9, 943	Schenkl, John P., and Adolph S. Sarroni, assignees of John P. Schenkl. Breech-loading fire-arms	Aug. 16, 1853	XIX.
9, 900	Scholfield, Jos. A. Temples for looms	Aug. 2, 1853	III.
10, 326	Schnebly, William and Thomas. Grain and grass harvesters	Dec. 20, 1853	I.
10, 139	Scott, John. Air beds	Oct. 18, 1853	XVII.
9, 965	Sears, Henry B., assignee of Jonathan Foreman, administrator of E. W. Foreman. Diving bells	Aug. 23, 1853	VII.
9, 847	Seely, O. W., assignee of J. P. Smith and O. W. Seely. Straw cutters	July 12, 1853	I.
10, 287	Seibert, Frederick. Machines for polishing leather	Nov. 29, 1853	XVI.
9, 834	Semple, Amzi C. Paddles for vessels	July 5, 1853	VII.
9, 824	Semple, William C., assignee of Amzi C. Semple. Presses	June 28, 1853	XII.
9, 928	Seymour, Alfred B. Rolling railroad and other iron	Aug. 9, 1853	II.
9, 804	Shank, J. R. Lathe machines	June 21, 1853	XIV.
10, 041	Shawk, Abel. Steam generators	Sept. 20, 1853	VI.
9, 821	Shepardson, E. E., and E. Lucas. Tuning melodions and other reed instruments	June 28, 1853	XVIII.
9, 587	Sheppard, Louis F. Artificial teeth	Feb. 15, 1853	XX.
9, 867	Sherman, Sylvester J. Mounting spirit levels	July 19, 1853	VIII.
9, 805	Sherrod, Walter. Expanding mandrels for turning machinery	June 21, 1853	XIV.
9, 712	Sherwood, John T. Machines for making wrought nails	May 10, 1853	II.
9, 569	Shiverick, Benjamin. Mode of feeding rosin to the fires of glass furnaces	Feb. 1, 1853	XV.
10, 353	Sibbald, Charles F. Steam boilers	Dec. 20, 1853	VI.
9, 713	Sickles, Frederick E. Operating and controlling the rudder of steam vessels	May 10, 1853	VII.
9, 772	Sickles, Gerard. Self-adjusting platform for ferry bridges	June 7, 1853	IX.
10, 260	Silver, William, jr. Blasting powder	Nov. 22, 1853	IX.
10, 342	Simon, Godfrey. Carriages with shifting seats. (Patented in England March 4, 1853)	Dec. 20, 1853	X.
9, 601	Simmons, Jonas. Machine for making axes	Mar. 1, 1853	II.
10, 246	Slaughter, Franklin, assignee of Evan H. Branson. Machinery for dressing crooked timber	Nov. 15, 1853	XIV.
10, 050	Sleppy, Christian. Making chains	Sept. 27, 1853	II.
4, 704	Sloan, Thomas J. Improvement in wood screws	Aug. 20, 1846	
9, 786	Smith, E. H. Copying presses	June 14, 1853	XVIII.
10, 253	Smith, Frederick. Water wheel	Nov. 22, 1853	XI.
9, 977	Smith, Gideon B. Counterfeit coin detector	Sept. 6, 1853	XXII.
10, 261	Smith, Hiram. Apparatus for cutting screws on bedstead rails, &c	Nov. 22, 1853	XVII.
9, 549	Smith, Jeremiah P. Corn shellers	Jan. 18, 1853	I.
10, 017	Smith, Josiah M. Cutter heads for molding machines	Sept. 13, 1853	XIV.
9, 959	Smith, Lettie A. Butter workers	Aug. 23, 1853	XVII.
9, 613	Smith, Thaddeus A. Molding for cast-iron plates with dove-tailed recesses	Mar. 8, 1853	II.
10, 113	Snoaw, Samuel, and Alexander Hine. Rotary root-digging cultivators	Oct. 11, 1853	I.
9, 714	Snyder, John H. Hook-headed machines for making spikes	May 10, 1853	II.
9, 570	Solis, Richard. Manufacture of India-rubber	Feb. 1, 1853	IV.
9, 560	Southmayd, Horace, assignee of Josiah W. Archbald. Sugar-draining machines	Jan. 25, 1853	IV.
9, 996	Spafford, William W. Planing machines for metals	Sept. 6, 1853	II.
10, 076	Spence, George S. G. Cooking ranges	Oct. 4, 1853	V.
10, 216	Spencer, George. Railroad-car ventilator	Nov. 8, 1853	V.
10, 215	Spiller, Thomas, and Anthony Crowhurst. Operating vibrating propellers. (Antedated February 3, 1853)	Nov. 8, 1853	VIII.
9, 995	Spratt, James. Bottle fastenings	Sept. 6, 1853	XXIII.
9, 602	Spring, Charles A. Supplemental valve in reciprocating steam engines	Mar. 1, 1853	VI.
9, 628	Stanbrough, James. Harness	Mar. 22, 1853	XVI.
9, 950	Stanton, Henry. Discharging breech-loading fire-arms	Aug. 16, 1853	XIX.
10, 343	Staples, Solon. Screw for planking ships	Dec. 20, 1853	VII.
9, 699	Steere, Parris J. Machine for sawing barrel heads	May 3, 1853	XVI.
10, 121	Stephens, William. Valve motion of oscillating engines	Oct. 4, 1853	IV.
10, 350	Stevens, B. F., and Walter Kidder. Shingle machine	Dec. 20, 1853	XIV.
10, 039	Stickney, Ancil. Blow pipes for enlarging blasting cavities. (Antedated May 10, 1853)	Sept. 20, 1853	IX.
10, 040	Same. Compound blow pipe for enlarging blasting cavities. (Antedated June 11, 1853)	Sept. 20, 1853	IX.
4, 519	Stillman, Alfred, (Elizabeth A. Harris, administratrix of.) Improvement in sugar pans	May 16, 1846	
10, 022	Stockwell, Leonard A. Lard lamps	Sept. 13, 1853	V.
9, 654	Storm, William Mt. Process for mixing air and steam for actuating engines	Apr. 5, 1853	VI.
9, 689	Stout, Thomas B. Potato diggers	Apr. 26, 1853	I.
10, 079	Strode, Joseph C. Hydraulic ram	Oct. 4, 1853	XI.
10, 051	Stuart, David. Annealing hollow iron ware	Sept. 27, 1853	II.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
9, 787	Sturgis, John J. Type-casting machines.....	June 14, 1853	XVIII.
10, 214	Sturtevant, Safford E. Attaching shafts of vehicles to the axles.....	Nov. 8, 1853	X.
10, 319	Sully, James, and John Butter, assignees of John Butter. Machines for molding brick.....	Dec. 13, 1853	XV.
10, 016	Sumner, Samuel B. Boot-jacks.....	Sept. 13, 1853	XVI.
10, 172	Sweet, Samuel. Spark-arrester.....	Oct. 25, 1853	VI.
9, 639	Swett, James H. Arrangement of the die-rollers in spike machines.....	Mar. 29, 1853	II.
9, 774	Talbot, Ebenezer. Machine for boring rock.....	June 7, 1853	IX.
9, 563	Taltavul, Peter. Omnibus registers.....	Jan. 25, 1853	X.
10, 191	Taplin, John A. Straw and grain separators.....	Nov. 1, 1853	I.
9, 596	Taylor, Amos B., and Stephen Wilcox, jr. Let-off motion for looms.....	Feb. 22, 1853	III.
9, 604	Taylor, E. S. Bedstead fastenings.....	Mar. 1, 1853	XVII.
10, 276	Taylor, Robert R. Arrangement of valves, ports, and passages for operating steam hammers.....	Nov. 29, 1853	II.
4, 442	Taylor, Alva B. Improvement in checking the momentum of printing presses.....	Apr. 4, 1846	
11, 097	Taylor, T. Chalkley. Soap compounds. (Antedated Sept. 17, 1853).....	June 13, 1854	IV.
10, 946	Teal, Peter, and Charles Tyler. Lathe for turning the interior surface of hollow ware. (Antedated April 9, 1853).....	May 23, 1854	II.
9, 620	Ten Eyck, Peter. Rocking chairs.....	Mar. 15, 1853	XVII.
10, 277	Terry, Silas B. New mode of applying the vibrating spring of balance clocks.....	Nov. 29, 1853	VIII.
9, 949	Tewksbury, Abijah R. Boat or scow.....	Aug. 16, 1853	VII.
9, 905	Thompson, Nathan, jr. Mode of indicating the height of water in steam boilers.....	Aug. 2, 1853	VI.
10, 140	Same..... Life-preserving bucket.....	Oct. 18, 1853	VII.
10, 141	Same..... Life-preserving seat.....	Oct. 18, 1853	VII.
9, 865	Thompson, William H., and Richard H. Plummer. Compressers for flyers.....	July 19, 1853	III.
9, 732	Thorn, William J. Pocket combs.....	May 17, 1853	XXI.
9, 806	Thornton, William McK. Horse collars.....	June 21, 1853	XVI.
10, 100	Thurman, William J., assignee of Richard H. Pindell. Planing machine.....	Oct. 4, 1853	XIV.
9, 614	Tiffany, Joel. Machines for dressing shingles.....	Mar. 8, 1853	XIV.
9, 835	Tilghman, Noah J. Crow killer.....	July 5, 1853	XXII.
9, 690	Tillman, Samuel D. Radiators for stoves.....	Apr. 26, 1853	V.
10, 217	Same..... Revolving musical scale.....	Nov. 8, 1853	XVIII.
10, 356	Tompkins, D. and D. E., assignees of J. C. Conklin. Pickaxes.....	Dec. 20, 1853	II.
10, 192	Towers, William H. Metallic pens.....	Nov. 1, 1853	XVIII.
10, 240	Same..... Hot-air registers.....	Nov. 15, 1853	V.
10, 345	Same..... Horseshoes.....	Dec. 20, 1853	II.
10, 018	Townsend, Richard H. Working the valves of steam engines.....	Sept. 13, 1853	VI.
9, 603	Townshend, William. Looms.....	Mar. 1, 1853	III.
10, 241	Same..... same.....	Nov. 15, 1853	III.
9, 640	Traeyser, George. Vertical pianos.....	Mar. 29, 1853	XVIII.
9, 866	Trayser, Philip P. Spike machines.....	July 19, 1853	II.
9, 864	Treadwell, Ephraim. Ovens.....	July 19, 1853	V.
10, 164	Trees, James. Propellers.....	Oct. 25, 1853	VII.
9, 655	Trinks, Gregor. Brakes for railroad cars.....	Apr. 5, 1853	X.
10, 327	Tripp, Hiram N. Power rakes.....	Dec. 20, 1853	I.
10, 288	Trofaiter, Samuel J. and Charles H. Machines for skiving boot counters.....	Nov. 29, 1853	XVI.
10, 561	Tucker, Hiram, assignor to self and Joseph Story. Applying colors to stone. (Antedated September 24, 1853).....	Feb. 21, 1854	IV.
10, 006	Turner, Samuel H. Printers' ink.....	Sept. 6, 1853	IV.
9, 664	Tuttle, Edward A. Hot-air registers.....	Apr. 12, 1853	V.
9, 701	Tyler, Charles N. Repeating fire-arms.....	May 3, 1853	XIX.
10, 346	Unger, Elias. Machine to cut polygonal surfaces in timber.....	Dec. 20, 1853	XIV.
9, 851	Union Patent Sofa Railroad Car-seat Manufacturing Company, assignees of Charles P. Bailey. Railroad car seats.....	July 12, 1853	X.
9, 656	Updegraff, John J. Stoves.....	Apr. 5, 1853	V.
9, 666	Upton, Benjamin Franklin. Mercury baths for daguerreotyping.....	Apr. 12, 1853	XVIII.
10, 777	Ustick, Stephen. Brick machine. (Antedated November 15, 1853).....	Apr. 18, 1854	XV.
9, 906	Van Anden, William. Machinery for making railroad chairs.....	Aug. 2, 1853	IX.
9, 942	Same..... Trip hammer.....	Aug. 16, 1853	I.
10, 080	Vandewater, Henry. Turbine water wheel.....	Oct. 4, 1853	XI.
9, 958	Van Syckel, Samuel. Gate bars.....	Aug. 23, 1853	V.
10, 114	Van Valkenburgh, Jacob L. Shaking shoes for winnowers.....	Oct. 11, 1853	IV.
9, 890	Vettercke, Frederick G. Dyeing compounds.....	July 26, 1853	I.
10, 173	Vogle, Kasimir. Looms for making weavers' harness.....	Oct. 25, 1853	III.
10, 165	Vose, Albert. Ox yokes. (Antedated August 10, 1853).....	Oct. 25, 1853	I.
10, 999	Waddell, Robert. Balancing slide valve for steam engines. (Antedated April 27, 1853).....	June 6, 1854	II.
9, 733	Wade, William Wheaton. Casters for furniture.....	May 17, 1853	II.
9, 750	Wagener, Jephtha A. Clover harvesters.....	May 24, 1853	I.
9, 615	Wagener, John A. Cannon-sight.....	Mar. 8, 1853	XIX.
10, 193	Waite, Increase S. Machine for turning cylinders of wood.....	Nov. 1, 1853	XIV.
9, 734	Walcott, Halsey D. Graduated cutters for cloth and other substances.....	May 17, 1853	XXI.
9, 642	Walker, M., Daniel S., and Matthew, jr. Wire fences.....	Mar. 29, 1853	IX.
10, 690	Ward, John H. Gold washers.....	Oct. 4, 1853	II.
9, 597	Ward, Lauren, administrator of Richard Ward, J. B. Hubbell, and H. C. Hubbell. Machines for turning irregular forms.....	Feb. 22, 1853	XIX.
10, 091	Ware, Charles T. P. Propellers.....	Oct. 4, 1853	VII.
10, 242	Warner, Jonathan E. Machine for finishing the ends of staves.....	Nov. 15, 1853	XIV.
9, 999	Warner, Thomas. Process for making twisted gun-barrels.....	Sept. 6, 1853	XIX.

List of persons whose patents for inventions have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10, 303	Warren, Ira. Shower syringes	Dec. 6, 1853	XX.
10, 142	Warren, Thomas E. Iron car bodies	Oct. 18, 1853	X.
9, 880	Warren, William M. Railroad car seats	July 26, 1853	X.
9, 960	Same same	Aug. 23, 1853	X.
10, 052	Waskey, Robert. Smut machines	Sept. 27, 1853	XIII.
10, 243	Waterman, Henry. Safety valves for locomotive engines	Nov. 15, 1853	VI.
9, 907	Waterman, Stephen. Mode of obviating the danger from steam-boiler explosions	Aug. 2, 1853	VI.
9, 930	Watson, P. H., and E. S. Renwick. Grain harvesters and binders. (Ante-dated June 6, 1853)	Dec. 6, 1853	I.
10, 194	Watson, Peter H. Generating and condensing steam. (Ante-dated May 2, 1853)	Nov. 1, 1853	VI.
9, 524	Watson, William. Tonguing and grooving machines	Jan. 4, 1853	XIV.
10, 357	Watson, William, and P. Van Zandt, assignees of William A. Martin. Machine for folding Seidlitz powders	Dec. 20, 1853	XXII.
10, 143	Weatherby, J. W. Carpet stretchers	Oct. 18, 1853	XVII.
9, 735	Weatherhead, Davis L. Cleansing and cooling block dies in rivet machines	May 17, 1853	II.
9, 898	Weeks, Henry L. Cotton gins	Sept. 6, 1853	III.
9, 868	Weldon, Thomas C. Manufacture of wigs	July 19, 1853	XXI.
9, 911	Wells, J. G., assignee of Julius Herriet. Elastic type for printing on irregular surfaces	Aug. 2, 1853	XVIII.
9, 846	Wells, Ephraim B. Adjusting dishing saws	July 12, 1853	XIV.
4, 456	Wells, Thomas J. Improvement in saw mills	Apr. 11, 1846	
4, 472	Wells, Henry A., (Eliza Wells, administratrix of.) Improvement in manufacturing hat bodies	Apr. 25, 1846	
10, 195	Wemple, J. V. A. Grain separators	Nov. 1, 1853	I.
10, 305	Werner, Carl E. Condensers for stills	Dec. 6, 1853	IV.
9, 870	Westbrook, Leonardo. Gutta-percha stereotype compositions	July 19, 1853	IV.
9, 980	Weston, Charles. Machines for leather-splitting	Aug. 30, 1853	XVI.
10, 054	Wethered, Charles E., John, and Samuel. Use of steam for actuating engines. (Patented in Eng. and May 25, 1853)	Sept. 27, 1853	VI.
9, 605	Wheeler, William. Construction of currycombs	Mar. 1, 1853	II.
4, 470	Same Improvement in currycombs	Apr. 25, 1846	
9, 715	Whipple, George A. Manufacturing malleable iron directly from the ore	May 10, 1853	II.
9, 588	White, Rand B. Saw-setting machine	Feb. 15, 1853	II.
10, 299	Whitmore, John E. Overshot water wheels	Dec. 6, 1853	XI.
10, 116	Whitmore, D. H. Vegetable cutters	Oct. 11, 1853	I.
9, 773	Wight, George W. Screw presses for packing boxes	June 7, 1853	XII.
9, 981	Wigston, William. Purifying apparatus for gas	Aug. 30, 1853	IV.
9, 808	Wilder, J. B. Hill-side plows	June 21, 1853	I.
9, 667	Wilgus, Charles. Washing machines	Apr. 12, 1853	XVII.
9, 871	Willeox, Austin O. Air engines	July 19, 1853	VI.
9, 909	Same Hot-air engines	Aug. 2, 1853	VI.
9, 869	Williams, Charles. Preparation of bristles for brushes	July 19, 1853	XVII.
10, 318	Williams, James B., assignee of Joel R. Bassett. Pump valves	Dec. 13, 1853	XI.
10, 218	Williams, W. D. Wagon brakes	Nov. 8, 1853	X.
10, 042	Willis, Oscar. Saw for water-wheels	Sept. 20, 1853	XI.
10, 200	Williston, George. Machines for straightening or curving rails	Nov. 1, 1853	IX.
10, 317	Wilmington, John. Machines for cutting sheet metal	Dec. 13, 1853	II.
9, 558	Wilson, H. F., and S. E. Fenwick, assignees of William H. Lazelle. Machines for paring apples	Jan. 25, 1853	XVII.
9, 716	Winder, D. Locomotive engines	May 10, 1853	VI.
9, 979	Winslow, Daniel, and P. D. Cummings. Paper files	Aug. 30, 1853	XVIII.
10, 123	Wise, Samuel G., assignee of L. M. Whitman. Cultivating plows	Oct. 11, 1853	I.
10, 219	Wisner, Joel. Washing machines	Nov. 8, 1853	XVII.
9, 551	Witherow, Samuel, assignee of William H. and Samuel Witherow. Seed planters	Jan. 18, 1853	I.
9, 589	Wolf, David and Herman. Seed planters	Feb. 15, 1853	I.
9, 739	Woodbury, J. A., Joshua Merrill, and George Patten. Air engines. (Patented in England January 5, 1853)	May 17, 1853	VI.
10, 081	Same same	Oct. 4, 1853	VI.
10, 115	Woodruff, Horace W. Treating metals while in the molten state	Oct. 11, 1853	II.
9, 678	Woolson, Amasa. Gig-mills for cloth-dressing	Apr. 19, 1853	III.
10, 278	Wrenn, R. C. Seed planters	Nov. 29, 1853	I.
10, 082	Wright, Elizur. Stop-cock	Oct. 4, 1853	XI.
9, 686	Yale, C. D., assignee of James Bolton, M. D. Hot-air furnaces	Apr. 26, 1853	V.
10, 144	Yale, Linus. Door locks	Oct. 18, 1853	II.
9, 850	Yale, Linus, jr. Locks for banks	July 12, 1853	II.
9, 908	Young, Jesse. Arrangement of pipes for hot-blast furnaces	Aug. 2, 1853	V.
9, 579	Zimmerman, G. F. S. Winnowers and threshers	Feb. 8, 1853	I.
10, 053	Zimmerman, William. Smut machines	Sept. 27, 1853	XIII.

ALPHABETICAL LIST OF PERSONS WHOSE PATENTS FOR DESIGNS HAVE EXPIRED DURING THE YEAR 1867.

No.	Name and invention.	Date.
1, 215	Armitage, Samuel. Trade mark for neuralgic pills.	April 3, 1860.
1, 849	Baker, Albert Osborn. Belt fastener.	Nov. 17, 1863.
1, 247	Barstow, A. C. Cooking range.	June 12, 1860.
1, 259	Bates, Reuben N. H., assignor to J. Morrison, jr. Plates of a cooking stove.	June 19, 1860.
1, 318	Berger, Henry. Centre pieces.	Oct. 2, 1860.
1, 197	Boyle, James, assignor to self and D. Boyle. Floor oil-cloth.	Jan. 31, 1860.
1, 198	Same.	Jan. 31, 1860.
1, 216	Boyd, Samuel. Andirons.	April 3, 1860.
1, 217	Same.	April 3, 1860.
1, 352	Brown, E. H. Iron shutter.	Dec. 18, 1860.
1, 190	Cambridge, P. C., jr. Bedsteads.	Jan. 24, 1860.
1, 340	Carew, Thomas A. Medallion likeness of T. Parker.	Nov. 13, 1860.
1, 248	Chilson, Gardner. Cook's range.	June 13, 1860.
1, 310	Cunningham, J. D. Coffins.	Aug. 14, 1860.
1, 835	De Zeuche, assignor to Bridge, Beach & Co. Plates for a parlor stove.	Oct. 20, 1863.
1, 836	Same. Cooking stove.	Oct. 20, 1863.
1, 205	D. Zeuche, Isaac. Iron railings.	Feb. 21, 1860.
1, 233	Same. Parlor stove.	April 24, 1860.
1, 280	De Zeuche, I., assignor to Bridge, Beach & Co. Stove.	July 3, 1860.
1, 350	Same.	Dec. 4, 1860.
1, 882	Drummond, James F. Bas relief of General G. B. McClellan.	Jan. 5, 1864.
1, 191	Ezekiel, N. Trade mark.	Jan. 24, 1860.
1, 276	Foster, Henry C. Spoon handles.	July 3, 1860.
1, 188	Gibbs, I. W., assignor to North, Chase & North. Stoves.	Jan. 10, 1860.
1, 212	Gibbs, S. W., assignor to Rathbone & Co. Plates of a cooking stove.	Mar. 20, 1860.
1, 211	Gibbs, S. W., assignor to S. H. Ransom & Co. Tops and bases of stoves.	Mar. 20, 1860.
1, 251	Gibbs, S. W., assignor to North, Chase & North. Stove.	June 12, 1860.
1, 241	Gibney, M. Spoon and fork handle.	May 15, 1860.
1, 237	Gilroy, Washington L. Paint cans.	April 24, 1860.
1, 238	Same.	April 24, 1860.
1, 239	Same.	April 24, 1860.
1, 240	Same.	April 24, 1860.
1, 192	Gray, Abel. Back combs.	Jan. 24, 1860.
1, 242	Green, James, and R. I. King. Stoves.	May 15, 1860.
1, 964	George, William E., assignor to Joseph Cowell. Lady's hat.	June 21, 1864.
1, 928	Green, George, assignor to Deborah, Albert E., and Nathaniel B. Powers. Floor-cloth pattern.	April 5, 1864.
1, 290	Hathaway, David, assignor to Fuller, Warren & Co. Six-plates stove.	July 31, 1860.
1, 291	Same. Coal stove.	July 31, 1860.
1, 330	Hibbard, Alonzo, assignor to W. Gale, jr., and J. R. Willis. Spoons.	Oct. 2, 1860.
1, 193	Holly, Birdsill. Cistern pumps.	Jan. 24, 1860.
1, 256	Same. Pumps.	June 19, 1860.
1, 314	Horton, J., and J. Martino, assignors to D. Stuart and R. Peterson. Plates of stoves.	Sept. 25, 1860.
1, 315	Same. Plates of cylinder stoves.	Sept. 25, 1860.
1, 213	Hovey, Francis. Copying press.	Mar. 20, 1860.
1, 207	Hubbell, H. S., T. H. Wood, and J. E. Roberts. Stoves.	Feb. 21, 1860.
1, 243	Hubbell, H. S., and T. H. Wood. Stove plates.	May 15, 1860.
1, 347	Hunt, Zebulon. Stove.	Dec. 4, 1860.
1, 215	Jones, John L., assignor to D. D. Jones and A. McDowell. Ornamental ridge for roofs.	June 12, 1860.
1, 218	Kan, J. C. Coffins.	April 3, 1860.
1, 189	Lillagore, T. W., assignor to Savery & Co. Fire dogs.	Jan. 10, 1860.
1, 194	Same.	Jan. 24, 1860.
1, 220	Same.	April 3, 1860.
1, 221	Same.	April 3, 1860.
1, 222	Same.	April 3, 1860.
1, 223	Same.	April 3, 1860.
1, 224	Same.	April 3, 1860.
1, 225	Same.	April 3, 1860.
1, 311	Livingston, Marie L. Medallion of Washington Irving.	Sept. 4, 1860.
1, 313	Loring, Thomas. Sad iron.	Sept. 25, 1860.
1, 341	Marsbank, J. D., assignor to self and W. McConkey. Stove door.	Nov. 13, 1860.
1, 231	Martino, John, and James Horton, assignors to Stuart & Peterson. Cooking range.	April 10, 1860.
1, 226	McNair, David, assignor to Roxbury Carpet Company. Carpet.	April 3, 1860.
1, 234	Meger, Jeremiah assignor to Alden Sampson. Floor-cloth.	April 24, 1860.
1, 292	Meineke, D. L. Trade mark.	July 31, 1860.
1, 351	Meyer, Charles T., assignor to Alden Sampson. Floor-cloth.	Dec. 4, 1860.
1, 183	Meyer, James, jr. Trade mark.	Jan. 3, 1860.
1, 257	Meyer, Louis. Parlor stove.	June 19, 1860.
1, 260	Morgan, Lemuel, assignor to self and Chauncey Adams. Fire shovel.	June 19, 1860.
1, 261	Same.	June 19, 1860.
1, 262	Same.	June 19, 1860.
1, 263	Same.	June 19, 1860.
1, 227	Muller, Charles, assignor to John Mathews. Water coolers.	April 3, 1860.
1, 319	Murdock, Eliza A. Lady's hat.	Oct. 2, 1860.
1, 907	Neil, John, assignor to William M. Brasher and S. H. Herriman. Floor-cloth pattern.	Mar. 1, 1864.
1, 199	Ney, Elimer J., assignor to the Lowell Manufacturing Company. Carpet patterns.	Feb. 14, 1860.
1, 209	Same.	Feb. 28, 1860.
1, 210	Same.	Feb. 28, 1860.
1, 253	Same.	June 12, 1860.

List of persons whose patents for designs have expired, &c.—Continued.

No.	Name and invention.	Date.
1, 254	Ney, Elimer J., assignor to the Lowell Manufacturing Company. Carpet patterns....	June 12, 1860.
1, 299	Same	Aug. 7, 1860.
1, 300	Same	Aug. 7, 1860.
1, 301	Same	Aug. 7, 1860.
1, 321	Ney, Elimer J., assignor to the Lowell Manufacturing Company. Carpets.....	Oct. 2, 1860.
1, 353	Same	Dec. 18, 1860.
1, 354	Same	Dec. 18, 1860.
1, 355	Same	Dec. 18, 1860.
1, 356	Same	Dec. 18, 1860.
1, 357	Same	Dec. 18, 1860.
1, 358	Same	Dec. 18, 1860.
1, 359	Same	Dec. 18, 1860.
1, 360	Same	Dec. 18, 1860.
1, 361	Same	Dec. 18, 1860.
1, 806	Ney, Elimer J., assignor to the Lowell Manufacturing Company. Carpet patterns....	Aug. 11, 1863.
1, 807	Same	Aug. 11, 1863.
1, 808	Same	Aug. 11, 1863.
1, 809	Same	Aug. 11, 1863.
1, 810	Same	Aug. 11, 1863.
1, 811	Same	Aug. 11, 1863.
1, 812	Same	Aug. 11, 1863.
1, 813	Same	Aug. 11, 1863.
1, 814	Same	Aug. 11, 1863.
1, 815	Same	Aug. 11, 1863.
1, 816	Same	Aug. 11, 1863.
1, 817	Same	Aug. 11, 1863.
1, 818	Same	Aug. 11, 1863.
1, 839	Ney, Elimer J., assignor to the Lowell Manufacturing Company. Carpet pattern....	Nov. 10, 1863.
1, 840	Same	Nov. 10, 1863.
1, 841	Same	Nov. 10, 1863.
1, 842	Same	Nov. 10, 1863.
1, 843	Same	Nov. 10, 1863.
1, 844	Same	Nov. 10, 1863.
1, 845	Same	Nov. 10, 1863.
1, 846	Same	Nov. 10, 1863.
1, 847	Same	Nov. 10, 1863.
1, 884	Same	Jan. 19, 1864.
1, 885	Same	Jan. 19, 1864.
1, 886	Same	Jan. 19, 1864.
1, 893	Same	Feb. 16, 1864.
1, 899	Same	Feb. 16, 1864.
1, 900	Same	Feb. 16, 1864.
1, 901	Same	Feb. 16, 1864.
1, 921	Same	May 10, 1864.
1, 942	Same	May 10, 1864.
1, 943	Same	May 10, 1864.
1, 953	Same	June 14, 1864.
1, 954	Same	June 14, 1864.
1, 955	Same	June 14, 1864.
1, 956	Same	June 14, 1864.
1, 293	Pardee, Benjamin S. Hub bands	July 31, 1860.
1, 287	Pack, Elnathan. Gridiron	July 17, 1860.
1, 228	Pierce, Francis J., assignor to the Roxbury Carpet Company. Carpets....	April 3, 1860.
1, 232	Polhamus, John. Spoon-handles, &c.	April 10, 1860.
1, 342	Same..... Handles of spoons, forks, &c.	Nov. 13, 1860.
1, 258	Pountney, William. Decanter stoppers.	June 19, 1860.
1, 872	Paris, Daniel E., and Francis E. Ritchie, assignors to Daniel E. Paris. Stove plates.	Dec. 1, 1863.
1, 878	Paris, Daniel E. Stove plate	Dec. 15, 1863.
1, 931	Paterson, James, assignor to Edward Harvey Floor-cloth pattern.	April 5, 1864.
1, 946	Partridge, John W. Lady's hat.	May 17, 1864.
1, 887	Plume, David S. Stair rod	Jan. 19, 1864.
1, 214	Ramson, Samuel H. Stove plates	Mar. 20, 1860.
1, 277	Same..... Cooking stove.	July 3, 1860.
1, 278	Same..... Parlor stove.	July 3, 1860.
1, 279	Same..... Cooking stove	July 3, 1860.
1, 343	Reed, Henry G. Tea service	Nov. 13, 1860.
1, 244	Rosor, Jacob. Stoves	May 15, 1860.
1, 230	Rosenthal, Joseph, assignor to J. Richendorfer. Stamping on lead-pencils	April 3, 1860.
1, 249	Same..... Trade-mark for lead-pencils	April 3, 1860.
1, 890	Robley, Joseph. Oil-cloth pattern	Jan. 26, 1864.
1, 908	Robley, Joseph, assignor to Brasber, Merriman & Co. Floor-cloth pattern	Mar. 1, 1864.
1, 337	Sailor, Samuel H., and Jacob Steffe, assignors to North, Chase & Co. Stoves	Oct. 9, 1860.
1, 295	Sanders, A. K., and N. S. Vedder, assignors to A. K. Sanders. Cooking range	July 31, 1860.
1, 345	Sargent, I. B., and P. Bradford, assignors to I. Sargent. Pull-drawer	Nov. 13, 1860.
1, 245	Siddons, John, and James C. Hart. Stove-plate.	May 15, 1860.
1, 219	Smith, George W. Ice-pitchers.	April 3, 1860.
1, 286	Smith, Garretson, and Henry Brown, assignors to Cox, Whiteman & Cox. Cook's stove.	July 3, 1860.
1, 281	Smith, Garretson, and Henry Brown, assignors to Leibrandt & McDowell. Cooking stove.	July 3, 1860.
1, 282	Same.....	July 3, 1860.
1, 283	Smith, Garretson, and Henry Brown, assignors to Abbott & Noble. Cook's stove....	July 3, 1860.

List of persons whose patents for designs have expired, &c.—Continued.

No.	Name and invention.	Date.
1, 284	Smith, Garretson, and Henry Brown, assignors to Abbott & Noble. Cook's stove....	July 3, 1860.
1, 285	Same.....	July 3, 1860.
1, 288	Smith, Garretson, and Henry Brown, assignors to Samuel Smith. Plates for cook's stove.....	July 17, 1860.
1, 322	Smith, Garretson, and Henry Brown, assignors to North, Chase & North. Stoves.....	Oct. 2, 1860.
1, 323	Smith, Garretson, and Henry Brown, assignors to Sheppard & Co. Plates for cook's stove.....	Oct. 2, 1860.
1, 362	Smith, Garretson, and Henry Brown, assignors to Leibrandt & McDowell. Stove.....	Dec. 18, 1860.
1, 249	Smith, Samuel J. Nut-cracker.....	June 12, 1860.
1, 268	Smith, W. H. Stoves.....	Feb. 21, 1860.
1, 289	Stanard, Walter W., assignor to S. S. Jewett and F. H. Root. Cook's stove.....	July 24, 1860.
1, 298	Same.....	July 31, 1860.
1, 297	Same.....	July 31, 1860.
1, 296	Same.....	July 31, 1860.
1, 316	Same.....	Sept. 25, 1860.
1, 317	Same.....	Sept. 25, 1860.
1, 344	Steffe, J., and S. H. Sailor, assignors to Cox, Whiteman & Cox. Stove.....	Nov. 13, 1860.
1, 363	Steffe, Jacob, assignor to F. and G. Hencks. Cooking stove.....	Dec. 18, 1860.
1, 200	Stevens, William W., assignor to N. P. Richardson & Co. Cooking stoves.....	Feb. 14, 1860.
1, 246	Same.....	May 15, 1860.
1, 883	Scott, George. Bottle.....	Jan. 12, 1864.
1, 880	Sharp, George. Spoon handle.....	Jan. 5, 1864.
1, 195	Thompson, Henry G., assignor to Hartford Carpet Co. Carpet patterns.....	Jan. 24, 1860.
1, 196	Same.....	Jan. 24, 1860.
1, 264	Same.....	June 19, 1860.
1, 265	Same.....	June 19, 1860.
1, 266	Same.....	June 19, 1860.
1, 267	Same.....	June 19, 1860.
1, 268	Same.....	June 19, 1860.
1, 269	Same.....	June 19, 1860.
1, 270	Same.....	June 19, 1860.
1, 271	Same.....	June 19, 1860.
1, 272	Same.....	June 19, 1860.
1, 273	Same.....	June 19, 1860.
1, 274	Same.....	June 19, 1860.
1, 275	Same.....	June 19, 1860.
1, 302	Same.....	Aug. 7, 1860.
1, 303	Same.....	Aug. 7, 1860.
1, 304	Same.....	Aug. 7, 1860.
1, 305	Same.....	Aug. 7, 1860.
1, 306	Same.....	Aug. 7, 1860.
1, 307	Same.....	Aug. 7, 1860.
1, 308	Same.....	Aug. 7, 1860.
1, 309	Same.....	Aug. 7, 1860.
1, 324	Thompson, Henry G., assignor to Hartford Carpet Co. Carpeting, &c., No. 1.....	Oct. 2, 1860.
1, 325	Same.....	Oct. 2, 1860.
1, 326	Same.....	Oct. 2, 1860.
1, 327	Same.....	Oct. 2, 1860.
1, 328	Same.....	Oct. 2, 1860.
1, 329	Same.....	Oct. 2, 1860.
1, 330	Same.....	Oct. 2, 1860.
1, 331	Same.....	Oct. 2, 1860.
1, 332	Same.....	Oct. 2, 1860.
1, 333	Same.....	Oct. 2, 1860.
1, 334	Same.....	Oct. 2, 1860.
1, 335	Same.....	Oct. 2, 1860.
1, 852	Thompson, Henry G., assignor to Hartford Carpet Co. Carpet pattern.....	Nov. 24, 1863.
1, 853	Same.....	Nov. 24, 1863.
1, 854	Same.....	Nov. 24, 1863.
1, 855	Same.....	Nov. 24, 1863.
1, 856	Same.....	Nov. 24, 1863.
1, 857	Same.....	Nov. 24, 1863.
1, 858	Same.....	Nov. 24, 1863.
1, 859	Same.....	Nov. 24, 1863.
1, 860	Same.....	Nov. 24, 1863.
1, 861	Same.....	Nov. 24, 1863.
1, 862	Same.....	Nov. 24, 1863.
1, 863	Same.....	Nov. 24, 1863.
1, 864	Same.....	Nov. 24, 1863.
1, 865	Same.....	Nov. 24, 1863.
1, 866	Same.....	Nov. 24, 1863.
1, 867	Same.....	Nov. 24, 1863.
1, 868	Same.....	Nov. 24, 1863.
1, 909	Same.....	Mar. 8, 1864.
1, 910	Same.....	Mar. 8, 1864.
1, 911	Same.....	Mar. 8, 1864.
1, 912	Same.....	Mar. 8, 1864.
1, 913	Same.....	Mar. 8, 1864.
1, 914	Same.....	Mar. 8, 1864.
1, 915	Same.....	Mar. 8, 1864.
1, 916	Same.....	Mar. 8, 1864.

List of persons whose patents for designs have expired, &c.—Continued.

No.	Name and invention.	Date.
1, 917	Thompson, Henry G., assignor to Hartford Carpet Co. Pattern carpet.....	Mar. 8, 1864.
1, 918	Same.....	Mar. 8, 1864.
1, 919	Same.....	Mar. 8, 1864.
1, 328	Tompkins, Elias. Heater fronts.....	Oct. 9, 1860.
1, 186	Vedder, N. S., assignor to Potter & Co. Side plates of stoves.....	Jan. 3, 1860.
1, 187	Same.....Doors of cook stoves.....	Jan. 3, 1860.
1, 184	Vedder, N. S., and A. Murray, assignors to Potter & Co. Doors of cook stoves.....	Jan. 3, 1860.
1, 185	Vedder, N. S., and Ezra Ripley, assignors to Potter & Co. Side plates of box stoves.....	Jan. 3, 1860.
1, 201	Vedder, N. S. Parlor and cook stove.....	Feb. 14, 1860.
1, 202	Same.....Parlor stoves.....	Feb. 14, 1860.
1, 204	Vedder, N. S., assignor to Abraham and Joseph Cox and John Whiteman. Cooking stove.....	Feb. 21, 1860.
1, 235	Vedder, Nicholas S., assignor to Sherman S. Jewett and F. H. Root. Stoves.....	Apr. 24, 1860.
1, 255	Vedder, N. S., assignor to Tibbits & McConn. Cook's stove.....	June 12, 1860.
1, 294	Same.....	July 31, 1860.
1, 312	Vedder, N. S., assignor to North, Chase & North. Stoves.....	Sept. 4, 1860.
1, 336	Vedder, N. S., assignor to John S. and Merritt Peckham. Stove register.....	Oct. 2, 1860.
1, 339	Vedder, N. S., assignor to Hicks, Wolfe & Co. Parlor cooking stove.....	Nov. 13, 1860.
1, 346	Same.....Cook's stove plates.....	Nov. 13, 1860.
1, 364	Vedder, N. S., and Ezra Ripley, assignors to Potter & Co. Stove plates.....	Dec. 18, 1860.
1, 365	Vedder, N. S., and William N. Sanderson, assignors to Potter & Co. Stove plate.....	Dec. 18, 1860.
1, 236	Violet, Jean Baptiste, assignor to John W. Hoyt. Floor oil-cloth.....	Apr. 24, 1860.
1, 203	Volk, Leonard W. Statuette of Stephen A. Douglas.....	Feb. 14, 1860.
1, 250	Same.....Bust of Abraham Lincoln.....	June 12, 1860.
1, 848	Welling, Charles H. Turn-over collar.....	Nov. 10, 1863.
1, 895	Whitcomb, N. C. Metal pulley block.....	Feb. 2, 1864.
1, 348	Woolsen, Charles J. Door of cooking stoves.....	Dec. 4, 1860.
1, 349	Same.....Stove plate.....	Dec. 4, 1860.

ALPHABETICAL LIST OF PATENTEES OF INVENTIONS, DESIGNS, AND REISSUES FOR THE YEAR 1867.

No.	Name, residence, and invention or discovery.	Date.
67, 937	Abbe, William C., Petroleum Centre, Pa. Pipe wrench.....	Aug. 20, 1867.
72, 439	Abbey, J., and J. C. Beach. (See Beach & Abbey.)	
	Abbiati, Ernesto, assignor to self and John N. Longhi, New York, N. Y. Track clearer.....	Dec. 24, 1867.
65, 150	Abbot, Charles R., Elmira, N. Y. Prop for carriage tops.....	May 28, 1867.
68, 543	Same..... Safety car platform.....	Sept. 3, 1867.
72, 258	Same..... Flexible steam-pipe for connecting heating pipes in railroad cars.....	Dec. 17, 1867.
	Abbot, William H. (See Freeman, Thomas F., assignor.)	
	Abbott & Noble. (See Smith & Brown, assignors)..... (Design.)	
71, 112	Abbott, Charles E., Malden, Mass. Lamp extinguisher.....	Nov. 19, 1867.
69, 739	Abbott, George, White's Corners, N. Y. Corn planter.....	Oct. 15, 1867.
68, 931	Abbott, Joseph L., assignor to Charles Pratt, North Providence, R. I. Measure for liquids.....	Sept. 17, 1867.
70, 933	Abbott, M. E., Bethlehem, Pa. Step ladder.....	Nov. 19, 1867.
66, 667	Abbott, N. W., assignor to H. W. Persing, Centralia, Ill. Inhaling fluid, for cure of consumption and other diseases.....	July 16, 1867.
	Abbott, Thaddeus C. (See Holt, Henry F., assignor.)	
	Same.....	
69, 382	Abbott, William C., Niles, N. Y. Treadle for propelling machinery.....	Oct. 1, 1867.
66, 440	Abbott, William W., Boston, Mass. Sewing machine.....	July 9, 1867.
71, 437	Abbruzzo, Onofrio, Italy. Hydraulic clock.....	Nov. 26, 1867.
60, 658	Abell, I. H., East Hampton, Conn. Fastening sleigh bells.....	Jan. 1, 1867.
	Abell, J. H. (See Nichols, W. H., assignor.)	
2, 655	Abendroth, John, New York, N. Y. Cook's stove..... (Design).....	May 21, 1867.
70, 934	Abbruzzo, Onofrio, New York, N. Y. Apparatus for condensing air.....	Nov. 19, 1867.
64, 055	Acken, Albert H., Griggstown, N. J. Rotary harrow.....	April 23, 1867.
69, 898	Acker, George S., Kalamazoo, Mich. Burglar alarm.....	Oct. 15, 1867.
65, 326	Ackerman, Philip M., Webster, N. Y. Gate.....	June 4, 1867.
65, 525	Same..... Ladder.....	June 11, 1867.
66, 668	Ackerson, C. N., Bath, N. Y., and W. D. Harrah, Davenport, Iowa, assignors to J. C. De Lany. Folding gate.....	July 16, 1867.
69, 061	Adair, Arthur, Buffalo, N. Y. Washing machine.....	Sept. 24, 1867.
68, 141	Adair, Davis L., Hawesville, Ky. Beehive.....	Aug. 27, 1867.
70, 772	Adair, Isaac V., assignor to self and Peter Wyckoff, Varick, N. Y. Ditching machine.....	Nov. 12, 1867.
72, 711	Adair, James, Pittsburg, Pa. Paper file.....	Dec. 31, 1867.
70, 675	Adams, Anson T., Indianapolis, Ind. Meat mangle.....	Nov. 12, 1867.
	Adams, Augustus, and Philo Sylla. (See Sylla & Adams.)..... (Reissue.)	
	Same..... same..... (Extension.)	
	Same..... same..... (Extension.)	
	Same..... same..... (Extension.)	
	Same..... same..... (Extension.)	
	Same..... same..... (Extension.)	
	Same..... same..... (Extension.)	
	Same..... same..... (Extension.)	
	Same..... same..... (Disclaimer.)	
66, 769	Adams, Calvin, Pittsburg, Pa. Soap dish. (Antedated July 9, 1867).....	July 16, 1867.
69, 298	Same..... Foot rest.....	Oct. 1, 1867.
71, 355	Adams, Charles, assignor to self and Henry R. Hains, Philadelphia, Pa. Reducing manganese ores. (Antedated November 15, 1867).....	Nov. 26, 1867.
71, 940	Adams, Derrick, Lansingburg, N. Y. Toy.....	Dec. 10, 1867.
60, 659	Adams, D. D., Brookline, Mass. Scaffold.....	Jan. 1, 1867.
65, 854	Adams, Ephraim, jr., Attleboro', Mass. Hoop skirt.....	June 18, 1867.
61, 790	Adams, Federal C., and Joseph Peckover, Cincinnati, Ohio. Cooking stove.....	Feb. 5, 1867.
72, 580	Same..... Coal stove.....	Dec. 24, 1867.
69, 299	Adams, G. W., Rochester, N. Y. Fence.....	Oct. 1, 1867.
63, 354	Adams, Hawley, assignor to self, W. H. Cobanks, and H. Theall. Stamford, Conn. Grates for furnaces.....	April 2, 1867.
61, 699	Adams, James, Newark, Del. Method of starting street cars.....	Feb. 5, 1867.
65, 855	Adams, James C., Philadelphia, Pa. Metallic paint keg.....	June 18, 1867.
	Adams, James C., and William W. Hughes. (See Hughes & Adams.)	
67, 700	Adams, Jesse, Clarksville, Texas. Cotton cultivator.....	Aug. 13, 1867.
68, 026	Same..... Combined planter and cultivator.....	Aug. 20, 1867.
72, 259	Adams, John R., New York, N. Y. Coffee mill.....	Dec. 17, 1867.
65, 856	Adams, Joseph, New Orleans, La. Machine for fastening bale ties.....	June 18, 1867.
70, 310	Adams, Joseph, Janesville, Wis. Mop wringer.....	Oct. 29, 1867.
62, 587	Adams, Joseph C., New London, N. H. Boots and shoes.....	Mar. 5, 1867.
61, 791	Adams, J. N., Bloomfield, Iowa. Machine for jointing stove pipes.....	Feb. 5, 1867.
	Adams, J. S., and S. Richardson. (See Richardson & Adams.)	
69, 530	Adams, J. W., Elyria, Ohio. Grain dryer.....	Oct. 8, 1867.
71, 673	Adams, M. K., Mountain Eagle, Pa. Car coupling.....	Dec. 3, 1867.
69, 740	Adams, Nathan, Altoona, Pa. Machine for making keys for bolts.....	Oct. 15, 1867.
	Adams, O. W., and C. W. Bliss. (See Bliss & Adams.)	
	Adams, Reuben, and J. David Scheetz. (See Scheetz & Adams.)	
69, 603	Adams, Robert, Cincinnati, Ohio. Blacking brush.....	Oct. 8, 1867.
63, 451	Adams, Robert N., Greenfield, Ohio. Cotton cultivator.....	April 2, 1867.
63, 131	Adams, Samuel W., assignor to the American Eyelet Company, Providence, R. I. Machine for making eyelets.....	Mar. 26, 1867.
68, 932	Adams, Thomas, and George John Parson, England. Slide-valves. Patented in England February 15, 1866.....	Sept. 17, 1867.
	Adams, William. (See Ross, James, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 397	Adams, William G., Franklin, Mass. Compound structure of rubber and fiber for belts and other purposes.	May 7, 1867.
65, 037	Same.....Machine for hulling rice.....	May 28, 1867.
62, 588	Adams, William T., Baltimore, Md. Revolving waist block.....	Mar. 5, 1867.
67, 013	Adams, W. W., West Derby, Vt. Washing machine.....	July 23, 1867.
62, 589	Adamson, Alexander, Washington, D. C. Adjustable runner to be attached to chairs, &c.....	Mar. 5, 1867.
60, 660	Adamson, George, Philadelphia, Pa. Apparatus for coating fabrics with fluid or semi-fluid substances.....	Jan. 1, 1867.
62, 517	Adamson, William, Philadelphia, Pa. Apparatus for washing fibrous substances.....	Mar. 5, 1867.
62, 518	Same.....Emery, sand, and other like paper.....	Mar. 5, 1867.
65, 038	Same.....Apparatus for securing pulverized and other materials to paper.....	May 28, 1867.
65, 785	Same.....Glue.....	June 18, 1867.
65, 786	Same.....Process of manufacturing aerated glue.....	June 18, 1867.
65, 787	Same.....Manufacture of glue.....	June 18, 1867.
66, 770	Same.....Match lighter.....	July 16, 1867.
60, 935	Addison, E. R., Wheeling, West Va. Lamp chimney.....	Nov. 19, 1867.
62, 799	Addy, Charles J., Roxbury, Mass. Tobacco cutter.....	Mar. 12, 1867.
71, 436	Adkins, Norris, Danbury, Conn. Stairs.....	Nov. 26, 1867.
	Adlam, Samuel, jr. (See Haseltine, John, assignor.)..... (Reissue.)	
	Same.....(See Mason, J. M., assignor.)	
69, 890	Adler, Henry, Yellow Springs, Ohio. Boiler.....	Oct. 15, 1867.
61, 035	Acler, Max, and Louis Knell, Buffalo, N. Y. Sash and blind fastener.....	Jan. 8, 1867.
	Adriance, John P. (See Brown, Thomas S., assignor.)	
68, 680	Adt, John, Wolcottville, Conn. Riveting machine.....	Sept. 10, 1867.
	Ætna Manufacturing Company. (See Rank, Amos, assignor.)	
	Same.....same.	
61, 304	Aeuer, Henry, Muscatine, Iowa. Cabbage cutter.....	Jan. 22, 1867.
68, 406	Agrell, John, and Louis Klepzig, San Francisco, Cal. Furnace for roasting ores.....	Sept. 3, 1867.
71, 941	Ahn, Philip, Brandon, Vt. Eaves trough fastening.....	Dec. 10, 1867.
	Aiken, B. F., and D. C. Thrasher. (See Thrasher & Aiken.)	
	Aiken, James. (See Snyder, George W., assignor.)	
	Same.....(See Cadman, Isaac P., assignor.)	
70, 676	Aiken, James W., and John H. Stone, Philadelphia, Pa. Moth-proof case.....	Nov. 12, 1867.
	Aiken, John, Warner, N. H. Harrow.....	Dec. 17, 1867.
70, 677	Aiken, Walter, Franklin, N. H. Needle machine.....	Nov. 12, 1867.
70, 678	Same.....Machine for making the tongues of knitting-machine needles.....	Nov. 12, 1867.
71, 836	Same.....Machine for notching knitting needles.....	Dec. 10, 1867.
72, 771	Same.....Knitting machine.....	Dec. 31, 1867.
	Same.....(See Hibbert, James, assignor.)..... (Disclaimer.)	
62, 817	Ainsworth, W. L., and A. D. Wright, Lowell, Mass. Stop motion for feeding mechanism of carding engines.....	Mar. 19, 1867.
68, 589	Albee, James, Boston, Mass. Hot-air furnace.....	Sept. 10, 1867.
66, 112	Albertine, F. W. and E., Hanover, Conn. Guides for carding machines.....	June 25, 1867.
71, 674	Albertson, Nathan, Plainfield, Ind. Hoisting device for trucks.....	Dec. 3, 1867.
	Albertson, Oliver, and Augustin Ellis. (See Ellis & Albertson.)	
	Same.....same.	
	Albin, William M., and John F. Riggs. (See Riggs & Albin.)	
62, 106	Albright, Andrew, Dryden, N. Y. Covering harness trimmings with vulcanized rubber.....	Feb. 12, 1867.
	Albright, Andrew, and K. W. Holmes. (See Holmes & Albright.)	
70, 493	Albright, D. K., Philadelphia, Pa., and L. H. DeLange, Bordentown, N. J. Hats.....	Nov. 5, 1867.
64, 851	Alburger, Charles M., assignor to George R. Kirk, Philadelphia, Pa. Cocks.....	May 21, 1867.
67, 245	Alcorn, W. H., New York, N. Y. Slate-pencil sharpener and holder.....	July 30, 1867.
70, 494	Alden, Charles E., Philadelphia, Pa. Gas stove.....	Nov. 5, 1867.
72, 772	Alden, Henry A., Matteawan, N. Y. Covering for foot balls.....	Dec. 31, 1867.
64, 930	Same.....Car spring.....	May 21, 1867.
71, 942	Alden, H. A., assignor to New York Rubber Company, Fishkill, N. Y. Inflating rubber balls, &c.....	Dec. 10, 1867.
72, 355	Same.....same.....Matteawan, N. Y. Manufacture of base balls.....	Dec. 17, 1867.
62, 987	Alden, John Brown, ass'r to self and Edwin C. Cleveland, Worcester, Mass. Brush.....	Mar. 19, 1867.
70, 936	Aldrich, Charles, Marshalltown, Iowa. Type case.....	Nov. 19, 1867.
63, 686	Aldrich, J. H., Nashua, N. H. Cattle car.....	Apr. 9, 1867.
65, 039	Same.....Wagon body.....	May 28, 1867.
70, 384	Same.....Railroad freight car.....	Nov. 5, 1867.
62, 724	Aldrich, Robert H., Northampton, Mass. Dusting brush.....	Mar. 12, 1867.
	Aldrich, S., and E. D. Merriam. (See Merriam & Aldrich.)	
67, 395	Aldrich, W. L., Norwich, Conn., and William Evans, Seymour, Conn. Machine for twisting augers.....	Aug. 6, 1867.
68, 829	Aldridge, Hiram, Goshen, Ind. Portable horse power.....	Sept. 17, 1867.
72, 581	Alesworth, J. W., Santa Cruz, Cal. Box for gauging shingles.....	Dec. 24, 1867.
72, 152	Alexander, Abram, Pittsburg, Pa. Bolt-making machine.....	Dec. 17, 1867.
72, 153	Same.....Machine for making bolts.....	Dec. 17, 1867.
65, 716	Alexander, A. J., Chicago, Ill. Grain separator.....	June 11, 1867.
64, 269	Alexander, Charles L., Washington, D. C. Printers' type case.....	Apr. 30, 1867.
69, 062	Alexander, Charles L., and Victoria A. Osborn, Washington, D. C. Book-cover protector.....	Sept. 24, 1867.
	Alexander, C. M. (See Lewis, Charles E. F., assignor.)	
69, 300	Alexander, E. A., and H. C. Kellogg, Independence, Iowa. Broom head.....	Oct. 1, 1867.
60, 842	Alexander, John, Green Point, N. Y. Grate for furnaces.....	Jan. 1, 1867.
64, 056	Alexander, J. B., Washington, D. C. Lamp burner.....	Apr. 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 857	Alexander, J. B., Washington, D. C. Stopper for bottles, jugs, &c.	June 18, 1867.
68, 142	Same. Device for attaching chimneys to lamps	Aug. 27, 1867.
71, 261	Same. Device for attaching lamp burners to lamps	Nov. 26, 1867.
71, 566	Same. Lamp	Dec. 3, 1867.
64, 185	Same. (See Duncan, James C., assignor.)	
65, 327	Alexander, Joseph B., assignor to self and Wm. H. Frear, Washington, D. C. Railroad switch	Apr. 30, 1867.
70, 385	Alexander, J. B., assignor to self and James C. Duncan, Washington, D. C. Gate	June 4, 1867.
67, 836	Alexander, J. M., Delhi, Ohio. Tobacco smoking tube	Nov. 5, 1867.
	Alexander, R. H., Plato, Ohio. Flour bolt	Aug. 20, 1867.
	Alexander, T. H. (See Horde, Kelis, assignor.)	
64, 618	Alexander, William, Union Valley, N. Y. Churn	May 14, 1867.
61, 377	Alexander, W. A., Mobile, Ala. Saw set	Jan. 22, 1867.
71, 675	Alexander, William J., Rolling Prairie, Ind. Gate	Dec. 3, 1867.
71, 113	Alfred, Barnabas B., La Grange, Ga. Cotton and hay press	Nov. 19, 1867.
71, 439	Same. same	Nov. 26, 1867.
67, 246	Alger, J. E., New York, N. Y. Oyster opener	July 30, 1867.
66, 275	Alger, O. W., Richmond, Vt. Washing machine	July 2, 1867.
71, 943	Allardice, Charles, Cohoes, N. Y. Reamer	Dec. 10, 1867.
68, 478	Allen, Albert F., Providence, R. I. Hose coupling escape valve	Sept. 3, 1867.
	Allen, A. G., and Truman Merriam. (See Merriam & Allen.)	
67, 701	Allen, Alexander H., Hartford, Conn. Safety bridge and gate for railroad cars	Aug. 13, 1867.
71, 438	Allen, Andrew, New Haven, Conn. Hinging clock fronts	Nov. 26, 1867.
	Allen, A. N., and G. Gilbert. (See Gilbert & Allen.)	
66, 276	Allen, Charles, Petersburg, Ill. Hanging and ventilating window sash	July 2, 1867.
65, 788	Allen, C. F., Aurora, Ill. Car truck	June 18, 1867.
64, 398	Allen, C. F., and Luther W. Campbell, ass'rs to selves, A. T. Hall, and A. I. Ambler, Aurora, Ill. Apparatus for drying and seasoning lumber by superheated steam	May 7, 1867.
70, 495	Same. Heating and ventilating apparatus for railway cars	Nov. 5, 1867.
	Allen, C. F., et al. (See Campbell, Luther W., assignor.)	
62, 800	Allen, Charlotte W., Newport, Ky., Smoothing iron handle	Mar. 12, 1867.
61, 036	Allen, Chilion B., Chicago, Ill. Composition for roofing	Jan. 8, 1867.
69, 889	Same. St. Louis, Mo. Composition roofing	Oct. 15, 1867.
62, 385	Allen, Daniel R., Cumberland, Maine. Cultivator	Feb. 26, 1867.
70, 773	Allen, Edwin, Norwich, Conn. Printing press	Nov. 12, 1867.
70, 063	Allen, Edwin, assignor to Allen Manufacturing Company, Norwich, Conn. Mechanical movement	Oct. 22, 1867.
68, 334	Allen, E., and J. Brady, Norwich, Conn. Door lock	Sept. 3, 1867.
	Allen, Edwin, et al. (See Potter, Henry T., assignor.)	
67, 476	Allen, Elias B., Portland, Maine. Piston packing	Aug. 6, 1867.
	Allen, E. E. (See Bradley, J. P., assignor.)	
	Allen, Elisha M. (See Williams, Giles B., assignor.)	
2, 692	Allen, Horatio, New York, N. Y. Car seat and couch	July 23, 1867.
60, 915	Allen, J., New York, N. Y., and S. P. Townsend, New Providence, N. J. Mode of finishing fire-arms so as to prevent oxidation and corrosion	Jan. 1, 1867.
62, 916	Allen, John, New York, N. Y. Mode of applying medicines and remedial agents and in apparatus therefor	Mar. 12, 1867.
61, 133	Allen, John, New York, N. Y., and Gaston D. Smith, Washington, D. C. Mode of finishing tools, implements, machinery, and other articles	Jan. 15, 1867.
63, 823	Allen, John, assignor to self and Samuel Ferry, Palmer, Mass. Die for swaging calks for horseshoes	Apr. 16, 1867.
72, 582	Allen, John F., New York, N. Y. Hand saw	Dec. 24, 1867.
70, 496	Allen, John M., Cambridge, Mass. Nail machine	Nov. 5, 1867.
63, 452	Allen, Joshua G., Philadelphia, Pa. Spirit meter	Apr. 2, 1867.
2, 657	Same. same	June 25, 1867.
63, 453	Allen, Josiah J., Philadelphia, Pa. Material for preventing incrustation in steam boilers	Apr. 2, 1867.
64, 733	Allen, J. S., and O. Gillmor, Norwich, Conn. Claw for drawing nails	May 14, 1867.
	Allen, J. W., et al. (See Short, Allen, & Craig.)	
66, 441	Allen, Lewis, Berkeley Springs, West Va. Broom head	July 9, 1867.
60, 661	Allen, N. B., Newport, R. I. Boat detaching apparatus	Jan. 1, 1867.
	Allen Patent Fire-arms Manufacturing Company. (See Bailey, Charles E., assignor.)	
70, 497	Allen, Peter, assignor to self, L. Valiquette, and Clephas Brodeur, Rutland, Vt. Railway chair	Nov. 5, 1867.
68, 479	Allen, R. L., New York, N. Y. Wagon seat and spring	Sept. 3, 1867.
72, 583	Allen, R. N., Pittsford, Vt. Drying apparatus	Dec. 24, 1867.
69, 741	Allen, Sidney, Newton, Mass., and Jas. P. Snow, Roxbury, Mass. Railroad switch	Oct. 15, 1867.
	Allen, Simcon, and J. Neely. (See Neely & Allen.)	
69, 742	Allen, Stephen M., Woburn, Mass. Artificial leather for floor coverings	Oct. 15, 1867.
	Allen, Stillman B., et al. (See Foote, Henry R., assignor.)	
	Allen, Sydney E., and Albert Johnson. (See Johnson & Allen.)	
69, 301	Allen, Thomas, assignor to self, Joseph Nicholson, and A. B. Garrison, Arrow Rock, Mo. Corn planter	Oct. 1, 1867.
70, 311	Allen, William, and Luther Ross, Worcester, Mass. Harvester guard finger	Oct. 29, 1867.
64, 468	Allen, X. S., Granger, Ohio. Attaching carriage thills	May 7, 1867.
63, 355	Allen, Z. G., and G. W. Marshall, Buffalo, N. Y. Smut machine. (Antedated March 18, 1867)	Apr. 2, 1867.
69, 604	Alley, Stephen, and Samuel D. Williamson, Clifty, Ind. Automatic wagon brake	Oct. 8, 1867.
61, 649	Allison, A. H., Charlottesville, Ind. Cultivator	Jan. 29, 1867.
69, 743	Same. same	Oct. 15, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery..	Date.
64, 469	Allison, John H., Eureka, Ill. Cultivator	May 7, 1867.
69, 135	Allison, Robert, Port Carbon, Pa. Steam engine	Sept. 24, 1867.
65, 987	Allison, William C., Philadelphia, Pa. Apparatus for forming bumper carriers for railroad cars	June 25, 1867.
71, 114	Allix, George, Island of Jersey. Apparatus for raising and lowering window blinds and curtains. (Patented in England December 21, 1866)	Nov. 19, 1867.
71, 356	Allyn, Francis T., assignor to self and James A. Rich, New York, N. Y. Lubricating compound	Nov. 26, 1867.
68, 143	Allyn, T. F., Nyack, N. Y. Car spring	Aug. 27, 1867.
	Allmendinger, William, and John Kips. (See Kips & Allmendinger.)	
64, 619	Almy, Darwin, Tiverton Four Corners, R. I. Plow	May 14, 1867.
72, 712	Alpress, Edward A., Bristol, Conn. Hand-gripping tool	Dec. 31, 1867.
62, 464	Alter, David, Freeport, Pa. Apparatus for the manufacture of bromine and iodine	Feb. 26, 1867.
62, 988	Alter, David, assignor to Charles W. Bodey, Freeport, Pa. Distillation of bromine and iodine	Mar. 19, 1867.
67, 702	Alter, James O., St. Louis Mo. Low-water indicator	Aug. 13, 1867.
63, 195	Althouse, John, East Cocalico township, Pa. Compound for the cure of glanders, &c., in horses	Mar. 26, 1867.
69, 605	Althouse, J. A., New Harmony, Ind. Scissors and button-hole cutters combined	Oct. 8, 1867.
63, 454	Althouse, M. J., Waupun, Wis. Pump-piston packing	Apr. 2, 1867.
62, 989	Altick, James O., assignor to self and George W. Holgen, Dayton, Ohio. Grape and other arbors	Mar. 19, 1867.
64, 057	Altick, William, Dayton, Ohio. Machine for cultivating cotton	Apr. 23, 1867.
62, 801	Alvord, Clark, Westford, Wis. Handle for brushes	Mar. 12, 1867.
64, 270	Alvord, John J., assignor to self and Samuel C. Blinn, Tecumseh, Mich. Hoop machine	Apr. 30, 1867.
	Amberman, William. (See Le Page, Matthew, assignor.)	
	Ambler, A. J. (See Jauriet, C. F., assignor)	(Reissue.)
	Same	same. (Reissue.)
	Ambler, A. J., et al. (See Martin, Henry, assignor.)	
	Same	(See Allen & Campbell, assignors.)
	Same	same.
	Same	(See Campbell, Luther W., assignor.)
	Same	same.
62, 107	Amede, Louis, and George F. Neale. (See Neale & Amede.)	Feb. 19, 1867.
2, 710	Ament, Sylvester E., Oswego, Ill. Horse rake	Aug. 6, 1867.
	Same	same. (Reissue.)
	American Burial Case Company. (See Smith, Bernard, assignor)	(Design.)
	Same	same.
	American Button Hole Cording, Braiding, and Embroidering Machine Company. (See Goodes & Miller, assignors.)	
	American Button Hole Cording, Braiding, and Machine Company. (See Rehfuss, George, assignor.)	
	Same	same.
	American Button Hole Sewing Machine Company. (See Rehfuss, George, assignor.)	
	American Enamel Company. (See Robertson, C. L., assignor.)	
	American Eyelet Company. (See Adams, Sherman W., assignor.)	
	American Fire Escape and Fireman's Ladder Company. (See Wyatt, Robert, assignor)	(Reissue.)
	American Ladder Company. (See Croley, Charles, assignor.)	
	American Lead Pencil Company. (See Weissenborn, Edward, assignor.)	
	American Marble Cutting Company. (See Maloy, James W., assignor.)	
	American Meter Company. (See Lloyd, Charles C., assignor.)	
	American Needle Loom Company. (See Robjohn, Thomas, assignor.)	
	American Submarine Tunnel Co. (See Miller, Joseph R., assignor)	(Reissue.)
	American Tanning Company. (See Steers, A., assignor.)	
	American Watch Company. (See Woerd, Charles V., assignor.)	
	American Water and Gas Pipe Company. (See Bailey, George H., assignor.)	
71, 262	Ames, Charles L., Bangor, Maine. Carriage evener	Nov. 26, 1867.
61, 650	Ames, H. O., New Orleans, La. Rotary steam pump	Jan. 29, 1867.
67, 247	Ames, John, Lansingburg, and N. H. Horton, New York, N. Y. Brush rack	July 30, 1867.
66, 277	Ames, John H., New York, N. Y. Machine for preparing peat for fuel	July 2, 1867.
68, 681	Ames, Martin, New Ipswich, N. H. Self-registering thermometer	Sept. 10, 1867.
	Ames, M. B., et al. (See Gale, Ames & Blaisdale.)	
65, 717	Ames, Mason C., Hartford, Conn. Butt hinge	June 11, 1867.
70, 937	Ames, Mason C., assignor to self and Jeremy W. Bliss, Hartford, Conn. Joiners' gauge	Nov. 19, 1867.
64, 734	Ames, N., Saugus Centre, and J. E. Gowen, assignors to A. B. Ely, Stoneham, Mass. Eyeletting machine	May 14, 1867.
	Ames Plow Company. (See Taft, Benjamin F., assignor.)	
64, 931	Amidon, Charles H., Greenfield, Mass. Brace for bits	May 21, 1867.
64, 932	Amidon, Charles H., assignor to Bailey Washing and Wringing Machine Company, Greenfield, Mass. Clothes wringer	May 21, 1867.
	Amoskeag Manufacturing Co. (See Bean, Nehemiah S., assignor)	(Reissue.)
	Same	same. (Reissue.)
70, 312	Amsden, Ira R., Buffalo, N. Y. Hydrostatic scale	Oct. 29, 1867.
	Andersen, Carle, and Johan Blomgren. (See Blomgren & Andersen.)	
72, 261	Anderson, Alexander, London, Canada. Combined damper and ventilator	Dec. 17, 1867.
72, 440	Anderson, Alfred A., Galesburg, Ill. Mortar mill	Dec. 24, 1867.
72, 440	Anderson, D. B., et al. (See Welsh, J. A., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 603	Anderson, H. L., Smithville, Ind. Animal trap	Apr. 9, 1867.
65, 151	Anderson, John D., Corry, Pa. Car coupling	May 28, 1867.
69, 744	Anderson, Leonard, Painesville, Ohio. Saw mill	Oct. 15, 1867.
67, 477	Anderson, Michael, Brooklyn, N. Y. Chimney cap	Aug. 6, 1867.
61, 700	Anderson, Philander, Kalamazoo, Mich. Sheep-shearing instrument	Feb. 5, 1867.
2, 733	Anderson, Robert, Brooklyn, N. Y. Machine for hulling rice	Aug. 13, 1867.
63, 196	Anderson, T. K., Hornellsville, N. Y. Stove pipe damper	Mar. 26, 1867.
62, 108	Anderson, W. C., and John G. Folsom. (See Folsom & Anderson.)	
69, 383	Anderson, William R., New York, N. Y. Mucilage and marking brush	Feb. 19, 1867.
65, 040	Andrew, Moses L., Cincinnati, Ohio. Rotary engine	Oct. 1, 1867.
2, 799	Andrew, Peter, Cincinnati, Ohio. Tank for storage of petroleum	May 28, 1867.
63, 779	Same	Nov. 19, 1867.
64, 058	Andrews, Aaron C., New Haven, Conn. Mode of uniting India-rubber with leather	Apr. 16, 1867.
67, 248	Andrews, Albert F. and John H., Avon, Conn. Mode of treating flax	Apr. 23, 1867.
61, 378	Andrews, Chaney L., Conneaut, Ohio. Washing machine	July 30, 1867.
69, 891	Andrews, Dexter B., Fort Way, Ind. Composition for kindling fires	Jan. 22, 1867.
63, 197	Andrews, Emery, Portland, Maine. Manufacture of matches	Oct. 15, 1867.
68, 144	Andrews, Emery, and William Tucker Fiskedale, Mass. Manufacture of matches	Mar. 26, 1867.
64, 470	Same	Aug. 27, 1867.
68, 933	Andrews, E. B., Osborn Hollow, N. Y. Organ pipe	May 7, 1867.
66, 278	Andrews, Frank W., et al. (See Fogerty, Valentine, assignor)	(Reissue.)
68, 544	Andrews, Jacob K., New Providence, Pa. Window sash stop	Sept. 17, 1867.
71, 115	Andrews, Joseph K., assignor to self and J. C. Tilton, Antrim, Ohio. Lamp	July 2, 1867.
71, 116	Andrews, J. K., and J. Deloss Green, Antrim, Ohio. Corn planter	Sept. 3, 1867.
61, 134	Andrews, J. K., Antrim, Ohio. Dinner plate	Nov. 19, 1867.
61, 379	Same	Nov. 19, 1867.
	Andrews, J. S. (See Fanning, John, assignor.)	
	Andrews, Leonard, Biddeford, Maine. Drill	Jan. 15, 1867.
	Andrews, Robert, Milwaukee, Wis. Composition for the manufacture and preserving of leather	Jan. 22, 1867.
	Andrews, Pardon, and William E. Card. (See Card & Andrews.)	
	Andrews, Robert W., Staffordville, Conn. Operating the treadles of looms. (Extension)	Jan. 17, 1867.
69, 745	Andrews, Samuel, Cleveland, Ohio. Safety valve for oil stills	Oct. 15, 1867.
62, 802	Andrews, Solomon, assignor to Emmett Dinsmore and Charles E. Plumb, Perth Amboy, N. J. Tobacco pipe	Mar. 12, 1867.
60, 662	Andrews, S., and F. Kati. (See Kati & Andrews.)	
67, 837	Andrews, W. D., New York, N. Y. Steam generator	Jan. 1, 1867.
69, 384	Andrews, William D., New York, N. Y. Bridle rein	Aug. 20, 1867.
67, 625	Same	Oct. 1, 1867.
63, 980	Andrews, William E., Cambridge, Mass. Spice box	Aug. 13, 1867.
71, 944	Andrews, William H., New Haven, Conn. Attaching knobs to door latches	Apr. 23, 1867.
62, 386	Andrews, William H., assignor to Burton Mallory, New Haven, Conn. Bolt-attachment for door locks	Dec. 10, 1867.
65, 629	Andrews, William J., Columbia, Tenn. Cultivator	Feb. 26, 1867.
65, 526	Same	June 11, 1867.
	Andrews, W. W., J. Cummer, J. F. Ganweiler, and Jost Stengel, Croton, Mich. Fire alarm	June 11, 1867.
71, 945	Angell, Albert D., and George A. Colton. (See Colton & Angell.)	
68, 027	Angell, Isaac, Malden, Mass. Mechanism for presenting palm leaf to looms	Dec. 10, 1867.
	Angillard, François, France. Fish hook	Aug. 27, 1867.
	Angleberger, J. P., and H. C. Hatten. (See Hatten & Angleberger.)	
64, 271	Angster, Lawrence, and John Baumgartner. (See Baumgartner & Angster.)	
70, 774	Anin, James, Le Roy, N. Y. Mode of cleaning watches, jewelry, &c	Apr. 30, 1867.
65, 152	Ansaldi, Ernesto, Italy. Steam engine. (Patented in Italy, September 10, 1866)	Nov. 12, 1867.
69, 606	Anthony, Abram P., Morrison, Ill. Clothes-dryer attachment for stove pipes	May 28, 1867.
67, 626	Anthony, James, assignor to Cyrenus Wheeler, jr., Ledyard, N. Y. Harvester	Oct. 8, 1867.
72, 584	Anthony, Joseph, Greenbush, N. Y. Joint splice for railroad rails	Aug. 13, 1867.
62, 990	Same	Dec. 24, 1867.
63, 455	Anthony, Sherman E., Stillwater, N. Y. Shingle machine	Mar. 19, 1867.
68, 590	Same	Apr. 2, 1867.
	Anton, M., assignor to self and C. F. Vonder Lühe, Huntington, N. Y. Method of coating and water-proofing whips	Sept. 10, 1867.
72, 773	Antonidus, Peter, Freehold, N. J. Potato digger	Dec. 31, 1867.
64, 826	Appel, Charles, Hoboken, N. J. Device for holding cigars	May 21, 1867.
68, 335	Appleby, Alexander, Brownfield, Maine. Mode of preparing tan bark for use	Sept. 3, 1867.
64, 933	Applegate, William H., Le Claire, Iowa. Coffin dam and boat	May 21, 1867.
71, 117	Appleton, William, Albany, N. Y. Malt house or kiln	Nov. 19, 1867.
	Archbald, John, and James Gordon. (See Gordon & Archbald.)	
62, 244	Archer, Norman L., and Charles Deans, assignors through mesne assignments to Alexander J. Walker, New York, N. Y. Lamp burner	Feb. 19, 1867.
66, 279	Arch-reau, H. A., assignor to self, J. M. O. Camin Despailles, Joseph de Susini, and E. O. Stern, France. Mode of preparing oxygen and applying the same to useful purposes	July 2, 1867.
68, 145	Archibald, Robert C., Lafayette, Ind. Cider mill	Aug. 27, 1867.
66, 260	Arens, Edward John, Boston, Mass. Cutters for planing moldings	July 2, 1867.
	Arnsner, Thomas. (See Woodward, John N., assignor.)	
	Arey, J. P., et al. (See Heppenstall, William, assignor)	(Reissue.)
68, 480	Arkle, Thos. D., and Harry C. Greer, Bridgeport, Ohio. Automatic measuring can	Sept. 3, 1867.
61, 135	Armbruster, Frantz A., New York, N. Y. Turning lathe. (Antedated Jan. 3, 1867)	Jan. 15, 1867.
72, 713	Armstead, S. M., Grand Haven, Mich. Animal trap	Dec. 31, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 154	Armstrong, Andrew D., Pittsburg, Pa. Can.....	Sept. 24, 1867.
62, 304	Armstrong, Augustus S., St. Bernard's parish, La. Method of starting street cars	Feb. 26, 1867.
68, 682	Armstrong, E. B., Columbus, Ohio. Cut-off for water conductors.....	Sept. 10, 1867.
63, 132	Armstrong, Frank, Waterbury, Conn. Sewing machine.....	Mar. 26, 1867.
71, 263	Armstrong, James, Bucyrus, Ohio. Machine for planting cotton seed.....	Nov. 26, 1867.
62, 109	Armstrong, James, jr., Elmira, Ill. Cultivator	Feb. 19, 1867
	Armstrong, John. (See Gorham, Jackson, assignor.)	
2, 595	Armstrong, John S., Prairie-du-Chien, Wis. Military monument	Mar. 12, 1867.
2, 813	Armstrong, Thomas, James and William, Port Deposit, Md. Cook's stove. (Design)..	Oct. 22, 1867.
63, 687	Armstrong, W. D. and W. I., Harlem, Ill. Gate.....	Apr. 9, 1867.
64, 059	Armstrong, William H., New Brunswick, N. J. Range and air-heating furnace.....	Apr. 23, 1867.
70, 498	Armstrong, W. J., and Charles Browne, Brooklyn, N. Y. Anchor.....	Nov. 5, 1867.
62, 803	Arnall, Richard S., Wright City, Mo. Car coupling	Mar. 12, 1867.
67, 095	Same..... Churn.....	July 23, 1867.
67, 703	Same..... Car coupling	Aug. 13, 1867.
70, 386	Arnd, Gustavus, New York, N. Y. Mode of treating tobacco	Nov. 5, 1867.
70, 064	Arndt, Daniel, Ripon, Wis. Washing machine	Oct. 22, 1867.
67, 938	Arndt, E. G. F., and C. E. L. Moebius, New York, N. Y. Combined lock and knob latch	Aug. 20, 1867.
71, 831	Arnold, Alfred, Tenafly, N. J. Tea and coffee pot	Dec. 10, 1867.
70, 065	Arnold, Alonzo C., Norwalk, Conn. Machine for crossing bats for felting.....	Oct. 22, 1867.
66, 669	Arnold, Benjamin, East Greenwich, R. I. Net for fishing, &c. (Antedated January 17, 1867).....	July 16, 1867.
2, 622	Arnold, Benjamin, assignor to William E. Hooper & Sons, Baltimore, Md. Machine for making seine nets..... (Reissue)..	May 28, 1867.
	Arnold, David A., et al. (See Phillips, Southwick, & Arnold.)	
65, 558	Arnold, George, and Jacob Greve, Cleveland, Ohio. Washing machine	June 18, 1867.
69, 746	Arnold, H. G., Rochester, N. Y. Window-sash fastener. (Antedated Sept. 17, 1867).....	Oct. 15, 1867.
2, 821	Same..... same..... (Reissue)..	Dec. 31, 1867.
69, 302	Arnold, Israel B., assignor to Charles P. Dunham, Providence, R. I. Clothes dryer.....	Oct. 1, 1867.
2, 627	Arnold, Louis L., New York, N. Y. Trade mark	Apr. 23, 1867.
62, 387	Arnold, Omar J., Mount Ida, Wis. Cultivator	Feb. 26, 1867.
2, 721	Arnold, Stephen D., assignor to P. and F. Corbin, Joint Stock Corporation, New Britain, Conn. Casket handle..... (Design)..	Aug. 6, 1867.
62, 725	Arnold, Thomas G., and Benjamin Irving, New York, N. Y. Porcelain gas burner.....	Mar. 12, 1867.
68, 083	Arnold, T. H., Troy, Pa. Horse hay fork	Sept. 10, 1867.
65, 859	Arnold, William Rhodes, Providence, R. I. Lapping braid.....	June 18, 1867.
61, 792	Arrison, George, Trenton, N. J. Water wheel.....	Feb. 5, 1867.
71, 946	Arronquier, William, Worcester, Mass. Blackboard for schools	Dec. 10, 1867.
69, 607	Arthur, Horatio, Martinsburg, N. Y. Machine for grating vegetables	Oct. 8, 1867.
70, 679	Arthur, Biddle, Pittsburg, Pa. Hot-air furnace.....	Nov. 12, 1867.
63, 356	Arvin, John N., Valparaiso, Ind. Wrench and tongs.....	Apr. 2, 1867.
61, 981	Arvin, John N., and Joseph M. Whitmore, Valparaiso, Ind. Corn planter.....	Feb. 12, 1867.
	Asay, A. Merritt, and Harry Bitter. (See Collins, P. H., assignor.)	
62, 918	Asay, J. Lambert, Philadelphia, Pa. Staple for artificial teeth	Mar. 19, 1867.
70, 148	Asay, Merritt, Philadelphia, Pa. Mould for artificial teeth. (Antedated October 15, 1867).....	Oct. 29, 1867.
	Ashby, J. L., et al. (See Numan, Wilkinson, & Cook, assignors.)	
60, 816	Ashcroft, E. H., Lynn, Mass. Globe valve for steam engines	Jan. 1, 1867.
60, 817	Same..... Boiler gauge-cock handle	Jan. 1, 1867.
66, 062	Same..... Fire-proof safe	June 25, 1867.
66, 063	Same..... Gauge for steam generators	June 25, 1867.
67, 096	Same..... Steam-gauge dial.....	July 23, 1867.
67, 478	Same..... Steam-cylinder lubricator	Aug. 6, 1867.
67, 479	Same..... Steam-gauge cock	Aug. 6, 1867.
70, 387	Same..... Elevator.....	Nov. 5, 1867.
70, 388	Same..... Method of covering steam generators.....	Nov. 5, 1867.
70, 389	Same..... Condenser.....	Nov. 5, 1867.
70, 390	Same..... Fire-proof safe.....	Nov. 5, 1867.
72, 585	Same..... Apparatus for washing sheepskins.....	Dec. 24, 1867.
65, 463	Ashcroft, John, New York, N. Y. Steam lubricator engine	June 4, 1867.
67, 153	Ashe, Robert, assignor to self and George W. Eldredge, Somerville, Mass. Baby jumper and eradle.....	July 23, 1867.
66, 548	Ashley, Frederick, New York, N. Y. Boot and shoe sole	July 9, 1867.
69, 385	Same..... Letter file. (Antedated June 1, 1867).....	Oct. 1, 1867.
71, 118	Ashley, Joshua B., assignor to self and J. A. Brownell, New Bedford, Mass. Carriage spring.....	Nov. 19, 1867.
67, 396	Ashton, Walter, assignor to self and Edward K. Quinn, Utica, N. Y. Screw plate.....	Aug. 6, 1867.
62, 919	Ashworth, D., and R. B. Eaton, Woburn, Mass. Concentrating sulphuric acid. (Antedated March 12, 1867).....	Mar. 19, 1867.
61, 501	Ashworth, John, North Andover, Mass. Eye of wire heddles for looms	Jan. 29, 1867.
62, 590	Askwith, John, Chicago, Ill. Piston packing	Mar. 5, 1867.
65, 527	Asmus, George, Houghton, Mich. Bottle pump	June 11, 1867.
66, 064	Aspinwall, L. Augustus, Albany, N. Y. Potato digger.....	June 25, 1867.
67, 838	Ast, John, Maquoketa, Iowa. Sleigh brake	Aug. 20, 1867.
	Atherton, John B. (See Preston, John, assignor.)	
68, 934	Atherton, Peter, Philadelphia, Pa. Steam generator.....	Sept. 17, 1867.
64, 620	Atkeson, Charles W., St. Louis, Mo. Well-boring and drilling machine	May 14, 1867.
	Atkins & Co. (See Piper, Edwin S., assignor.)	
2, 742	Atkins, Andrew F., Bristol, Conn. Clock case	Aug. 13, 1867.
62, 591	Atkins, Elias C., Indianapolis, Ind. Machine for tempering saws	Mar. 5, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
67, 480	Atkins, Elias C., Indianapolis, Ind. Machine for grinding saws	Aug. 6, 1867.
64, 827	Atkins, George, Sharon, Pa. Lime kiln	May 21, 1867.
62, 519	Atkinson, Edward, Brookline, Mass. Peat machine	Mar. 5, 1867.
70, 149	Atkinson, George F., Seymour, Conn. Spring bolt for doors	Oct. 29, 1867.
	Atkinson, J. H. (See Waldron, Adelia, assignor.)	
	Atlantic Tubing Company. (See Reed, Thomas L., assignor.)	
	Same	same.
	Atwater, Benham & Co. (See Fitzmaier, Louis, assignor.)	
63, 198	Atwater, John B., Chicago, Ill. Combined steam and air engine	Mar. 26, 1867.
65, 988	Atwell, Ben D., and G. H. Crawford, Portage City, Wis. Mode of keeping eggs	June 25, 1867.
68, 830	Atwell, Richard H., Baltimore, Md. Liquid meter	Sept. 17, 1867.
68, 501	Atwood, A. D., Saybrook, Ill. Sheep shears	Sept. 10, 1867.
70, 499	Atwood, C. H., New Britain, Conn. Snap hook	Nov. 5, 1867.
63, 824	Atwood, George B., Philadelphia, Pa. Permutation lock	Apr. 16, 1867.
63, 133	Atwood, George B., assignor to Alfred A. Oats, Philadelphia, Pa. Permutation lock	Mar. 26, 1867.
71, 119	Atwood, James E., Trenton, N. J. Artificial fuel	Nov. 19, 1867.
70, 680	Atwood, James E., and Cyrus H. McCormick, Trenton, N. J. Saw	Nov. 12, 1867.
	Atwood, J. E., and F. J. Rabbeth. (See Rabbeth & Atwood.)	
	Atwood, James E., and Henry Disston. (See Newton, Jonah, assignor) .. (Reissue.)	
68, 336	Atwood, John, jr., Provincetown, Mass. Rig for sloops and schooners	Sept. 3, 1867.
	Atwood, L., and M. Woodman. (See Woodman & Atwood.)	
61, 136	Atwood, Lewis J., Waterbury, Conn. Apparatus for bundling scrap metal	Jan. 15, 1867.
71, 838	Atwood, L. J., assignor to self and Holmes, Booth & Hayden, Waterbury, Conn. Tool for sizing lamp chimneys	Dec. 10, 1867.
68, 337	Atwood, William, Cape Elizabeth, Maine. Rotary engine	Sept. 3, 1867.
	Atwood, W. S., and D. M. Somers. (See Somers & A. wood.)	
68, 481	Audaun, Pierre, New York, N. Y. Wash board	Sept. 3, 1867.
72, 774	Augenstein, Moritz, New York, N. Y. Spirit meter	Dec. 31, 1867.
63, 981	Auginbaugh, Gideon, Portland, Oregon. Gold separator. (Antedated April 19, 1867.)	Apr. 23, 1867.
63, 825	Augsburger, John, Trenton, Ohio. Portable fence	Apr. 16, 1867.
63, 826	Same	Apr. 16, 1867.
63, 827	Same	Apr. 16, 1867.
63, 828	Same	Apr. 16, 1867.
63, 829	Same	Apr. 16, 1867.
63, 688	Aulls, Columbus, Bridgewater, Mich. Sheep-feeding trough	Apr. 9, 1867.
72, 775	Aultman, C., Canton, Ohio. Harvester rake	Dec. 31, 1867.
	Aultman, C. (See Lindsay, S. A., assignor) .. (Reissue.)	
	Same	same.
	Aultman, C., and Company. (See Miller, W. K., assignor.)	
	Aumerle, Felix. (See Gondouin, James, assignor.)	
66, 771	Aurand, B. J., Mt. Gilead, Ohio. Harness shaft loop	July 16, 1867.
61, 305	Austin, Charles, Concord, N. H. Melodeon	Jan. 22, 1867.
69, 303	Same	Oct. 1, 1867.
61, 306	Austin, Edwin C., Monroe Village, Wis. Tool for cutting mouldings	Jan. 22, 1867.
72, 586	Austin, Emmet R., Norwalk, Conn. Flask for forming cores. (Antedated December 12, 1867)	Dec. 24, 1867.
62, 991	Austin, Grimmon, Denmark, N. Y. Cheese vat	Mar. 19, 1867.
68, 545	Austin, Harrison W., and William Schaw, Kalamazoo, Mich. Plow clevis	Sept. 3, 1867.
61, 982	Austin, John, Rockford, Ill. Horseshoe	Feb. 12, 1867.
68, 935	Austin, S. J., Freeport, Maine. Baling press	Sept. 17, 1867.
66, 772	Auten, James, Chili, N. Y. Thill coupling	July 16, 1867.
	Automatic Boiler Feeder Company. (See Riedel, G. A., assignor.)	
	Automatic Gas Machine Company. (See Drake, Oliver P., assignor) .. (Disclaimer.)	
60, 663	Averell, Ellicott D., New York, N. Y. Ruling paper by electro-magnetism	Jan. 1, 1867.
65, 153	Same	May 28, 1867.
70, 500	Same	Nov. 5, 1867.
	Averell, Ezekiel, and Caroline M. Loring. (See Loring & Averell.)	
66, 773	Averill, D. R., Newburg, Ohio. Paint compound	July 16, 1867.
62, 992	Avery, Anson A., Cardiff, Ill. Churn dasher	Mar. 19, 1867.
66, 774	Avery, Benjamin F., Louisville, Ky. Plow	July 16, 1867.
68, 277	Avery, G. C., Conn's Creek, Ind. Gang plow	Aug. 27, 1867.
60, 592	Avery, Ira, Tunkhannock, Pa. Washing machine	Mar. 5, 1867.
65, 860	Avery, J. P., and W. L. Nichols, Norwich, Conn. Street lantern	June 18, 1867.
70, 150	Avery, Silas O., Brewster's Station, N. Y. Construction of milk can	Oct. 29, 1867.
60, 818	Avery, Stephen L., Norwich, N. Y. Pump	Jan. 1, 1867.
	Avis, J. W., and A. H. Tait. (See Tait & Avis.)	
	Same	same.
	Same	same.
70, 501	Axtell, Henry, Huntington, Mass. Whip-rolling machine	Nov. 5, 1867.
61, 793	Ayer, Charles C., ass'r to self and Henry A. Breed, Chelsea, Mass. Carriage wheel	Feb. 5, 1867.
70, 661	Same	Nov. 12, 1867.
60, 819	Ayer, David M., Lewiston, Me. Method of preparing sole leather for boots and shoes	Jan. 1, 1867.
60, 987	Same	Jan. 8, 1867.
63, 456	Ayers, Joseph, Greenbush, N. Y. Sash supporter	Apr. 2, 1867.
62, 804	Ayers, S. S., Plainfield, N. J. Churn	Mar. 12, 1867.
64, 828	Aylworth, George H., Brighton, Ill. Hay press	May 21, 1867.
67, 014	Ayres, J. A., ass'r to National Screw Co., Hartford, Conn. Screw driver	July 23, 1867.
68, 592	Same	Sept. 10, 1867.
61, 595	Babbitt, A. S., Keeseville, N. Y. Bed bottom	Jan. 29, 1867.
2, 736	Babbitt, A. S., Keeseville, N. Y. Bed bottom .. (Reissue.)	Aug. 20, 1867.
	Babbitt, Lewis. (See Hatch, Warren D., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
2, 736	Babbitt, L. S., and Charles B. Tucker. (See Tucker & Babbitt.)	
70, 682	Babbitt, S. C., assignor to the Meriden Britannia Company, Meriden, Conn. Construction of salvers.....	Nov. 12, 1867.
60, 843	Babbs, Juan S. L., New Albany, Ind. Dovetail machine.....	Jan. 1, 1867.
64, 186	Babcock, A. C., and John Duffy, New Haven, Conn. Carriage-curtain fixture.....	Apr. 30, 1867.
61, 914	Babcock, Alfred L., New Haven, Conn. Arm for car seats.....	Feb. 12, 1867.
65, 041	Babcock, Charles A., assignor to self, D. M. Golden, and D. M. Kenyon, Frankfort, N. Y. Match safe.....	May 28, 1867.
66, 549	Babcock, Dwight, Seneca Falls, N. Y. Bed bottom.....	July 9, 1867.
65, 042	Babcock, G. H., and S. Wilcox, jr., Providence, R. I. Steam generator.....	May 28, 1867.
70, 775	Babcock, Holland C., Cincinnati, Ohio. Belt lacing.....	Nov. 12, 1867.
	Babcock, Isaiah, and William H. Cummings. (See Cummings & Babcock.)	
64, 272	Babcock, Jabez K., Shortsville, N. Y. Hay and manure fork.....	Apr. 30, 1867.
61, 137	Babcock, W. E., East Pembroke, N. Y. Water elevator.....	Jan. 15, 1867.
67, 397	Bacall, William K., Boston, Mass. Bedstead.....	Aug. 6, 1867.
72, 441	Bachelder, Cyrus P., assignor to self, Daniel Barnard, and Stephen Kenrick, Franklin, N. H. Car coupling.....	Dec. 24, 1867.
65, 328	Bachelder, John, Norwich, Conn. Self-lubricator.....	June 4, 1867.
61, 380	Bachelder, William, West Newbury, Mass. Corset and skirt supporter combined.....	Jan. 22, 1867.
63, 982	Bachman, John A., Lambertville, N. J. Machine for grinding the surface of marble or stone.....	Apr. 23, 1867.
65, 528	Bacon, A. C., Cleveland, Ohio. Mop and brush.....	June 11, 1867.
2, 818	Bacon, Benjamin R., Philadelphia, Pa. Burial casket..... (Design)	Nov. 5, 1867.
	Bacon, Charles E., et al. (See Thornton, Thomas F., assignor.)..... (Reissue.)	
71, 947	Bacon, Charles E., assignor to self, George A. Prince, and Calvin F. S. Thomas, Buffalo, N. Y. Mode of operating swells in melodeons.....	Dec. 10, 1867.
72, 442	Bacon, Charles H., Springfield, Ohio. Device for attaching postage and revenue stamps, &c. (Antedated December 11, 1867).....	Dec. 24, 1867.
69, 956	Bacon, G. W., England. Gymnastic apparatus.....	Oct. 22, 1867.
	Bacon, Henry L., et al. (See Rockwell, Henry H., assignor.)	
	Bacon, J. E., et al. (See Rich, John, assignor.)	
61, 596	Bacon, Steuben T., Boston, Mass. Apparatus for generating carbonic acid gas. (Antedated January 17, 1867).....	Jan. 29, 1867.
	Bacon, Steuben T., and D. J. Browne. (See Browne & Bacon.)	
72, 776	Badger, Brackett H., New York, N. Y. Device for holding glasses.....	Dec. 31, 1867.
	Badger, Ezra W., and Norman C. Roberts. (See Roberts & Badger.)	
61, 037	Badger, L. V., Chicago, Ill. Nutmeg grater.....	Jan. 8, 1867.
66, 550	Same..... Animal trap.....	July 9, 1867.
72, 262	Same..... Signal lantern.....	Dec. 17, 1867.
69, 957	Badger, Simon H., assignor to self and Robert Faulkner, Erie, Pa. Slide-valve lubricator.....	Oct. 23, 1867.
70, 313	Badgley, Aaron C., Earlville, Ill. Beehive.....	Oct. 29, 1867.
68, 028	Badoux, Pierre Joseph, New York, N. Y. Compound for purifying spirits and other liquids.....	Aug. 27, 1867.
61, 651	Badoux, P. T., assignor to Thomas Gannon, New York, N. Y. Distilling and evaporating of liquids.....	Jan. 29, 1867.
70, 066	Badoye, Jean F., New York, N. Y. Hat-felting machine.....	Oct. 22, 1867.
	Baer, A. B., and M. M. Butt. (See Butt & Baer.)	
65, 861	Bagley, Charles H., Elgin, Ill. Feed roller for lamp wicks.....	June 18, 1867.
	Bagley, E. A. and Moses. (See Gifford, A. W., assignor.)	
70, 938	Bagley, William A., Ansonia, Conn. Hook for hold-back straps.....	Nov. 19, 1867.
65, 630	Bagnall, Jonas C., St. Louis, Mo. Checking the draught in furnaces.....	June 4, 1867.
69, 304	Bagnall, William R., Chelsea, Mass. Wardrobe bedstead.....	Oct. 1, 1867.
61, 381	Bahne, William, New Media, Pa. Governor.....	Jan. 22, 1867.
72, 587	Same..... Millstone.....	Dec. 24, 1867.
	Bailey A. (See Goddard, E. C., assignor.)	
70, 939	Bailey, Albert R., New Haven, Conn., and Wilson W. Knowles, Plantsville, Conn. Bolt machine.....	Nov. 19, 1867.
65, 862	Bailey, Alfred M., Middlefield, Conn. Non-freezing water gates.....	June 18, 1867.
63, 457	Bailey, Alonzo E., assignor to self, W. W. Mosher, and W. W. Jackson, Middleville, N. Y. Shifting rail for carriages.....	Apr. 2, 1867.
70, 940	Bailey, Alonzo E., and Horatio Nichols, Middleville, N. Y. Harness buckle.....	Nov. 19, 1867.
65, 989	Bailey, Alva S., Knoxville, Ill. Bolt cutter.....	June 25, 1867.
72, 777	Bailey, Charles E., ass'r to Allen Patent Fire-arms Manufacturing Company, Springfield, Mass. Method of altering the calibre of musket and other gun barrels.....	Dec. 31, 1867.
61, 502	Bailey, Charles W., Boston, Mass. Boots and shoes.....	Jan. 29, 1867.
65, 631	Bailey, D. A. B., St. Johnsbury, Vt. Combination square.....	June 4, 1867.
68, 146	Bailey, Edwin F., Holderness, N. H. Card-board dryer.....	Aug. 27, 1867.
2, 638	Bailey, Eli W., Philadelphia, Pa. Trade mark..... (Design)	Apr. 23, 1867.
64, 187	Bailey, Geo. H., Jersey City, N. J. Machine for making water, gas, and other pipes.....	Apr. 23, 1867.
65, 863	Bailey, George H., assignor to the American Water and Gas Pipe Company, Jersey City, N. J. Device for tapping cement-lined pipes.....	June 18, 1867.
62, 920	Bailey, Henry, New York, N. Y. Steam engine.....	Mar. 19, 1867.
66, 775	Bailey, John G., Hillsdale, Mich. Washing machine.....	July 16, 1867.
2, 819	Bailey, John T., assignor to self and James Cascaden, Philadelphia, Pa. Trade mark..... (Design)	Nov. 5, 1867.
	Bailey, John W., and John L. Tenney. (See Tenney & Bailey.)	
	Bailey, Joshua E., and Orlando Kelsey. (See Hedden, Benj. F., ass'r.) .. (Reissue.)	
71, 676	Bailey, Julius M., Indianapolis, Ind. Wheel.....	Dec. 3, 1867.
67, 398	Bailey, Leonard, Boston, Mass. Bench plane.....	Aug. 6, 1867.
72, 443	Same..... Carpenters' plane.....	Dec. 24, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 990	Bailey, Ralph P., Niagara Falls, N. Y. Machine for dressing marble.....	June 25, 1867.
64, 060	Bailey, Robert, Idaho City, Idaho Ter. Quartz crusher.....	Apr. 23, 1867.
62, 805	Bailey, Selden A., assignor to Bailey Washing and Wringing Machine Company, Woonsocket, R. I. Wringing machine.....	Mar. 12, 1867.
2, 547	Bailey, S. A., ass'r, through mesne assignments, to the Bailey Washing and Wringing Machine Company, Woonsocket, R. I. Wringing-machine roller..... (Reissue).....	Apr. 9, 1867.
2, 609	Same..... Machine for wringing clothes..... (Reissue).....	May 14, 1867.
71, 120	Bailey Washing and Wringing Machine Company. (See Amidon, Charles H., ass'r.)	
61, 307	Bailey, William, New York, N. Y. Apparatus for making stamp gilt paper hangings. (Antedated July 27, 1867).....	Nov. 19, 1867.
61, 307	Baillie, J., and J. Gervers, Cincinnati, Ohio. Dough mixer and roller.....	Jan. 22, 1867.
69, 747	Baily, Miffiu W., Westchester, Pa. Piston packing.....	Oct. 15, 1867.
66, 281	Bain, James, Brooklyn, N. Y. Vent plug.....	July 2, 1867.
63, 689	Bain, Robert, Brooklyn, N. Y. Pipe wrench.....	Apr. 9, 1867.
66, 936	Baines, Hugh, England. Apparatus for rolling rails.....	Sept. 17, 1867.
	Bair, Jeremiah, and Henry Saylor. (See Saylor & Bair.)	
71, 677	Baird, David, Bloody Run, Pa. Exhaust for mill stones.....	Dec. 3, 1867.
70, 151	Baird, John, New York, N. Y. Treenail.....	Oct. 29, 1867.
70, 314	Baker, A. C., and N. O. Hoyt, Lafayette, N. Y. Wheeled harrow.....	Oct. 29, 1867.
63, 357	Baker, B. F., Milton, N. Y. Horse-yoke harness.....	Apr. 2, 1867.
64, 735	Baker, Calvin, Weymouth, Mass. Pump.....	May 14, 1867.
70, 683	Baker, Charles A., Auburn, N. Y. Truss.....	Nov. 12, 1867.
64, 736	Baker, C. L. W., and L. S. Hills, assignors to Lester L. Hills and George D. Jewett, Hartford, Conn. Shoe brush.....	May 14, 1867.
61, 138	Baker, Cyrus M., Bingham, Maine. Cattle tie for stalls.....	Jan. 15, 1867.
69, 958	Baker, C. S., Manchester, N. H. Invalid bedstead.....	Oct. 22, 1867.
65, 632	Baker, D. B., Rollersville, Ohio. Bag fastener or tie.....	June 4, 1867.
72, 778	Same..... Clutch for operating horse hay forks.....	Dec. 31, 1867.
66, 113	Baker, David D., West Alexandria, Ohio. Gate.....	June 25, 1867.
63, 458	Baker, Francis, New York, N. Y. Carriage step.....	Apr. 2, 1867.
64, 829	Same..... Carriage window frame.....	May 21, 1867.
61, 963	Baker, George L., Astoria, N. Y. Floating anchor.....	Feb. 12, 1867.
70, 152	Baker, George W., assignor to self and Warren E. Eason, Hinsdale, N. H. Sewing machine.....	Oct. 29, 1867.
	Baker, Henry, and John T. Zimmerman. (See Zimmerman & Baker.)	
	Baker, H. M., and William R. Stace. (See Stace & Baker.)	
62, 305	Baker, Henry O., New York, N. Y. Ladder.....	Feb. 26, 1867.
67, 015	Baker, Jackson R., Jersey City, N. J. Window-blind fastener.....	July 23, 1867.
	Baker, Jackson R., and Joseph P. Taylor. (See Taylor & Baker.)	
	Baker, John A., and Freeman Moore. (See Moore & Baker.)	
68, 546	Baker, John G., Philadelphia, Pa., and William Harbster, Reading, Pa., assignors to the Enterprise Manufacturing Company. Rotary measuring faucet.....	Sept. 3, 1867.
66, 776	Baker, John W., Warsaw, Ind. Printer's galley.....	July 16, 1867.
69, 155	Baker, John W., Parkersburg, West Va. Hydrant.....	Sept. 24, 1867.
69, 156	Same..... Fire plug.....	Sept. 24, 1867.
62, 806	Baker, Loring J., East Machias, Maine. Climbing stage. (Antedated March 1, 1867).....	Mar. 12, 1867.
72, 779	Baker, L. J. M., Enon, Ohio. Carriage clip.....	Dec. 31, 1867.
70, 776	Baker, Peter, Oakland, Md. Car coupling.....	Nov. 12, 1867.
66, 203	Baker, Philander, Chicago, Ill. Lamp burner.....	July 2, 1867.
68, 147	Baker, R. J., Madison, Wis. Trace buckle.....	Aug. 27, 1867.
67, 704	Baker, Thomas, New York, N. Y. Stop watch.....	Aug. 13, 1867.
71, 948	Baker, William C., New York, N. Y. Material for transmitting heat.....	Dec. 10, 1867.
66, 282	Baker, William D., Marshfield, Mass. Windlass and chain stopper.....	July 2, 1867.
62, 176	Baker, W. M., Fortville, Ind. Table, cupboard, and clothes rack.....	Feb. 19, 1867.
68, 937	Baker, Wilson M., and John Hisner, Urbana, Ohio. Portable sheep shed.....	Sept. 17, 1867.
60, 820	Bakes, Frederick G., Vevay, Ind. Hill-side plow.....	Jan. 1, 1867.
2, 792	Bakewell, Thomas, Pittsburg, Pa. Trade mark..... (Design).....	Oct. 1, 1867.
64, 934	Balbach, Edward, jr., Newark, N. J. Separating zinc from gold and silver.....	May 21, 1867.
66, 442	Balch, F. A., Hingham, Wis. Clothes or towel rack.....	July 9, 1867.
68, 831	Same..... Reel.....	Sept. 17, 1867.
	Balchom, John, et al. (See Marsh, Thomas, assignor.)	
	Balderston, A. H. (See Bean, James B., assignor.)	
	Same..... same.	
	Same..... same.	
69, 608	Balding, G. W., Angola, Ind. Feeding rack for cattle.....	Oct. 8, 1867.
70, 741	Baldwin, C. W., Boston, Mass. Elevator.....	Nov. 19, 1867.
72, 357	Same..... Apparatus for preparing peat.....	Dec. 17, 1867.
72, 958	Same..... Water meter.....	Dec. 31, 1867.
65, 864	Baldwin, Frederick, Brattleboro', Vt. Wood-turning lathe.....	June 18, 1867.
60, 821	Baldwin, George, and Allen B. Chase, assignors to Allen B. Chase, Italy Hill, N. Y. Wool press.....	Jan. 1, 1867.
71, 949	Baldwin, George E., assignor to E. Miller & Company, West Meriden, Conn. Lamp burner.....	Dec. 10, 1867.
	Baldwin, Horace. (See Metten, George R., assignor.)	
70, 777	Baldwin, James S., Newark, N. J. Elevator.....	Nov. 12, 1867.
61, 984	Baldwin, J. S., Elmira, N. Y., W. H. Jones, Rochester, N. Y., and E. N. Gibbs, Elmira, N. Y. Cement for walks, floors, pavements, &c.....	Feb. 12, 1867.
69, 157	Baldwin, Jonathan, Northampton, Mass. Cutlery.....	Sept. 24, 1867.
	Baldwin, Matthias H., and George W. Grader. (See Grader & Baldwin.)	
69, 609	Baldwin, Oren, Keokuk, Iowa. Wash-tub attachment.....	Oct. 8, 1867.
63, 604	Baldwin, O. W., and F. H. Pope, Greenfield, Ohio. Potato-digging machine.....	April 9, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 443	Baldwin, W. H., and J. H. Blake, Brandon, Vt. Railway chair.....	July 9, 1867.
60, 664	Ball, Albert, assignor of one-half interest to the Windsor Manufacturing Company, Windsor, Vt. Cartridge retractor for breech-loading fire-arms.....	Jan. 1, 1867.
68, 029	Ball, Albert, and Roger W. Love. (See Love & Ball.) Ball, Charles J., Keokuk, Iowa. Hinging covers to cooking stoves.....	Aug. 27, 1867.
	Ball, Ephraim. (See Underwood, John, assignor.) Same.....	
65, 529	Ball, Ephraim, jr., Canton, Ohio. Plow.....	June 11, 1867.
61, 382	Ball, George A., San Francisco, Cal. Paper-ruling machine.....	Jan. 22, 1867.
2, 694	Ball, G. W., Cincinnati, Ohio. Cook's stove..... (Design).....	July 9, 1867.
2, 695	Same..... (Design).....	July 9, 1867.
2, 696	Same..... (Design).....	July 9, 1867.
61, 597	Ball, H. P., and A. G. Graves, Albany, N. Y. Shears.....	Jan. 29, 1867.
65, 329	Ball, Horace R., New York, N. Y. Truss.....	June 4, 1867.
61, 985	Ball, Hosea, New York, N. Y. Mode of beating peat.....	Feb. 12, 1867.
	Ball, Isaac, and Edward Fitzhenry. (See Fitzhenry & Ball.) Ball, John N., Buffalo, N. Y. Bracket and cornice eaves trough.....	July 30, 1867.
67, 155	Ball, Jonathan, Elmira, N. Y. Manufacture of smoking tobacco.....	Dec. 17, 1867.
69, 610	Ball, Levi B., Dayton, Ohio. Horse rake.....	Oct. 8, 1867.
67, 705	Ball, Levi B., assignor to self and Christian Oldbrook, Dayton, Ohio. Horse rake. (Antedated February 13, 1867).....	Aug. 13, 1867.
	Ball, R., and Company. (See Plummer, Frank, J., assignor.) Same.....	
71, 678	Ball, Thomas C., assignor to self, Abijah S. Clark, and Sumner Chapman. Bellows Falls, Vt. Head block for saw mills.....	Dec. 3, 1867.
65, 043	Ball, Thomas W., Morrisania, N. Y. Tempering umbrella ribs.....	May 28, 1867.
72, 714	Ball, William, Chicopee, Mass. Steam engine.....	Dec. 31, 1867.
72, 715	Same..... Machine for stamping ores.....	Dec. 31, 1867.
	Ball, William. (See Parmelee, John H., assignor.) Ball, William M., Morristown, Ind. Cultivator.....	Apr. 16, 1867.
66, 934	Same.....	July 23, 1867.
67, 399	Ball, W. W., Charlestown, Ill. Tuyere.....	Aug. 6, 1867.
	Ballard, Barclay, and Thomas G. Thompson. (See Thompson & Ballard.) Ballard, C. H., Worcester, Mass. Cartridge ejector for breech-loading fire-arms.....	Apr. 9, 1867.
66, 114	Ballard, Frederick, Waverly, Md. Thill coupling.....	June 25, 1867.
64, 471	Ballard, Stephen, sr., Sullivan, Ind. Churn.....	May 7, 1867.
62, 921	Ballard, S. R. and G. W., Coldwater, Mich. Carding engine.....	Mar. 19, 1867.
	Ballard, Thompson & Company. (See Thompson & Fox, assignors.) Ballard, William W., Davisburg, Mich. Land roller.....	Oct. 8, 1867.
	Ballantine, M. R. (See Hunkley, Martin, assignor.) Ballou, William H., and Esau D. Taylor. (See Taylor & Ballou.) Bally, John, Deposit, N. Y. Fruit picker.....	May 7, 1867.
64, 472	Baltimore, John, New York, N. Y. Pipe cutter.....	Feb. 19, 1867.
2, 600	Same..... Harlem, N. Y. Pipe cutter..... (Reissue).....	May 14, 1867.
68, 684	Balschmitter, H. F., Davenport, Iowa. Gate.....	Sept. 10, 1867.
72, 780	Baltimore, J. T., Marble Rock, Iowa. Cultivator.....	Dec. 31, 1867.
63, 726	Bamford, William, Milwaukee, Wis. Heating stove. (Antedated Sept. 12, 1866).....	Mar. 12, 1867.
64, 399	Bancroft, George H., Philadelphia, Pa. Awning.....	May 7, 1867.
65, 530	Bancroft, Joseph B., Hopedale, Mass. Lubricator for spinning machines.....	June 11, 1867.
	Same..... (See Walker, Richard, assignor.) Bancroft, Joseph W., Philadelphia, Pa. Dumping car.....	Jan. 8, 1867.
68, 938	Bancroft, William H., and William L. Ward, Portland, Wis. Steam engine.....	Sept. 17, 1867.
62, 306	Banister, Isaac, Newark, N. J. Shoe clasp.....	Feb. 26, 1867.
72, 154	Banks, Andrew E., Detroit, Mich. Churn dasher.....	Dec. 17, 1867.
60, 988	Banks, Eli, Millport, N. Y. Paddle wheel.....	Jan. 8, 1867.
64, 621	Banks, E. P., Portland, Me. Cattle tie.....	May 14, 1867.
65, 865	Banks, William C., Como Depot, Miss. Cotton press.....	June 18, 1867.
67, 481	Same..... Cotton-seed planter.....	Aug. 6, 1867.
65, 633	Bannhr, John, Hempstead, N. Y. Velocipede sled.....	June 11, 1867.
71, 950	Bannister, B., and G. F. Green, Kalamazoo, Mich. Automatic tooth plugger.....	Dec. 10, 1867.
60, 665	Banta, George A., New York, N. Y. Refrigerator.....	Jan. 1, 1867.
65, 154	Banta, Thomas, Hoboken, N. J. Rotary steam engine.....	May 28, 1867.
64, 188	Barbarin, Arthur, New Orleans, La. Mode of lighting gas.....	Apr. 30, 1867.
66, 065	Same..... Fastening the ends of cotton ties.....	June 25, 1867.
62, 148	Same..... Cotton-bale tie.....	Aug. 27, 1867.
62, 149	Same..... Bale tie.....	Aug. 27, 1867.
68, 407	Same..... Lighting arrester.....	Sept. 3, 1867.
69, 531	Same..... Lemon squeezer.....	Oct. 8, 1867.
71, 839	Same..... Mode of preventing the untwisting of the ends of wire-rope bands.....	Dec. 10, 1867.
61, 701	Barber, Albro, Port Byron, Ill. Corn planter.....	Feb. 5, 1867.
66, 115	Same..... Picture holder.....	June 25, 1867.
	Barber, Alonzo S. (See Holden, Humphrey, assignor.) Barber, Archibald H. C., Clinton, Ill. Grain dryer.....	Jan. 1, 1867.
60, 666	Barber, Henry, Greenfield, Mass. Attaching bolsters to knives.....	Nov. 12, 1867.
69, 532	Barber, H., D. C. and G. W. Van Brunt, Horicon, Wis. Seeding machine.....	Oct. 8, 1867.
65, 464	Barber, Henry B., Scott, N. Y. Press.....	June 4, 1867.
72, 588	Same..... Churn. (Antedated December 13, 1867).....	Dec. 24, 1867.
71, 834	Barber, Ira, Laporte, Ind. Cultivator.....	Dec. 3, 1867.
61, 915	Barber, Samuel H., East Greenwich, R. I. Device for oiling spindles, top rolls, &c., of spinning and other machinery.....	Feb. 12, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 794	Barber, Thomas and John, Brooklyn, N. Y. Globe valve	Feb. 5, 1867.
65, 155	Barbier, John, Boston, Mass. Clasp for securing shirt collars.....	May 28, 1867.
60, 667	Barbour, N. H., New York, N. Y. Peat machine. (Antedated December 21, 1866)	Jan. 1, 1867.
69, 159	Barbour, Samuel, Ireland. Machine for finishing thread. (Patented in England May 14, 1866)	Sept. 24, 1867.
61, 139	Barbour, Thomas, Boston, Mass. Photographic camera.....	Jan. 15, 1867.
	Barckley, Alexander, and Anthony Shafer. (See Shafer & Barckley.)	
62, 993	Barclay, Andrew, North Britain. Injector for steam generators.....	Mar. 19, 1867.
69, 959	Barclay, John, assignor to self and Rufus D. Case, Attleborough, Mass. Carriage knob.....	Oct. 22, 1867.
	Barclay, John, and Rufus D. Case. (See Case & Barclay.)	
64, 830	Barclay, Robert, Buffalo, N. Y. Sewing machine.....	May 21, 1867.
62, 807	Bardell, A., and S. Smith, New York, N. Y. Coal scuttle.....	Mar. 12, 1867.
61, 916	Barden, John S., Providence, R. I. Steam engine.....	Feb. 12, 1867.
62, 307	Barden, John S., assignor to A. J. Perry & Co., Providence, R. I. Steam generator.....	Feb. 26, 1867.
62, 308	Same.....same.....	Feb. 26, 1867.
	Bardwell, George H., and Edward G. Markley. (See Markley & Bardwell.)	
	Barger, D. C., and Joshua R. Purdy. (See Purdy & Barger.)	
68, 450	Barker, B. F., San Francisco, Cal. Butt hinge.....	Aug. 27, 1867.
	Barker, Charles W. (See Spencer, Charles F., assignor.)	
	Same.....same.....	
69, 748	Barker, David W., New Haven, Conn. Ash sifter.....	Oct. 15, 1867.
63, 983	Barker, Hiram, Aurora, Ind. Broom head.....	Apr. 23, 1867.
	Barker, H. R. (See Kidder, Moses W., assignor.)	
	Same.....(See Hallowell, Albert, assignor.)	
	Barker, H. R., and Albert Hallowell. (See Hallowell & Barker).....	Reissue.
	Barker, John F., et al. (See Gilbert, Barker & Ives.)	
66, 777	Barker, J. F., and C. N. Gilbert, Springfield, Mass. Apparatus for carbureting air and gas.....	July 16, 1867.
69, 386	Barker, M., Humphrey, N. Y. Elliptic spring brace.....	Oct. 1, 1867.
69, 160	Barker, Silas, Hartford, Conn. Axle box.....	Sept. 24, 1867.
61, 986	Barker, V., Otisfield, Me. Mosquito bar for windows, &c.....	Feb. 12, 1867.
67, 482	Barker, William G., Detroit, Mich. Spring balance.....	Aug. 6, 1867.
69, 161	Barley, J. H., Sedalia, Mo. Cane stripper.....	Sept. 24, 1867.
69, 162	Same.....Cultivator.....	Sept. 24, 1867.
	Barling, J. A., and A. W. Potter. (See Potter & Barling.)	
71, 679	Barlow, Ashbel P., Claremont, N. H. Curtain fixture.....	Dec. 3, 1867.
72, 155	Same.....Saw mill.....	Dec. 17, 1867.
72, 358	Barlow, J. W., United States army. Tripod for surveying instruments.....	Dec. 17, 1867.
60, 844	Barlow, William A., Eikhorn, Wis. Heating stove.....	Jan. 1, 1867.
60, 845	Same.....same.....	Jan. 1, 1867.
2, 435	Same.....Troy, N. Y.....(Division No. 1. Reissue)	Jan. 1, 1867.
2, 436	Same.....same.....(Division No. 2. Reissue)	Jan. 1, 1867.
71, 951	Barlow, William F., assignor to self, James Bower, and W. A. Jackson, Monmouth, Ill. Car coupling.....	Dec. 10, 1867.
63, 459	Barnaby, Samuel S., Chicago, Ill. Wrench.....	Apr. 2, 1867.
71, 567	Barnard, A. E., Akron, Ohio. Dies for swaging and forming bunter shapes.....	Dec. 3, 1867.
	Barnard, Daniel, et al. (See Bachelder, Cyrus P., assignor.)	
67, 249	Barnard, H. A., Moline, Ill. Machine for packing flour.....	July 30, 1867.
69, 960	Barnard, William B., Waterbury, Conn. Scissors and shears.....	Oct. 22, 1867.
2, 474	Barnard, William B., assignor to Barnard, Son and Company, Waterbury, Conn. Shears.....	Feb. 12, 1867.
	Same.....(Reissue)	
62, 593	Barnes, Andrew C., Albia, Iowa. Method of securing tires on wheels.....	Mar. 5, 1867.
65, 044	Barnes, Augustus, Southington, Conn. Method of treating affections of the skin.....	May 28, 1867.
68, 030	Barnes, A. T., assignor to self and N. M. Barnes, Tiffin, Ohio. Fruit picker.....	Aug. 27, 1867.
61, 503	Barnes, Henry D., New Haven, Conn. Shingle machine.....	Jan. 29, 1867.
71, 440	Same.....Fair Haven, Conn. Floor clamp.....	Nov. 26, 1867.
2, 644	Barnes, James T., Hudson City, N. J. Castor.....	June 11, 1867.
66, 116	Same.....same.....	June 25, 1867.
71, 952	Barnes, John, Rockford, Ill. Harvester rake.....	Dec. 10, 1867.
60, 668	Barnes, John H., Brooklyn, N. Y. Grooved wheel or pulley. (Antedated Dec. 2, 1866)	Jan. 1, 1867.
69, 892	Barnes, John L., Etna Green, Ind. Car brake.....	Oct. 15, 1867.
61, 987	Barnes, Joshua B., Fort Wayne, Ind. Hydraulic punching machine.....	Feb. 12, 1867.
65, 465	Same.....Pipe and stud wrench.....	June 4, 1867.
65, 330	Barnes, O. C., Stowe, Vt. Mop wringer.....	June 4, 1867.
70, 562	Barnes, Thomas J., Cambridge, Ill. Horse yoke.....	Nov. 5, 1867.
69, 367	Barnes, Turner, Greensburg, Ind. Hand spinning machine.....	Oct. 1, 1867.
65, 045	Barnes, Wallace, Bristol, Conn. Method of tempering springs.....	May 28, 1867.
70, 779	Barnett, Morgan, and Eli Wood, Hardsburg, Ind. Cultivator.....	Nov. 12, 1867.
61, 702	Barnett, S. M., New Orleans, La. Chest expander.....	Feb. 5, 1867.
65, 531	Barney, E. H., and John Berry, Springfield, Mass. Skate.....	June 11, 1867.
66, 935	Same.....Skate fastener.....	July 23, 1867.
69, 368	Barney, George C., Philadelphia, Pa. Eraser and letter opener.....	Oct. 1, 1867.
72, 444	Barns, Hecsa, Somers, Wis. Extension ladder.....	Dec. 24, 1867.
67, 627	Barnum, G. P., Marion, Iowa. Ointment for horses.....	Aug. 13, 1867.
	Barnum, J. G. (See May, Franklin J., assignor.)	
70, 503	Barnum, James W., New Orleans, La. Cotton-bale tie.....	Nov. 5, 1867.
65, 991	Barnum, N., and G. C. Schreiber, assignors to N. Barnum, St. Louis, Mo. Drilling instrument.....	June 25, 1867.
62, 808	Barnwell, A. S., Savannah, Ga. Cultivator.....	Mar. 12, 1867.

List of patentees of inventions, designs, and*reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 781	Barr, Hollis, Brecksville, Ohio. Sheep-shearing and tagging table	Dec. 31, 1867.
67, 156	Barr, Samuel A., Pittsburg, Pa. Clothes-line fastening	July 30, 1867.
	Barraclough, Joshua, <i>et al.</i> (See Knowles & Barraclough.)	
71, 441	Barrett, Edward, assignor to self and John F. Burns, New York, N. Y. Lens for lanterns	Nov. 26, 1867.
60, 822	Barrett, E. D., assignor to self and Julius B. Savage, New Haven, Conn. Die for cutting screws	Jan. 1, 1867.
61, 140	Barrett, E. L., Springfield, Ohio. Apparatus for making envelopes	Jan. 15, 1867.
69, 163	Barrett, J. F., Concord, Mass. Rubber boot heel	Sept. 24, 1867.
2, 611	Barrett, Jonathan F., assignor through mesne assignments to C. Wheeler, jr., Auburn, N. Y. Method of raising and lowering the cutters of harvesters..... (Reissue)	May 14, 1867.
69, 365	Barrick, Jesse P., Massillon, Ohio. Carriage shaft coupling	Oct. 1, 1867.
61, 039	Barringer, John H., Hillsborough, Ill. Cultivator and sulky plow	Jan. 8, 1867.
71, 357	Barron, John, Cincinnati, Ohio. Elastic rocker for chair	Nov. 26, 1867.
60, 823	Barron, Thomas J., Brooklyn, N. Y. Process for converting iron into steel	Jan. 1, 1867.
64, 273	Barrow, Joseph, Mobile, Ala. Buckle	Apr. 30, 1867.
	Barrow, Joseph, and Lorenzo D. Pelton. (See Pelton & Barrow.)	
2, 851	Barrows, Arad, Philadelphia, Pa. Sad iron handle	Dec. 31, 1867.
62, 388	Barrows, Edwin A., Willimantic, Conn. Permutation lock	Feb. 26, 1867.
2, 820	Batry, Christian, Philadelphia, Pa. Can	Nov. 5, 1867.
71, 680	Same	Dec. 3, 1867.
64, 935	Barry, Peter, Newark, N. J. Machine for wiring blind slats	May 14, 1867.
61, 049	Barsalow, Henry, St. Anne, Ill. Cultivator	Jan. 8, 1867.
61, 041	Same	Jan. 8, 1867.
70, 067	Barth, Henry, Cincinnati, Ohio. Printing press	Oct. 22, 1867.
	Bartho, William Fothergill, and Isaac Smith. (See Wakefield, John, assignor.)	
	Bartholf, Abraham. (See Robertson, John, assignor.)	
71, 681	Bartholomew, Charles, New York, N. Y. Machine for staining paper	Dec. 3, 1867.
69, 961	Bartholomew, H., Dover Centre, Ohio. Fence	Oct. 22, 1867.
65, 046	Bartholomew, Harry S., assignor to self and G. W. Bartholomew, Bristol, Conn. Brace for boring bits	May 28, 1867.
69, 612	Bartholomew, Oscar M., assignor to self and W. P. Sherman, Elmira, N. Y. Roofing compound	Oct. 8, 1867.
61, 504	Bartle, Warren S., Newark, N. Y. Bedstead fastener	Jan. 29, 1867.
	Bartlett, D. L., and G. H. Hines. (See Gwynn, Stuart, assignor.)	
	Same	
	Bartlett, David L., and H. W. Robbins. (See Smith & Brown, assignors.) (Design.)	
	Bartlett, D. S. (See Rogers, Oliver P., assignor.)	
	Bartlett, George E., <i>et al.</i> (See Rogers, Ichabod R., assignor.)	
68, 547	Bartlett, Henry A., Philadelphia, Pa. Machine for connecting strips of metals	Sept. 3, 1867.
68, 031	Bartlett, J. A., and F. Walman, Orfordville, Wis. Method of propelling sleds by hand	Aug. 27, 1867.
62, 246	Bartlett, John W., Harmar, Ohio. Machine for digging potatoes. (Antedated Feb. 9, 1867)	Feb. 19, 1867.
	Bartlett, Joseph Weatherby. (See Heath, William Edwin, assignor.)	
61, 141	Bartlett, Louis D., assignor to the Putnam Machine Company, Fitchburg, Mass. Valve for steam engines	Jan. 15, 1867.
66, 204	Same	July 2, 1867.
67, 839	Bartlett, Nathan, Birmingham, and George T. Lewis, Philadelphia, Pa. Manufacture of white paint from zinc ores	Aug. 20, 1867.
62, 809	Bartlett, Samuel R., Detroit, Mich. Trap door	Mar. 12, 1867.
66, 444	Bartol, B. H., Philadelphia, Pa. Cover for gas retorts	July 9, 1867.
65, 047	Bartol, Henry W., Philadelphia, Pa. Steam trap	May 28, 1867.
	Barton, J. K., and J. W. Howe. (See Howe & Barton.)	
68, 593	Barton, Richard T., assignor to self and William H. Fisk, New Haven, Conn. Machine for making needles	Sept. 10, 1867.
72, 716	Barton, William E., East Hampton, Conn. Manufacture of sleigh bells	Dec. 31, 1867.
64, 936	Bartram, A. R., Redding, Conn. Attaching carriage thills	May 21, 1867.
	Bartram, I. N., and James A. Root. (See Root & Bartram.)	
60, 669	Bartram, W. B., Danbury, Conn. Sewing machine	Jan. 1, 1867.
2, 584	Same	Feb. 19, 1867.
62, 520	Same	Mar. 5, 1867.
	Bartram, W. M., and J. H. Springer. (See Springer & Bartram.)	
71, 121	Barwick, James, and Samuel Tindall, assignors to selves and Charles T. De Forest, England. Piston packing for steam engines	Nov. 19, 1867.
	Barwick, M. James, and Samuel B. Tucker. (See Hodgins, Samuel, assignor.)	
68, 685	Basch, Henry, Chicago, Ill. Permutation trunk lock	Sept. 10, 1867.
62, 994	Bascom, Henry C., La Crosse, Wis. Gun worm	Mar. 19, 1867.
68, 278	Bashore, D. W., Palmyra, Pa. Lamp shade	Aug. 27, 1867.
61, 598	Bass, William E., Lawrence, Mass. Weft bobbin	Jan. 29, 1867.
71, 568	Bass, August, Quincy, Ill. Machine for carving wood	Dec. 3, 1867.
61, 383	Bassett, Abner, Virginia City, Nevada. Apparatus for amalgamating ores	Jan. 23, 1867.
60, 670	Bassett, John A., Salem, Mass. Capillary material for filling gas and air carbureters	Jan. 1, 1867.
64, 831	Same	May 21, 1867.
65, 866	Same	June 18, 1867.
66, 066	Same	June 25, 1867.
66, 067	Same	June 25, 1867.
66, 068	Same	June 25, 1867.
66, 069	Same	June 25, 1867.
66, 070	Same	June 25, 1867.
68, 686	Same	Sept. 10, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 071	Bassett, John A., assignor to John H. Irwin and Isaac Simmons, Salem, Mass. Man- ufacture of illuminating gas.	June 25, 1867.
71, 569	Bassett, John A., and Oliver C. Smith, Salem, Mass. Steam blower.	Dec. 3, 1867.
	Bassett, John A., and Frederic Cook. (See Cook & Bassett.)	
72, 359	Bassett, M. L., assignor to self and Egbert E. Pardee, West Haven, Conn. Well tube.	Dec. 17, 1867.
62, 995	Bassett, O. A., and Erasmus Smith, Norwich, N. Y. Saw mills.	Mar. 19, 1867.
2, 649	Bassett, Orin L., Thomas R. Bearse, and William B. Wilber, Taunton, Mass. Ma- chine for making nails and tacks. (Reissue.)	June 18, 1867.
64, 737	Bassett, Royal M., assignor to self and Theodore S. Bassett, Derby, Conn. Rolling mill.	May 14, 1867.
61, 308	Bassford, A., New York, N. Y. Billiard cushion.	Jan. 22, 1867.
68, 338	Batchelder, Asahel G., Lowell, Mass. Key for locks.	Sept. 3, 1867.
2, 629	Batchelder, John M. Trade mark. (Design).	Apr. 23, 1867.
71, 953	Batchelder, Samuel N., Prairie-du-Chien, Wis. Try-square and bevel.	Dec. 10, 1867.
63, 134	Batchelder, William J. M., Dayton, Ohio. Shovel-plov guard.	Mar. 26, 1867.
64, 738	Batchelder, W. W., New York, N. Y. Mode of lighting gas.	May 14, 1867.
69, 613	Batchelor, Joseph M., Foxcroft, Maine. Sawing machine.	Oct. 8, 1867.
	Bate, W. H., et al. (See Scrannage & Bate.)	
65, 789	Bateman, Elkannah, Frederick City, Md. Flour bolt.	June 18, 1867.
69, 306	Bateman, William P., assignor to self and Nathan F. Mathewson, Barrington, R. I. Carriage button.	Oct. 1, 1867.
63, 199	Bates, Caleb, Kingston, Mass. Rotary harrow.	Mar. 26, 1867.
65, 867	Bates, Edward M., East Rochester, Ohio. Corn husker.	June 18, 1867.
63, 924	Bates, E. M., assignor to self, J. H. and G. W. Sanor, East Rochester, N. Y. Valve gear.	Apr. 23, 1867.
62, 389	Bates, Jacob, Salineville, Ohio. Medical compound.	Feb. 26, 1867.
2, 743	Bates, Joseph L., Boston, Mass. Trade mark. (Design).	Aug. 13, 1867.
63, 985	Bates, L. M., Newark, Ohio. Spring for bed bottoms and other purposes.	Apr. 23, 1867.
	Bates, Oliver A., et al. (See Davison, Bates, Wilson and Russell.)	
	Bates, William B., administrator of George Wellman, deceased. (See Wellman, George) (Reissue.)	
	Same same (Reissue.)	
	Same same (Extension.)	
	Same same (Extension.)	
64, 739	Bates, William W., Chicago, Ill. Method of banging centerboards of vessels.	May 14, 1867.
70, 684	Bathgate, James, Cincinnati, Ohio. Chalk-line reel.	Nov. 12, 1867.
71, 682	Batten, A. S., Topsham, Vt. Crane.	Dec. 3, 1867.
60, 989	Battle, Bernard, assignor to Daniel Coyle, Pittsburg, Pa. Composition for lubricating journals.	Jan. 8, 1867.
66, 283	Barty, L. M., Canton, Ohio. Railroad switch.	July 2, 1867.
60, 824	Batty, William, Cincinnati, Ohio. Powder for facing moulds. (Antedated Decem- ber 23, 1866)	Jan. 1, 1867.
69, 063	Same..... Lawrenceburg, Pa. Bosh of heating and puddling furnaces.	Sept. 24, 1867.
71, 840	Batty, Alonzo B., Binghamton, N. Y. Spring bed bottom.	Dec. 10, 1867.
2, 577	Bangh, Edwin P., Philadelphia, Pa. Grinding mill. (Reissue).	Apr. 30, 1867.
60, 846	Baughinan, D. C., Fort Seneca, Ohio. Seeding machine.	Jan. 1, 1867.
66, 445	Baughn, William D., Milford, Mich. Churning and working butter.	July 9, 1867.
69, 064	Same..... Metal sleigh knee.	Sept. 24, 1867.
71, 264	Baughn, William D., assignor to self, George P. Booth, S. D. Honowell, and F. A. S. Burnham, Milford, Mich. Thimble skein for axles.	Nov. 26, 1867.
63, 831	Bauhoefer, Louis, Philadelphia, Pa. Mattress and life-preserving float.	Apr. 16, 1867.
67, 841	Bauhoefer, Louis, deceased, by Henry Hauer, executor, Philadelphia, Pa. Muff.	Aug. 20, 1867.
68, 408	Same..... Compound of cork, rubber, &c.	Sept. 3, 1867.
	Baumann, F., and W. H. Lotz. (See Lotz & Baumann.)	
67, 906	Baumann, P., jr., assignor to P. Baumann & Brothers, New Athens, Ill. Liniment.	Aug. 13, 1867.
67, 339	Baumeister, John, Detroit, Mich. Boiler.	Aug. 20, 1867.
64, 008	Baumgartner, Frederic, Brooklyn, N. Y. Shifting rail for carriage seats.	Apr. 23, 1867.
70, 760	Baumgartner, John, and Lawrence Angster, Newark, N. J. Ham-slicing holder.	Nov. 12, 1867.
70, 068	Bauschtleker, Fredrek, and Barnet Vanfleet, Washington, D. C. Pump.	Oct. 22, 1867.
62, 922	Baustiam, William, Davenport, Iowa. Manufacture of friction matches. (Antedated March 11, 1867)	Mar. 19, 1867.
2, 630	Baxter, James P., Portland, Maine. Trade mark. (Design).	Apr. 23, 1867.
70, 315	Baxter, John C., Washington, D. C. Metallic check-piece for bridles.	Oct. 29, 1867.
	Baxter, J. C., and J. M. Curran. (See Curran & Baxter.)	
67, 483	Baxter, Robert, French Camp, Cal. Gang plow.	Aug. 6, 1867.
70, 781	Same..... Seeding machine.	Nov. 12, 1867.
	Baxter, Robert, and J. B. Webster. (See Webster & Baxter.)	
	Baxter, Samuel. (See Schaffer, John, assignor.)	
61, 384	Bayhouse, Willigann, Portland, Oregon. Edge-plane for boots and shoes.	Jan. 22, 1867.
	Bayless, H. M. (See Bonner, William, assignor.)	
66, 936	Bayley, Alfred, Newark, N. J. Tea and coffee pot.	July 23, 1867.
67, 400	Baylies, Thomas L., and George W. Wood, Richmond, Ind. Inking apparatus for printing in colors.	Aug. 6, 1867.
62, 939	Bayliss, John, New York, N. Y. Tuyere for furnaces.	Sept. 17, 1867.
2, 811	Same..... Tuyere (Reissue).	Dec. 17, 1867.
60, 671	Bazin, Ernest, France. Means for recovering sunken ships.	Jan. 1, 1867.
65, 992	Bazin, James Amiraux, Canton, Mass. Rotary pump.	June 25, 1867.
70, 685	Bazin, Stephen and James A., Canton, Mass. Machinery for laying and twisting rope.	Nov. 12, 1867.
69, 749	Bea, John, assignor to self and Timothy D. Gladson, Newark, N. J. Cart saddle.	Oct. 15, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 400	Beach, A. Ely, Stratford, Conn. Pneumatic tube.....	May 7, 1867.
64, 401	Same.....Pneumatic car truck.....	May 7, 1867.
64, 402	Same.....Pneumatic railway.....	May 7, 1867.
70, 504	Same.....same.....	Nov. 5, 1867.
61, 505	Beach, Burroughs, West Meriden, Conn. Sash fastener.....	Jan. 23, 1867.
60, 825	Beach, Charles, Penn Yan, N. Y. Corn sheller.....	Jan. 1, 1867.
63, 690	Beach, Edgar B., West Meriden, Conn. Convertible rifle sight.....	Apr. 9, 1867.
71, 265	Beach, H. L., New York, N. Y. Scroll sawing machine.....	Nov. 26, 1867.
71, 841	Beach, Henry L., assignor to Beach Wheel Horse Rake Manufacturing Company, Montrose, Pa. Horse rake.....	Dec. 10, 1867.
63, 832	Beach, J. C., Bloomfield, and J. Abbey, Orange, N. J., assignors to J. C. Beach. Machine for disintegrating and pulping fibrous material.....	Apr. 16, 1867.
71, 683	Beach, Verlot D., Battle Creek, Mich. Machine for boring bobbins.....	Dec. 3, 1867.
66, 446	Beach, William W., New York, N. Y. Mucilage brush.....	July 9, 1867.
66, 447	Same.....Mucilage bottle.....	July 9, 1867.
66, 448	Same.....Inkstand and mucilage holder, combined.....	July 9, 1867.
66, 449	Same.....Mucilage holder.....	July 9, 1867.
67, 440	Beacher, John H., Philadelphia, Pa. Valve for gas generators.....	Aug. 29, 1867.
62, 996	Beagle, Hiram, Washington, D. C. Automatic boiler feeder.....	Mar. 19, 1867.
	Beal, Francis E., et al. (See Miller, Wesley, assignor.)	
67, 250	Beal, Joseph H., Edward J. Sawyer, and Granville S. Webster, Boston, Mass. Paper corset.....	July 30, 1867.
68, 594	Beale, Augustus, Stamford Conn. Carriage wheel.....	Sept. 10, 1867.
62, 594	Beale, Thomas, New Milford, Ill. Agricultural fork.....	Mar. 5, 1867.
68, 151	Beals, J. S., Alabama Center, N. Y. Sheep rack.....	Aug. 27, 1867.
68, 152	Same.....Plow.....	Aug. 27, 1867.
68, 339	Beamer, DeWitt C., assignor to self and James Markland, Philadelphia, Pa. Business card and pin cushion.....	Sept. 3, 1867.
	Beamish, H. S., and H. B. Gillman. (See Gillman & Beamish.)	
62, 923	Bean, Albert B., New Haven, Conn. Machines for making nuts.....	Mar. 19, 1867.
71, 442	Bean, Albert B., assignor to Samuel C. Brady and Lewis W. Upham, New Haven, Conn. Knife sharpener.....	Nov. 26, 1867.
61, 385	Bean, Amos, Canaanville, Ohio. Sorghum stripper.....	Jan. 22, 1867.
63, 466	Bean, E. E., and W. H. Mumler, assignors to selves and Nathaniel Cummings, Boston, Mass. Lighting gas by electricity.....	June 4, 1867.
69, 750	Bean, H., Schnykill, and J. D. Tyson, Lower Providence, Pa. Cultivator.....	Oct. 15, 1867.
68, 548	Bean, James B., assignor to self and A. H. Balderston, Baltimore, Md. Apparatus for and method of casting aluminium.....	Sept. 3, 1867.
69, 614	Same.....Mode of constructing molds for casting aluminium plates for artificial teeth.....	Oct. 8, 1867.
69, 615	Same.....Method of securing artificial teeth to cast plates.....	Oct. 8, 1867.
62, 247	Bean, John, Hudson, Mich. Pump.....	Feb. 19, 1867.
71, 122	Same.....Pump.....	Nov. 19, 1867.
64, 937	Bean, J. H., Marietta, Ohio. Lifting jack.....	May 21, 1867.
61, 703	Bean, N. S., Manchester, N. H. Carriage wheel.....	Feb. 5, 1867.
65, 634	Same.....Hose carriage.....	June 11, 1867.
2, 627	Bean, Nehem' h S., assignor to the Amoskeag Manufacturing Co., Manchester, N.H. Picker staff motion for looms..... (Reissue)..	May 28, 1867.
2, 749	Same.....same..... (Reissue)..	Aug. 20, 1867.
63, 833	Bean, W. W., Iowaville, Iowa. Wagon brake.....	Apr. 16, 1867.
61, 917	Beanes, Edward, England. Mode of treating saccharine matters.....	Feb. 12, 1867.
69, 893	Beans, W. R., Brownsburg, Pa. Bridle.....	Oct. 15, 1867.
60, 826	Bear, John H., York, Pa. Horse hay rake and seeder, combined.....	Jan. 1, 1867.
61, 599	Same.....Grinding mill.....	Jan. 29, 1867.
69, 065	Bear, Samuel and Marion, Versailles, Ohio. Churn.....	Sept. 24, 1867.
62, 309	Beard, Asa M., Hillsboro', N. H. Saw-mill dog.....	Feb. 26, 1867.
60, 847	Beard, A. M., assignor to self and Solomon McNeil, Hillsborough Bridge, N. H. Head block for saw-mills.....	Jan. 1, 1867.
2, 548	Beard, G. N., St. Louis, Mo. Tie for cotton bales..... (Reissue)..	Apr. 9, 1867.
67, 707	Same.....Cotton bale tie.....	Aug. 13, 1867.
61, 795	Beard, George W., Baltimore, Md. Heating stove.....	Feb. 5, 1867.
	Beard, James H., and Harvey D. Palmer. (See Palmer & Beard.)	
71, 842	Beard, John W., St. John, N. B. Street gas lamp and apparatus for lighting.....	Dec. 10, 1867.
69, 894	Beardslee, A. C., Brooklyn, N. Y. Apparatus for proving gas pipes.....	Oct. 15, 1867.
61, 506	Beardsley, Darius, Ithaca, N. Y. Mode of exhausting air from fruit cans by steam.....	Jan. 29, 1867.
70, 505	Beardsley, George M., Fenton, Mich. Car couplings.....	Nov. 5, 1867.
63, 691	Beardsley, George M., assignor to self and C. D. Boutell, Fentonville, Mich. Apparatus for upsetting tires.....	Apr. 9, 1867.
63, 692	Beardsley, George M., assignor to self, C. D. Boutell, and G. Carpenter, Fentonville, Mich. Straw cutter.....	Apr. 9, 1867.
69, 389	Beardsley, James E., Augustus F. Boyle, Enoch M. Lewis, and Michael A. Clancy, Washington, D. C. Apparatus for recording votes.....	Oct. 1, 1867.
66, 778	Beardsley, Udney N., Goshen, Ind. Gate..... (See Doud & Beardsley.)	July 16, 1867.
65, 048	Beardsley, W. F., and E. O. Doud.....	
63, 390	Beardsley, W. L., Binghamton, N. Y. Lathing apparatus.....	May 28, 1867.
	Bearns, William F., Mount Pleasant, N. Y. Apparatus for filtering and purifying spirits. (Antedated Sept. 19, 1867.)	
68, 153	Bearse, Thos. R., et al. (See Bassett, Bearse & Wilber)..... (Reissue.)	Oct. 1, 1867.
68, 154	Beaton, William F., Philadelphia, Pa. Combined pen and eraser.....	Aug. 27, 1867.
69, 164	Same.....Frame for the glasses of carriage curtains.....	Aug. 27, 1867.
	Beatty, George, Carrolton, Ohio. Sheep shed or rack.....	Sept. 24, 1867.

List of patents of inventions, designs, and reissues—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 954	Beaty, David B., assignor to self and James Lamb, Aurora, Ind. Plate lifter	Dec. 10, 1867.
	Beaumont, Thomas Richard, and Thomas Westley. (See Westley & Beaumont.)	
63, 986	Beazan, J. L. (See Tinker, John B., assignor.)	
67, 708	Bechtel, George H., Philadelphia, Pa. Ice pitcher	Apr. 23, 1867.
	Bechtel, W. H., W. H. Strahan, and Thomas P. Hardy, Philadelphia, Pa. Reamer. (Antedated Aug. 1, 1867)	
2, 616	Beck, Alexander, Philadelphia, Pa. Carpet pattern	Aug. 13, 1867.
2, 617	Same	Apr. 16, 1867.
60, 672	Beck, Frederick, New York, N. Y. Process for glazing paper	Apr. 16, 1867.
71, 684	Beck, F. W., and E. W. Siebert, Baltimore, Md. Mode of packing smoking tobacco.	Jan. 1, 1867.
61, 507	Beck, Jacob, Williamsville, Ill. Wagon seat	Dec. 3, 1867.
68, 687	Beck, Jacob, Philadelphia, Pa. Conductors' ticket punch	Jan. 29, 1867.
71, 570	Beck, Mikel, Lake View, Ill. Washing machine	Sept. 10, 1867.
67, 940	Beckelshymer, Lemuel, assignor to self and Grandson T. Deering, Leavenworth, Kansas, Harrow	Dec. 3, 1867.
65, 635	Becker, Christopher, Flint, Mich. Brick press	Aug. 20, 1867.
60, 848	Becker, Edmund, Cincinnati, Ohio. Roofing	June 11, 1867.
66, 117	Becker, E., Cincinnati, Ohio. Roofing	Jan. 1, 1867.
2, 614	Becker, Frederick, Baltimore, Md. Cigar box	June 25, 1867.
72, 156	Becker, G. H., assignor to self and John C. Lanier, Memphis, Tenn. Device for ac- cumulating power	Apr. 16, 1867.
62, 997	Becker, H. C., New York, N. Y. Starch sirup	Dec. 17, 1867.
66, 551	Beckley, Daniel S., Toledo, Iowa. Washing machine	Mar. 19, 1867.
	Beckman, Horatio B., and John W. Doughty. (See Doughty & Beckman.)	July 9, 1867.
	Beckman, Jacob, et al. (See Kraiss, William, assignor.)	
68, 155	Beckwith, E., South Pass, Ill. Washing machine	Aug. 27, 1867.
2, 619	Beckwith, Enos P., deceased, by William Smith, executor, South Windham, Conn. Paper-cutting machine	(Reissue) ..
63, 693	Beckwith, Hiram, Grass Lake, Mich. Scaffold bracket	May 21, 1867.
67, 251	Beckwith, James F., Albion, N. Y. Stove-pipe drum	Apr. 9, 1867.
68, 340	Beckwith, L. H., assignor to self, M. Colgan, and M. M. Livingston, Port Jervis, N. Y. Bending machine. (Antedated Aug. 19, 1867)	July 30, 1867.
64, 274	Beckwith, P. D., Dowagiac, Mich. Grain drill	Sept. 3, 1867.
	Beckwith, William L. (See Davis, William M., assignor.)	Apr. 30, 1867.
65, 636	Beckworth, Myron H., Camden, N. Y. Corset	June 11, 1867.
60, 849	Bedell, Otis T., New York, N. Y. Slate washer	Jan. 1, 1867.
68, 341	Bedford, Alma, Cold Water, Mich. Strap attachment. (Antedated Aug. 25, 1867) ..	Sept. 3, 1867.
71, 266	Bedford, W. G., Philadelphia, Pa. Hose coupling	Nov. 26, 1867.
	Bedford, W. G. (See White, T. R., assignor.)	
	Bedford, W. G., and T. R. White. (See White & Bedford.)	
	Same	same.
60, 827	Bee, Asa, White Oak, West Va. Saw	Jan. 1, 1867.
63, 780	Same	Apr. 16, 1867.
70, 506	Beebe, Henry, Hudson, N. J. Cane and umbrella combined	Nov. 5, 1867.
72, 589	Same	Dec. 24, 1867.
63, 135	Beebe, James M., Cassadaga, N. Y. Bee feeder	Mar. 26, 1867.
70, 782	Same	Nov. 12, 1867.
63, 834	Beebe, William S., Philadelphia, Pa. Concussion fuze for explosive shells	Apr. 16, 1867.
63, 835	Beecher, E. B., Westville, Joseph G. Davis, Henry S. Frost, and Anthony G. Davis, Watertown, Conn. Blind fastening	Apr. 16, 1867.
64, 473	Beeler, S. J., Wales, Ill. Soap	May 7, 1867.
	Beers, Charles C., and Person Davis. (See Tufts, Timothy, assignor.)	
68, 156	Beers, Hiram H., Toulon, Ill. Pad crimp press	Aug. 27, 1867.
67, 842	Beers, John B., San Francisco, Cal. Amalgamating precious metals	Aug. 20, 1867.
61, 042	Beers, J. L., McAlisterville, Pa. Saw mill	Jan. 8, 1867.
	Beesley, B. W., and Norman M. Keer. (See Hatfield, C. B., assignor.)	
	Same	same.
61, 386	Beesley, Jacob, Philadelphia, Pa. Ash sifting device for grates	Jan. 22, 1867.
	Beesley, J., et al. (See Martino, Beesley & Currie.)	
	Same	(Design) ..
	Same	(Design) ..
	Same	(Design) ..
61, 387	Beeuwkes, W. F. G., Holland, Mich. Cowl	Jan. 22, 1867.
	Beggs, E. Y., and A. L. Wilkinson. (See Wilkinson & Beggs.)	
71, 685	Beggs, William P. F., Philadelphia, Pa. Truck	Dec. 3, 1867.
71, 267	Begon, Louis, San Francisco, Cal. Rotary steam valve	Nov. 26, 1867.
61, 988	Behel, Jacob, and John Nelson, Rockford, Ill. Gauge for saw mills	Feb. 12, 1867.
70, 783	Behel, Jacob, John Perrine, Rockford, and John M. Buell, Ogle county, Ill. Horse- shoe	Nov. 12, 1867.
62, 998	Behn, Henry, New York, N. Y. Burglar alarm	Mar. 19, 1867.
2, 775	Behr, Peter, St. Louis, Mo. Trade mark	Sept. 10, 1867.
65, 331	Behrens, J. B., Pearl, Ill. Car coupling	June 4, 1867.
71, 268	Beidler, George A., Chicago, Ill. Lamp	Nov. 26, 1867.
64, 474	Beidler, Henry M., Chicago, Ill. Lamp	May 7, 1867.
70, 391	Beigel, Georg, New York, N. Y. Stereoscopic apparatus	Nov. 12, 1867.
	Bell, A. N., and Neil Clifford. (See Clifford & Bell.)	
64, 740	Bell, Charles P., Nashua, N. H. Window-blind fastener	May 14, 1867.
66, 118	Bell, George, assignor to self and Jonathan Strine, Martinsburg, W. Va. Black- smiths' striker	June 25, 1867.
	Bell, James B. (See Brown, Ellison, assignor.)	
	Bell, James W., and E. C. Little. (See Little & Bell.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 686	Bell, Thomas, New York, N. Y. Ink wells.....	Dec. 3, 1867.
	Bell, William. (See Fell, Thomas M. and Ambrose G., assignors.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
	Same.....(See Fell, Ambrose G., assignor.)	
2, 776	Bellamy, John H., Charlestown, Mass. Clock case.....(Design)	Sept. 10, 1867.
2, 588	Bellamy, John H., assignor of one-half interest to David A. Titcomb, Charlestown, Mass. Picture frame.....(Design)	Feb. 26, 1867.
2, 542	Bellamy, John H., assignor to self and D. A. Titcomb, Charlestown, Mass. Picture frame.....(Design)	Jan. 8, 1867.
2, 543	Same.....Bracket.....(Design)	Jan. 8, 1867.
2, 777	Same.....Clock case.....(Design)	Sept. 10, 1867.
2, 778	Same.....same.....(Design)	Sept. 10, 1867.
66, 779	Bellamy, William, Newark, N. J. Ice pitcher.....	July 16, 1867.
70, 153	Bellard, T. H., Colbrook, Ohio. Field fence.....	Oct. 29, 1867.
65, 467	Bellerjean, John, Philadelphia, Pa. Lamp chimney.....	June 4, 1867.
65, 790	Belleville, Julien F., France. Car spring.....	June 18, 1867.
2, 685	Bellows, C. C., New Ipswich, N. H. Creasing, slicking, and skiving leather. (Reissue).....	July 16, 1867.
60, 783	Bellows, E. H., Worcester, Mass. Steam engine slide valve.....	Nov. 12, 1867.
	Bellows, M. J. (See Phillips, T. S., assignor.)	
67, 709	Belmer, Herman, Cincinnati, Ohio. Animal trap.....	Aug. 13, 1867.
67, 016	Belmer, Herman, and C. H. S. Schultz, Cincinnati, Ohio. Dog muzzle.....	July 23, 1867.
68, 032	Belt, Alfred C., Goresville, Va. Plow.....	Aug. 27, 1867.
70, 785	Same.....Cultivator.....	Nov. 12, 1867.
71, 123	Belvallette, Norbert, France. Lateli for carriage doors.....	Nov. 19, 1867.
66, 688	Belvin, John Aaron, jr., Baltimore, Md. Catamenial guard and supporter.....	Sept. 10, 1867.
66, 284	Bemedefer, Henry F., and George Smith, Attica, N. Y. Plow.....	July 2, 1867.
64, 933	Bement, William B., Philadelphia, Pa. Lath.....	May 21, 1867.
60, 850	Bemis, Charles, Mishawaka, Ind. Car brake.....	Jan. 1, 1867.
65, 718	Same.....Pump.....	June 11, 1867.
68, 279	Bemis, William A., Spencer, Mass. Cheese-curd cutter.....	Aug. 27, 1867.
71, 955	Bender, Charles, New York, N. Y. Suspension bridge.....	Dec. 10, 1867.
71, 157	Bender, E. C., York, and William Steffe, Philadelphia, Pa. Drying and seasoning lumber.....	Dec. 17, 1867.
68, 157	Bender, Richard W., New York, N. Y. Filter for refining sugar.....	Aug. 27, 1867.
70, 786	Bendix, J. E., New York, and M. Deitsch, Westchester, N. Y. Potato planter.....	Nov. 12, 1867.
61, 142	Benedict, Alonzo, Jonesville, N. Y. Neck yoke.....	Jan. 15, 1867.
	Bennet, Benjamin. (See Daniels, A. M., assignor.)	
70, 942	Benham, Isaac, assignor to self and Allen B. Benham, McLean, N. Y. Scale.....	Nov. 19, 1867.
69, 895	Benn, Joseph, and George O. Luckman, England. Apparatus for damping and gumming labels.....	Oct. 15, 1867.
65, 332	Bennet, C. G., and S. A. Drake, assignors to C. G. Bennett, Farmers' Village, N. Y. Wagon brake.....	June 4, 1867.
62, 595	Bennett, A., Rockford, Ill. Seed planter.....	Mar. 5, 1867.
61, 989	Bennett, Andrew, assignor to self and Joseph Oechler, Brooklyn, N. Y. Hook and eye.....	Feb. 5, 1867.
72, 782	Bennett, Charles B., Amboy, Ill. Clothes dryer.....	Dec. 31, 1867.
67, 484	Bennett, Edwin, Oxford, Mich. Thill and pole coupling.....	Aug. 6, 1867.
	Same. (See Gillender, Wm. T., assignor.)	
69, 391	Bennett, E. O., Mt. Pleasant, Iowa. Churn.....	Oct. 1, 1867.
71, 443	Same.....Inkstand.....	Nov. 26, 1867.
60, 851	Bennett, Frederick, assignor to John S. George, England. Manufacture and coating of lead pipe.....	Jan. 1, 1867.
	Bennett, George. (See Smith, Andrew P., assignor.)	
66, 552	Bennett, George J., Homer, N. Y. Cream strainer.....	July 9, 1867.
68, 158	Bennett, George W., assignor to self, George W. Peck, and Charles S. Bird, Brooklyn, N. Y. Paint can.....	Aug. 27, 1867.
63, 673	Matthew Bennett, Kilbourne City, Wis. Door fastening.....	Jan. 1, 1867.
	Bennett, O. O. (See Elliott, Charles F., assignor.)	
70, 154	Bennett, R. N., Branchport, N. Y. Sinking well tubing.....	Oct. 29, 1867.
62, 939	Bennett, Walter, Hunt's Hollow, N. Y. Shuttle carrier for sewing machines.....	Mar. 19, 1867.
70, 392	Bennett, W. P., assignor to self and Henry Blake, East Pepperell, Mass. Lamp extinguisher.....	Nov. 5, 1867.
71, 843	Bennor, Joseph, Philadelphia, Pa. Calipers and T square.....	Dec. 10, 1867.
	Benson, A. S. (See Cawdery, J. E., assignor.)	
71, 687	Benson, Benjamin S., Baltimore, Md. Casting metal pipe.....	Dec. 3, 1867.
68, 549	Benson, Joseph, Samuel, and William, Lebanon, Pa. Cultivators.....	Sept. 3, 1867.
	Benson, William, and Henry Pitchforth. (See Pitchforth & Benson.)	
	Benster, E. M., and C. M. Young. (See Young & Benster.)	
2, 817	Bent, Samuel S., Port Chester, N. Y. Name plate.....(Design)	Oct. 29, 1867.
65, 049	Benter, Henry, Pittsburg, Pa. Washing powder.....	May 28, 1867.
	Bentley, B. W. (See Gardiner, George R., assignor.)	
	Same.....same.	
2, 732	Benton, C. O., Cleveland, Ohio. Trade mark.....(Design)	Aug. 6, 1867.
70, 393	Benton, George L., assignor to self and John Greenwood, Rochester, N. Y. Emery wheel for grinding and polishing saws, &c.....	Nov. 5, 1867.
64, 275	Benton, G. W., Danville, N. Y. Washing machine.....	Apr. 30, 1867.
66, 285	Benton, H. W., Lebanon, N. H. Ladle for pouring metal.....	July 2, 1867.
68, 342	Bentz, Jacob, Brooklyn, N. Y. Machine for framing match splints.....	Sept. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 409	Bequet, Gustave, son, assignor to self and Moritz Pinner, New York, N. Y. Apparatus for rectifying and distilling.	Sept. 3, 1867.
61, 388	Bequet, Jean Gustave, assignor to Moritz Pinner and Gustave Bequet, France. Apparatus and process for rectifying alcohol and other spirits.	Jan. 22, 1867.
65, 333	Berard, A. B., France. Manufacture of steel.	June 4, 1867.
64, 622	Berckhemer, Charles, Cincinnati, Ohio. Vessel for malting and brewing.	May 14, 1867.
63, 000	Berg, Hermann, Springfield, Mass. Rocking chair.	Mar. 19, 1867.
60, 674	Berg, Hermann, and Andrew Blessing, Springfield, Mass. Gas burner and reflector.	Jan. 1, 1867.
62, 465	Bergen, Alexander J., Brooklyn, N. Y. Breech-loading fire-arm.	Feb. 26, 1867.
62, 466	Same.....Metallic cartridge.....	Feb. 26, 1867.
62, 467	Same.....Priming metallic cartridges.....	Feb. 26, 1867.
64, 661	Bergen, Jacob, Canton, Ohio. Cultivator.	Apr. 23, 1867.
2, 698	Berger, Henry, New York, N. Y. Center piece.....(Design)	Apr. 2, 1867.
2, 661	Same.....same.....(Design)	June 4, 1867.
64, 741	Berger, Jonas, Knoxville, Ill. Melodeon.	May 14, 1867.
	Bergie, H. C., and J. L. Collins. (See Collins & Bergie.)	
65, 468	Bergrath, Innocent Antony, Nashville, Tenn. Toilet powder.	June 4, 1867.
60, 828	Bergstresser, Edwin L., Sunbury, Pa. Gate.	Jan. 1, 1867.
61, 704	Same.....Hublersburg, Pa. Harvester rake.....	Feb. 5, 1867.
68, 550	Same.....Plow.....	Sept. 3, 1867.
69, 296	Same.....Corn planter.....	Sept. 24, 1867.
68, 689	Berkstresser, Henry, Quaker Bottom, Ohio. Rotary plow.	Sept. 10, 1867.
	Berlin, Henry C., and Geo. H. Jones. (See Waymoth, Thos. V., assignor.) (Reissue.)	
	Same.....same.....(Reissue.)	
61, 143	Bernabe, Mayeul, France. Mode of protecting armor plates.	Jan. 15, 1867.
69, 165	Bernard, John F., Leominster, Mass. Composition for filling the pores of wood.	Sept. 24, 1867.
71, 956	Bernbaum, Ole K., Brooklyn, N. Y. Folding trunk.	Dec. 10, 1867.
66, 780	Berne, William Jones, Cincinnati, Ohio. Mode of attaching calks to horses' shoes.	July 16, 1867.
70, 507	Same.....Adjustable calk for horseshoes.....	Nov. 5, 1867.
2, 744	Bernecker, John L., St. Louis, Mo. Trade mark.....(Design)	Aug. 13, 1867.
2, 745	Same.....same.....(Design)	Aug. 13, 1867.
69, 751	Bernhardt, D. C., and S. F. Houston, Charlotte, N. C. Washing machine.	Oct. 15, 1867.
72, 783	Bernheisel, sr., Jacob, Green Park, Pa. Combined corn sheller, separator and feeder.	Dec. 31, 1867.
67, 710	Berntheisel, William W., West Hempfield township, Pa. Step ladders.	Aug. 13, 1867.
71, 957	Berry, Charles H., East Somerville, Mass. Sofa bedstead.	Dec. 10, 1867.
63, 836	Berry, H. C., Wauseon, Ohio, Wood-turning lathe.	Apr. 16, 1867.
	Berry, John, and E. H. Barney. (See Barney & Berry.)	
	Same.....same.....	
63, 987	Berry, Thomas H., Lynn, Mass. Mode of preparing coffee for transportation.	Apr. 23, 1867.
60, 916	Bertrand, Theophilus F., and Peter Sames, Rockford, Ill. Cultivator.	Jan. 1, 1867.
61, 508	Same.....Plow.....	Jan. 29, 1867.
70, 943	Beschke, Henry, Albany, N. Y. Apparatus for the manufacture of salt.	Nov. 19, 1867.
67, 157	Bess, James, and Adam Hagny, Keokuk, Iowa. Plane for cutting blind slats.	July 30, 1867.
66, 119	Besso, Joseph, Philadelphia, Pa. Extracting grease and oils from animal and vegetable substances.	June 25, 1867.
66, 256	Best, Benjamin, assignor to self and London Marts, Dayton, Ohio. Scaffold.	July 2, 1867.
62, 248	Best, Charles E., Jordan, N. Y. Bed bottom.	Feb. 19, 1867.
60, 990	Best, John, Lancaster, Pa. Furnace for steam boilers.	Jan. 8, 1867.
61, 144	Best, Sealy James, and James John Holden, England. Apparatus for charging and drawing gas retorts and other purposes.	Jan. 15, 1867.
	Same. (See Holden & Best.)	
	Best, W. S., and J. B. Booker. (See Bull, Daniel, assignor.)	
69, 307	Beswick, Alonzo, Paris Richardson, and John W. Brown, Kelley, Ill. Machine for making wagon wheels.	Oct. 1, 1867.
61, 705	Bethea, James C., Blakely, Ga. Cotton cultivator.	Feb. 5, 1867.
61, 796	Same.....Gang plow.....	Feb. 5, 1867.
	Betts, F. A. (See Thorn, William J., assignor.)	
71, 444	Betts, Lewis F., New York, N. Y. Lantern.	Nov. 26, 1867.
71, 124	Betts, William, England. Metallic capsule for bottles.	Nov. 19, 1867.
	Betz, Isaac E., and Henry Fessler. (See Fessler & Betz.)	
61, 145	Beu, Carl, Anhalt-Dessau. Wool dryer. (Antedated January 2, 1867.)	Jan. 15, 1867.
	Bevan, David. (See Harries, Sandy, assignor.)	
65, 156	Bevans, Ira N., assignor to Eli Terry, Terryville, Conn. Apparatus for tempering steel springs.	May 28, 1867.
70, 394	Bevins, Julius, Unadilla Forks, N. Y. Device for holding sap buckets.	Nov. 5, 1867.
66, 670	Bevis, Henry, assignor to self, Thos. H. Foulds, and W. D. Dalton, Cincinnati, Ohio. Steam generator.	July 16, 1867.
70, 508	Bevis, Joseph, Putnam, Ohio. Washing machine.	Nov. 5, 1867.
66, 205	Bevitt, George, assignor to self and John George Ott, Madison, Wis. Corn sheller.	July 2, 1867.
	Beyrnehmer, Alois, and William Stenger. (See Stenger & Beyrnehmer.)	
62, 178	Beziel, P. M. C., France. Method of forming the parts, links, &c., of chains, brackets, &c.	Feb. 19, 1867.
	Bibber, F. F. and R. W. (See Hargrave, T. C., assignor.)	
61, 146	Bickford, Dana, Boston, Mass. Sprinkler for clothes and flowers.	Jan. 15, 1867.
68, 595	Same.....Knitting machine.....	Sept. 10, 1867.
69, 752	Same.....Process of obtaining useful fibers.....	Oct. 15, 1867.
72, 590	Same.....Material for pump pistons, engines, &c. (Antedated December 14, 1867.)	Dec. 24, 1867.
63, 001	Bickford, Lyman, Macedon, N. Y. Grain drill.	Mar. 19, 1867.
	Bickford, Lyman, and Charles E. Patric. (See Patric & Bickford.)	
	Bickford, S. E. and W. S. Wheeler. (See Wheeler & Bickford.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 532	Bickford, Solomon E., and Frederick Flanders, Franklin, N. H. Graduated bevel square	June 11, 1867.
63, 606	Bickle, William A., and Robert Chesnut, Richmond, Ind. Straw cutter	Apr. 9, 1867.
70, 155	Bicknell, Joseph G., Cambridgeport, Mass. Window screen	Oct. 29, 1867.
66, 553	Bicknell, William, Hartford, Maine. Washing machine	July 9, 1867.
68, 482	Bicknell, Wm., assignor to self and Alfred Bicknell, Hartford, Maine. Crank motion	Sept. 3, 1867.
70, 686	Bidwell, Jason A., East Boston, Mass. Tapering drill	Nov. 12, 1867.
	Bidwell, Jason A., and Job Miller. (See Miller & Bidwell.)	
63, 837	Bidwell, Salmon, Bordenstown, N. J. Button for fastening carriage curtains	Apr. 16, 1867.
	Biekel, J. B. and T. Scholze. (See Scholze & Biekel.)	
61, 918	Bierce, W. W., Cleveland, Ohio. Apparatus for carbureting gas	Feb. 12, 1867.
66, 937	Bierce, Wm. W., Cleveland, Ohio. Apparatus for carbureting gas. (Antedated April 1, 1867)	July 23, 1867. Feb. 5, 1857. Dec. 3, 1867.
61, 797	Biermann, Carl August, Waterloo, Ill. Hemp brake	July 23, 1867.
71, 571	Bievez, Desiré, Belgium. Oven for cooling window glass	Dec. 3, 1867.
68, 832	Bigelow, Augustus E., assignor to John and Joseph H. Kendrick, Lawrence, Mass. Machine for dressing weavers' harness	Sept. 17, 1867
2, 711	Bigelow, Edmund, Springfield, Mass. Soda-water apparatus. (Reissue)	Aug. 6, 1867.
72, 717	Bigelow, Edwin R., Salem, Mass. Car coupling	Dec. 31, 1867.
61, 919	Bigelow, George W., New Haven, Conn. Blower	Feb. 12, 1867.
70, 509	Bigelow, Lyman G., Albion, Mich. Solar camera	Nov. 5, 1867.
70, 316	Bigelow, L. H., Worcester, Mass. Vase for holding flowers	Oct. 29, 1867.
66, 120	Bigelow, Thomas, Elkhart, Ind. Tinner's rule	June 25, 1867.
65, 050	Biggs, R. W., Jacksonville, Fla. Plow	May 28, 1867.
60, 675	Bignall, L. C. and M. C. Medina, N. Y. Sink	Jan. 1, 1867.
66, 287	Bilharz, Henry, Seneca, Ill. Machine for cutting corn stalks in the field	July 2, 1867.
64, 939	Billhofer, John M., Irvington, N. Y. Life preserver	May 21, 1867.
63, 978	Billings, C. E., Hartford, Conn. Die for forming shuttle frames	Apr. 9, 1867.
2, 793	Billings, Hammett, Boston, Mass. Statuette. (Design)	Oct. 1, 1867.
69, 616	Billings, Joseph E., assignor to self and Frederic H. Moore, Belmont, Mass. Automatic blotter. (Antedated September 12, 1867)	Oct. 8, 1867.
71, 572	Billings, Orson, assignor to self, Russell H. and Homer Penfield, Lagrange, Ohio. Corn planter. (Antedated November 29, 1867)	Dec. 3, 1867.
67, 252	Billups, C., Norfolk, Va. Corn and cotton scraper	July 30, 1867.
65, 157	Bimm, Ezra, Dayton, Ohio. Basket for feeding tarred corn cobs to furnaces	May 28, 1867.
68, 280	Binder, Frederick, assignor to self and William Richardson, Baltimore, Md. Hedge trimmer	Aug. 27, 1867.
67, 485	Bingham, Alanson, Surry, N. H. Chair seat	Aug. 6, 1867.
63, 988	Bingham, Albert, Newtonville, Mass. Window latch	Apr. 23, 1867.
65, 993	Same. Blind fastener	June 25, 1867.
70, 687	Bingham, Albert, assignor to Wm. S. Mudgett, Newtonville, Mass. Bed bottom	Nov. 12, 1867.
2, 779	Bingham, James, jr., Philadelphia, Pa. Spoon handle. (Design)	Sept. 10, 1867.
	Binkley, Peter F. (See Fleckensvine, Leonard, assignor.)	
72, 591	Bini, Joseph E., assignor to James E. Jouett and Charles H. Cushman, Mt. Vernon, N. Y. Bracing the sounding board of guitars	Dec. 24, 1867.
64, 062	Binner, Adolph, assignor to self and John Lewzinger, Muscatine, Iowa. Window shade	Apr. 23, 1867.
63, 694	Birch, John P., assignor to self and G. W. Paterson, Philadelphia, Pa. Rotary steam engine	Apr. 9, 1867.
66, 671	Same. Rotary pumps	July 16, 1867.
61, 600	Birch, John S., New York, N. Y. Pendant for watches	Jan. 29, 1867.
70, 787	Same. Adjustable watch key	Nov. 12, 1867.
70, 758	Birch, Thomas, Covington, Ky., and Adam Sowden, Cincinnati, Ohio, assignors to Ritter, Hogan & Sowden. Grinding machine for circular saws	Nov. 12, 1867.
62, 924	Birch, Wm., assignor to self and Thomas Birch, Cincinnati, Ohio. Steam engine slide valve	Mar. 19, 1867.
70, 789	Bird, Calvin, Dorchester, Mass. Barrel cover	Nov. 12, 1867.
	Bird, Charles S., et al. (See Bennett, George W., assignor.)	
61, 652	Bird, Henry D., Petersburg, Va. Fastening for railway car doors	Jan. 29, 1867.
64, 189	Same. Compound for cleansing the human body from offensive odors	Apr. 30, 1867.
63, 781	Bird, Henry M., Cambridgeport, Mass. Mold for casting pipe	Apr. 15, 1867.
67, 486	Bird, James, New York, N. Y. Loop for bearing chains	Aug. 6, 1867.
65, 719	Bird, Joseph C., Rising Sun, Md. Cultivator	June 11, 1867.
64, 940	Bird, William E., New York, N. Y. Oscillating engine	May 29, 1867.
68, 033	Same. West Bridgewater, Mass. Method of making cores for casting pipe	Aug. 27, 1867.
72, 592	Bird, W. E., West Bridgewater, Mass. Washing machine	Dec. 24, 1867.
2, 797	Birdsell, John C., South Bend, Ind. Machine for bolting and cleaning clover seed. (Reissue)	Nov. 12, 1867.
68, 690	Birge, M. D., Grand Rapids, Mich. Horse hay fork	Sept. 10, 1867.
70, 688	Birkenshaw, Edwin, Ashuelot, N. H. Machine for finishing woollen cloth	Nov. 12, 1867.
70, 395	Birkey, John Q., Philadelphia, Pa. Gas stove	Nov. 5, 1867.
67, 941	Biron, Jean Bernard, France. Disintegrating and bleaching wood and other materials to form paper pulp	Aug. 29, 1867.
67, 007	Birt, R. H., Kokomo, Ind. Tinner's folding machine	July 23, 1867.
72, 593	Bisbee, Ira, Richmond, Mo. Balance	Dec. 24, 1867.
72, 784	Bisbee, William, and Fleming G. Hearn, Yreka, Cal. Adjustable hasp and hook for doors	Dec. 31, 1867.
71, 958	Bisbing, Thomas, Buckstown, Pa. Churn	Dec. 10, 1867.
68, 691	Bish, Jacob, Dayton, Ohio. Horse power	Sept. 10, 1867.
67, 098	Bishop, E. B., New Orleans, La. Cotton tie	July 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 533	Bishop, G. W., assignor to Veeder Colegrove, Stamford, Conn. Drilling machine. (Antedated August 27, 1867).....	Oct. 8, 1867.
71, 358	Bishop, George W., assignor to D. S. Trowbridge, Stamford, Conn. Ash sifter.....	Nov. 26, 1867.
	Bishop, George W., and Oscar A. Day. (See Day & Bishop.)	
65, 533	Bishop, Leverett, Paris, N. Y. Manufacture of stopples for bottles.....	June 11, 1867.
68, 833	Bishop, Martin, Putnam, Ohio. Canal lock.....	Sept. 17, 1867.
71, 688	Bishop, Samuel C., assignor to Bishop Gutta-percha Company, New York, N. Y. Insulating covering for telegraphs and circuit wires.....	Dec. 3, 1867.
61, 990	Bishop, Thomas B., Baltimore, Md. Horseshoe.....	Feb. 12, 1867.
72, 594	Same..... same.....	Dec. 24, 1867.
70, 396	Bishop, Thomas W., Austin, Ind. Corn sheller.....	Nov. 5, 1867.
64, 475	Bissell, Calvin, Aurora, Ohio. Hand rake.....	May 7, 1867.
67, 942	Bissell, Frank S., Pittsburg, Pa. Door for stoves and furnaces.....	Aug. 20, 1867.
62, 727	Bissell, Levi, New York, N. Y. Car truck.....	Mar. 12, 1867.
63, 521	Bissell, Sylvester, Hartford, Conn. Composition for building material.....	Mar. 5, 1867.
61, 798	Bitner, Eli S., and J. B. Hopkins, Lock Haven, Pa. Hinge.....	Feb. 5, 1867.
71, 689	Bitner, Joseph W., Downesville, Md. Fertilizer.....	Dec. 3, 1867.
69, 896	Bitter, Harry, Philadelphia, Pa. Combined hose tongs, clamp, winch and pick.....	Oct. 15, 1867.
	Bitter, Harry, and A. Merritt Asay. (See Collins, P. H., assignor.)	
61, 147	Bitting, Joseph N., sr., Camden, N. J. Rudder bearing.....	Jan. 15, 1867.
61, 148	Bizard, Felix, and Pierre Labarre, France. Apparatus for storing petroleum and other inflammable liquids.....	Jan. 15, 1867.
70, 069	Black, Alfred G., Wooster, Ohio. Car replacer.....	Oct. 22, 1867.
	Black, A. M., and T. J. Currier. (See Currier & Black.)	
	Black, James, and Robert E. Rogers. (See Rogers & Black.)	
	Same..... same.....	
	Same..... same.....	
	Black, John, et al. (See Warren, Stanton D., assignor.)	
63, 200	Black, Joseph H., East Windsor, N. J. Tree digger.....	Mar. 26, 1867.
66, 781	Black, Robert, assignor to self, Martin Deviney, and John Murphy, Holyoke, Mass. Hammer head.....	July 16, 1867.
67, 089	Black, William K., Philadelphia, Pa. Sewer pipe-machine.....	July 23, 1867.
69, 166	Blackadder, John, New Orleans, La. City car and omnibus fare box.....	Sept. 24, 1867.
71, 959	Blackham, Job W., Brooklyn, N. Y. Hat-felting machine.....	Dec. 10, 1867.
63, 201	Blackie, John, New York, N. Y. Electro-magnetic apparatus for registering votes.....	Mar. 26, 1867.
64, 476	Same..... Coffee pot.....	May 7, 1867.
69, 962	Blackinton, Jesse, Roscoe, Ill. Bolt trimmer.....	Oct. 22, 1867.
69, 392	Blackman, C. W., Bridgeport, Conn. Hens' nest.....	Oct. 1, 1867.
70, 156	Blackman, Jared C., West Meriden, Conn. Plated ware.....	Oct. 29, 1867.
66, 288	Blackman, W. D., Defiance, Ohio. Photographic copying board.....	July 2, 1867.
	Blackmar, Wilmon W. (See Chamberlain, D. H., assignor)..... (Reissue.)	
71, 445	Blackwood, John, Scranton, Pa. Washing machine.....	Nov. 26, 1867.
69, 167	Blackwood, John, and Theodore C. Wilson, Cincinnati, Ohio. Hand-spinning machine.....	Sept. 24, 1867.
61, 920	Blackwood, Reuel, Philadelphia, Pa. Die for forming spike heads.....	Feb. 12, 1867.
72, 785	Blaetterlein, F. A., West Meriden, Conn. Device for drawing wicks through burners.....	Dec. 31, 1867.
65, 534	Blain, A. McR., Deerfield, Va. Apple-paring, coring, and slicing machine.....	June 11, 1867.
62, 179	Blair, D. O., Abington, Ill. Churn.....	Feb. 19, 1867.
	Blair, Erastus F., et al. (See Goodin, Blair & Lyda.)	
66, 938	Blair, J. B., Philadelphia, Pa. Rubber head for lead pencils.....	July 23, 1867.
63, 839	Blair, J. E., New Haven, Conn. School desk.....	Apr. 16, 1867.
68, 596	Blair, Lafayette, Painesville, Ohio. Carriage axle and hub.....	Sept. 10, 1867.
68, 343	Blair, Montgomery, Barry, Ill. Straw scatterer.....	Sept. 3, 1867.
	Blaisdale, F., et al. (See Gale, Ames & Blaisdale.)	
	Blaisdell, James S., and Henry F. Moore. (See Moore & Blaisdell.)	
66, 672	Blaisdell, Parritt, Worcester, Mass. Upright drill.....	July 16, 1867.
67, 253	Blake, Amos S., Waterbury, Conn. Machine for lining percussion caps.....	July 30, 1867.
69, 393	Blake, Charles E., San Francisco, Cal. Tooth-powder lozenges.....	Oct. 1, 1867.
63, 695	Blake, F. A., and H. A. Tyrrel, Worcester, Mass. Flue scraper.....	Apr. 9, 1867.
60, 852	Blake, George F., Boston, Mass. Direct-acting engine.....	Jan. 1, 1867.
	Blake, Henry. (See Bennett, W. P., assignor.)	
62, 925	Blake, John A., assignor to Blake Brothers, New Haven, Conn. Ink well cover.....	Mar. 19, 1867.
66, 072	Blake, John E., Norwich, Conn. Construction of fire-arms.....	June 25, 1867.
	Blake, J. H., and W. H. Baldwin. (See Baldwin & Blake.)	
72, 445	Blake, John Randolph, and John Lewis Jarrell, Dyer Station, Tenn. Truss.....	Dec. 24, 1867.
61, 509	Blake, Lewis T., New Haven, Conn. Milking cows.....	Jan. 29, 1867.
	Blakeslee, Abel. (See Moore, Cyrus, assignor.)	
65, 692	Blakeslee, Charles D., Grand Rapids, Mich. Gate for waterwheels.....	Sept. 10, 1867.
68, 994	Blakeslee, E., Plymouth, Conn., and J. S. Hunter, Hartford, Conn. Water meter.....	June 25, 1867.
63, 002	Blakeslee, Charles F., Brooklyn, N. Y. Carpet bag.....	Mar. 19, 1867.
70, 944	Blakeslee, Edward C., Waterbury, Conn. Buckle.....	Nov. 19, 1867.
66, 782	Blakeslee, E. G., Sing Sing, N. Y. Joint for iron pipes.....	July 16, 1867.
	Blakeslee, J. R., and H. C. Hart. (See Hart & Blakeslee.)	
72, 786	Blakeslee, Lyman W., and Algernon D. Smith, Cincinnati, Ohio. Burglar alarm.....	Dec. 31, 1867.
70, 397	Blakey, Mildred, Pittsburg, Pa. Skelping die.....	Nov. 5, 1867.
69, 534	Blakey, William, Baltimore, Md. Malt kiln.....	Oct. 8, 1867.
	Blakiston, G. R. (See Clay, Henry T., assignor.)	
66, 121	Blanchard, Charles H., Boston, Mass. Machine for making starch, paste, size, &c.....	June 25, 1867.
62, 522	Blanchard, John W., Rutland, Wis. Feed rack.....	Mar. 5, 1867.
68, 159	Blanchard, O. W., Delavan, Wis. Medical compound.....	Aug. 27, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
60, 676	Blanchard, Virgil W., Bridport, Vt. Harvester.....	Jan. 1, 1867.
61, 043	Same..... Hot-air furnace.....	Jan. 8, 1867.
65, 469	Same..... Stone-channelling machine.....	June 4, 1867.
	Blanchard, Virgil W., and Friend P. Fletcher. (See Fletcher & Blanchard.)	
69, 308	Bland, Peter E., St. Louis, Mo. Brick machine.....	Oct. 1, 1867.
64, 477	Blandin, Benjamin A., Charlestown, Mass. Bench plane.....	May 7, 1867.
	Blandy, C. W., and Brothers. (See Martino, Beesley & Currie, ass'rs)..... (Design.)	
72, 787	Blaze, Jacob, Cuyahoga Falls, N. Y. Sewer pipe-machine.....	Dec. 31, 1867.
	Blaze, J. H., and D. B. Wesson. (See Wesson & Blaze.)	
66, 122	Bleeka, Frank, Elgin, Ill. Churn.....	June 25, 1867.
2, 690	Bleekle, F., Philadelphia, Pa. Knitted fabric..... (Design).....	July 2, 1867.
	Blessing, Andrew, and Hermann Berg. (See Berg & Blessing.)	
	Blessing, C. L. D. (See Harwood, John, assignor.)	
	Blessing, William. (See Wright, James, assignor.)	
	Blickensderfer, Nathan. (See Stearns, Charles, assignor.)	
	Blickensderfer, N., and J. A. Kissell. (See Kissell & Blickensderfer.)	
	Same..... same.	
67, 254	Blesner, William, St. Louis, Mo. Meat-cutting machine.....	July 30, 1867.
65, 160	Blinn, Charles D., Port Huron, Mich. Horse hay fork.....	Aug. 27, 1867.
	Blinn, Richard D. (See Lomax, George H., assignor.)	
	Blinn, Samuel C. (See Alvord, John J., assignor.)	
70, 398	Bliss, Alfred, New York, N. Y. Gas chandelier attachment.....	Nov. 5, 1867.
69, 066	Bliss, C. W., and O. M. Adams, Milford, Mass. Boot-shank laster.....	Sept. 24, 1867.
	Bliss, D. W., et al. (See Johnson & Steuernagel, assignors.)	
64, 063	Bliss, J. W., Hartford, Conn. Clothes-line.....	Apr. 23, 1867.
	Same..... (See Traut, Justus A., assignor.)	
	Same..... (See Ames, Mason C., assignor.)	
	Same..... (See Lewis, Burdett A., assignor.)	
71, 960	Bliss, John E., Oxford, Ind. Builders' scaffold.....	Dec. 10, 1867.
69, 394	Bloss, Samuel S., New Bedford, Mass. Attaching thills to carriages.....	Oct. 1, 1867.
63, 310	Blodgett, George D., Indianapolis, Ind. Corpse preserver.....	Feb. 26, 1867.
63, 358	Blocher, John, Buffalo, N. Y. Running gear of land carriages.....	Apr. 2, 1867.
67, 711	Blodgett, C. C., Watertown, N. Y. Horse hay fork.....	Aug. 13, 1867.
71, 561	Blodgett, Rufus K., Fulton, Ill. Substitute for milk for cattle.....	Dec. 10, 1867.
	Blodgett, Sherburne C., Bridgeboro', N. J. Hemming and cording umbrella covers..... (Extension).....	June 21, 1867.
61, 991	Bloede, Victor G., Brooklyn, N. Y. Mucilaginous compound.....	Feb. 12, 1867.
71, 962	Blomgren, Johan, Galesburg, Ill. Fire-ladder.....	Dec. 10, 1867.
69, 168	Blomgren, Johan, and Carl Andersen, Galesburg, Ill. Painter's scaffold.....	Sept. 24, 1867.
63, 003	Blood, Asa, sr., Janesville, Wis. Washing machine.....	Mar. 19, 1867.
70, 945	Blood, Asa, jr., Independence, Iowa. Door catch.....	Nov. 19, 1867.
66, 450	Blood, E. F. and F., Gravesville, Wis. Washing and wringing machine.....	July 9, 1867.
	Blood, J. B. (See Neal, D. S., assignor.)	
69, 169	Blood, Luke W., and Robert A., Springfield, N. H. Water wheel.....	Sept. 24, 1867.
65, 483	Bloom, Julius, New Brunswick, N. J., and August Bloom, New York, N. Y. House fan.....	Sept. 3, 1867.
65, 051	Bloomsburg, P., jr., and J. Molyneux, assignors to the Bordenown Machine Company, Bordenown, N. J. Mechanical movement. (Antedated May 16, 1867).....	May 23, 1867.
65, 470	Same..... Rotary valve for steam engines.....	June 4, 1867.
66, 783	Blossom, S. H., Buffalo, N. Y., and J. E. Huston, Hillsdale, Mich. Flour bolt.....	July 16, 1867.
64, 463	Blue, D. S., Fremont, Ohio. Horse hay fork.....	May 7, 1867.
63, 840	Blum, Reinard, Champaign, Ill. Hand cultivator.....	Apr. 16, 1867.
63, 841	Blume, William M., and Sylvanus Warren. (See Warren & Blume.)	
66, 289	Bly, Douglas, New York, N. Y. Attachment to mucilage bottles.....	Apr. 16, 1867.
	Boardman, Alphonso, ass'r to self and N. C. Hubbell, Forestville, Conn. Calendar for clocks.....	July 2, 1867.
67, 255	Boardman, C. T., Pawtucket, R. I. Steam generator.....	July 30, 1867.
70, 790	Same..... Setting steam boilers.....	Nov. 12, 1867.
61, 799	Boardman, H. A., New Haven, Conn. Calipers.....	Feb. 5, 1867.
	Boardman, J. J., and William P. Parrott. (See Parrott & Boardman.)	
2, 794	Boardman, Luther and Norman S., East Haddam, Conn. Spoon handle..... (Design).....	Oct. 1, 1867.
68, 693	Boatman, Isaac W., Seven Mile, Ohio. Horse rake.....	Sept. 10, 1867.
66, 290	Boemsdes, R. F., Wallingford, Conn. Bottle stopper.....	July 2, 1867.
67, 256	Boden, Henry, Olney, Ill. Grain dryer.....	July 30, 1867.
	Bodey, Charles W. (See Alter, David, assignor.)	
	Bodine, F. and J. (See Borden, Joseph, assignor.)	
62, 596	Bodle, James S., Mecklenburg, N. Y. Instrument for marking animals.....	Mar. 5, 1867.
70, 510	Bodmer, John James, Great Britain. Preparing cement from slags.....	Nov. 5, 1867.
62, 926	Boeklen, R., Brooklyn, N. Y. Exploding torpedoes in oil wells.....	Mar. 19, 1867.
64, 623	Boeklen, Reinhold, Brooklyn, N. Y. Blotting pad. (Antedated May 3, 1867).....	May 14, 1867.
64, 624	Same..... Paper file.....	May 14, 1867.
70, 946	Boerner, W. R., assignor to self and Carl R. Boerner, Chicago, Ill. Wire work.....	Nov. 19, 1867.
71, 573	Same..... Wire figure.....	Dec. 3, 1867.
63, 842	Boernicke, Charles, Philadelphia, Pa. Wood-boring bit.....	Apr. 16, 1867.
69, 963	Boettius, Henning, Prussia. Construction of metallurgic and other furnaces.....	Oct. 22, 1867.
68, 034	Bogan, Thomas, Lacon, Ill. Churn.....	Aug. 27, 1867.
	Bogart, F. H. (See Laken, John, assignor.)	
71, 269	Bogart, A. L., assignor to H. C. Bogart and J. P. Kennedy, New York, N. Y. Gas stove.....	Nov. 26, 1867.
	Bogle, James S., and Orlando V. Flora. (See Flora & Bogle.)	
67, 401	Bohannan, Wilson, Brooklyn, N. Y. Padlock, &c.....	Aug. 6, 1867.
72, 263	Boicourt, J. S., Beonsboro', Iowa. Railroad weed cutter.....	Dec. 17, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 158	Boize, Charles, assignor to self and Peter M. Devos, New York, N. Y. Preserving eggs and other substances.....	Dec. 17, 1867.
	Bolding, W. B., <i>et al.</i> (See Deen, Bolding & Perry.)	
65, 868	Bolles, F. A., Unadilla, N. Y. Corn sheller.....	June 18, 1867.
69, 617	Bolles, Luzerne M., Cooperstown, N. Y. Bed bottom.....	Oct. 8, 1867.
65, 637	Bolster, E. L., Waterbury, Conn. Blacking dish and knife.....	June 11, 1867.
	Bolster, W., and N. Faunce. (See Johnson, William W., assignor.)	
71, 574	Bomboy, P. E., Espy, Pa. Carriage spring.....	Dec. 3, 1867.
	Bompert, John B. (See Campbell, Alexander R., assignor.)	
	Bon, John T., and E. R. Santord. (See Sweet, John E., assignor.)	
71, 575	Bond, L. L., Chicago, Ill. Horse hay fork. (Antedated November 15, 1867).....	Dec. 3, 1867.
64, 064	Bond, Samuel P., Worcester, Mass. Self lubricating journal box.....	Apr. 23, 1867.
62, 597	Bond, Spencer C., Farmersville, N. Y. Wool press.....	Mar. 5, 1867.
	Bonn, John H. (See Datchig, J. P. F., assignor.)	
68, 344	Bonnaffon, Glaucus H., Alleghany, Pa. Manufacture of hose.....	Sept. 3, 1867.
67, 257	Bonnell, John C., Fort Madison, Iowa. Suspension turn-tables.....	July 30, 1867.
67, 258	Same..... Sash support and fastener.....	July 30, 1867.
	Bonnell, William H., and Horace Parmelee. (See Sangster, Hugh, assignor.)	
69, 067	Bonner, William, assignor to H. M. Bayless, St. Louis, Mo. Extension nozzle and ventilating oil cans.....	Sept. 24, 1867.
66, 291	Bonney, J. D., Pembroke, Mass. Paint brush.....	July 2, 1867.
62, 523	Bonney, N. W., assignor to self and O. Davis, Lewiston, Maine. Barber's chair.....	Mar. 5, 1867.
	Bonsall, Sterling. (See McNulty & Kern, assignors.)	
66, 073	Bonwill, William G. A., Dover, Del. Shoestrung fastener.....	June 25, 1867.
	Bonzano, Adolphus, and John W. Whipple. (See Whipple & Bonzano.)	
	Boody, John, and William W. Wright. (See Wright & Boody.)	
62, 728	Booher, Jesse, Dayton, Ohio. Flower pot and tub.....	Mar. 12, 1867.
	Booker, J. B., and W. S. Best. (See Bull, Daniel, assignor.)	
71, 270	Bookwalter, G. W., Roanoke, Ohio. Still.....	Nov. 26, 1867.
68, 834	Boole, L. H., New York, N. Y. Preserving Eggs.....	Sept. 17, 1867.
	Boomer, W. H., and M. A. Thayer. (See Davis, G. B., assignor.)	
61, 510	Boone, Alonzo T., Galesburg, Ill. Window sash supporter.....	Jan. 29, 1867.
63, 004	Same..... Petroleum stove and gas heater.....	Mar. 19, 1867.
62, 810	Boon, Alonzo T., assignor to self and Joseph Stafford, Galesburg, Ill. Composition for roofing.....	Mar. 12, 1867.
63, 696	Boon, A. T., and D. M. Osborne, assignors to A. T. Boon and Thomas R. Markillie, Galesburg, Ill. Car coupling.....	Apr. 9, 1867.
69, 618	Boon, A. T., and J. Stafford, Galesburg, Ill. Composition for saturating paper and other fabrics.....	Oct. 8, 1867.
67, 017	Boone, Isaac, Troy, Ohio. Fence.....	July 23, 1867.
67, 943	Boone, Samuel, Le Gros, Ind. Anchoring stationary machinery.....	Aug. 20, 1867.
64, 625	Boorman, Benjamin, assignor to self and Isaac Lain, Waukesha, Wis. Flour bolt.....	May 14, 1867.
63, 359	Boorse, Ellam, Philadelphia, Pa. Lanterns.....	Apr. 2, 1867.
	Boose, Peter S., <i>et al.</i> (See Hall, Thomas G., assignor.)	
65, 052	Booth, Ezekiel, and Job A. Davis, Watertown, N. Y. Sewing machine shuttle.....	May 28, 1867.
64, 478	Booth, George E., Seymour, Conn. Hollow auger.....	May 7, 1867.
	Booth, George P., <i>et al.</i> (See Baughn, William D., assignor.)	
70, 399	Booth, Jonathan L., Rochester, N. Y. Manufacture of rails for railways.....	Nov. 5, 1867.
70, 400	Same..... same.....	Nov. 5, 1867.
	Booth, Stephen E., administrator, &c. (See Hartshorn, Sheldon S.)	
	Boothby, Nathaniel, <i>et al.</i> (See Curtis, Amasa, assignor.)	
2, 625	Bope, J. W., St. Louis, Mo. Harvester..... (Reissue).....	May 28, 1867.
71, 844	Borehard, Ferdinand, Detroit, Mich. Refrigerator.....	Dec. 10, 1867.
61, 921	Borden, Joseph, assignor to F. and J. Bodine, Bridgeton, N. J. Cap for preserving jars.....	Feb. 12, 1867.
	Bordentown Machine Company. (See Molyneux, James, assignor.)	
	Same..... (See Bloomsburg & Molyneux, assignors.)	
	Same..... same.....	
	Bordman, John J., and William P. Parrott. (See Parrott & Bordman.)	
64, 190	Bordner, Daniel, Canton, Ohio. Gate.....	Apr. 30, 1867.
62, 811	Borgefeldt, Nicholas H., New York, N. Y. Machine for granulating tobacco.....	Mar. 12, 1867.
68, 597	Same..... Apparatus for breaking the stems and leaves of tobacco.....	Sept. 10, 1867.
61, 706	Borgnet, Alfred, England. Apparatus for smelting zinc ores.....	Feb. 5, 1867.
63, 843	Borrowman, A., New York, N. Y. Car bell.....	Apr. 16, 1867.
61, 389	Borst, Jehial, East Coblesville, N. Y. Churn.....	Jan. 22, 1867.
65, 995	Borst, Valentine, New York, N. Y. Harness saddle.....	June 25, 1867.
69, 619	Bosch, Henry, Mt. Vernon, N. Y. Latch lock for doors.....	Oct. 8, 1867.
63, 844	Boss, Henry D., Williamsburg, N. Y. Boot jack.....	Apr. 16, 1867.
64, 404	Bostock, Edward, Albany, N. Y. Sewing machine tuck creaser.....	May 7, 1867.
67, 487	Same..... Adjustable parallel ruler.....	Aug. 6, 1867.
	Boston Silver Glass Company. (See Haines, Robert E., assignor.)	
70, 947	Bostrom, Edward T., Newnan, Ga. Paddle wheel. (Antedated November 8, 1867).....	Nov. 19, 1867.
72, 159	Bostwick, S. A., Laconia, N. H. Plumb and level.....	Dec. 17, 1867.
62, 524	Bostwick, William L., Ithaca, N. Y. Horse rake.....	Mar. 5, 1867.
64, 065	Boswell, John K., Richmond, Ind. Fruit dryer. (Antedated March 16, 1867).....	Apr. 23, 1867.
67, 402	Bosworth, C. F., Milford, Conn. Plate lifter.....	Aug. 6, 1867.
68, 835	Bosworth, Charles F., Milford, Conn. Sewing machine.....	Sept. 17, 1867.
72, 595	Botticher, Morris, Newark, N. J. Steam gauge.....	Dec. 24, 1867.
2, 584	Botticher, Morris, assignor through mesne assignments to Richard Burr and the Silver Lake Manufacturing Company, Washington, D. C. Packing for stuffing steam and other engines..... (Reissue).....	Apr. 30, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Names, residence, and invention or discovery.	Date.
67, 488	Bottner, F. G., Bridgeport, Conn. Slate pencil sharpener.....	Aug. 6, 1867.
67, 489	Bottomley, Thomas J., Burlington, Wis. Tug holder.....	Aug. 6, 1867.
2, 566	Boudren, Thomas, assignor to self and A. P. De Voursney, Jersey City, N. J. Coach lamp..... (Design).....	Feb. 5, 1867.
65, 535	Boudrou, Alkandr, Philadelphia, Pa. Boot blacking.....	June 11, 1867.
70, 791	Boulay, Charles, assignor to Jean David Schneider, France. Galvanic battery. (Patented in France May 25, 1867).....	Nov. 12, 1867.
70, 511	Bourdon, E., France. Device for operating folding valves.....	Nov. 5, 1867.
61, 601	Bound, Walter, Hackensack, N. J. Carriage clip. (Antedated January 19, 1867).....	Jan. 29, 1867.
66, 123	Bouru, Henry, Mendon, Mich. Combined seeder and fertilizer.....	June 25, 1867.
64, 479	Bourne, Edward, Pittsburg, Pa. Steam generator.....	May 7, 1867.
63, 845	Bourne, F. Philip, Williamsbridge, N. Y. Propelling attachment to children's sleds.....	Apr. 16, 1867.
61, 800	Bourne, James D., De Witt, Iowa. Gate fastening.....	Feb. 5, 1867.
63, 202	Bourne, Stephen, Great Britain. Vent peg and valves for beer casks.....	Mar. 26, 1867.
61, 992	Bourne, Stephen, assignor to self and Theodore Bourne, England. Mode of treating India-rubber.....	Feb. 12, 1867.
70, 948	Bourson, Eugene, Belgium. Steam engine.....	Nov. 19, 1867.
67, 259	Bouscatie, Felix Benoni, France. Watch.....	July 30, 1867.
	Bousfield, E. Tenney, and James Howard. (See Howard & Bousfield.) Same.....same.	
	Boutell, C. D. (See Beardsley, George M., assignor.) Same.....same.	
68, 161	Boutell, Hiland T., Springfield, Vt. Clothes pin.....	Aug. 27, 1867.
	Bouvier, Leopold. (See Cozzens & Jones, assignors.)	
61, 149	Bovey, George C., Cincinnati, Ohio. Brick-kiln.....	Jan. 15, 1867.
62, 249	Same.....Brick machine.....	Feb. 19, 1867.
60, 853	Bowden, James, assignor to self, William H. Cobanks, and Horace Theall, New York, N. Y. Method of fastening boiler tubes.....	Jan. 1, 1867.
	Bowen, E. H., et al. (See Hays, Duncan & Bowen.)	
66, 939	Bowen, John D., Roseburg, Oregon. Plow.....	July 23, 1867.
	Bower, James, et al. (See Barlow, William F., assignor.)	
70, 401	Bowerman, G., Napoleon, Ohio. Stock and poultry feeder.....	Nov. 5, 1867.
63, 005	Bowers, James, New York, N. Y. Corset fastening.....	Mar. 19, 1867.
66, 206	Bowers, Joseph R., Concord, N. H. Drying bricks.....	July 2, 1867.
	Bowie, Reson A., assignor. (See Rowe, Abram, assignor)	
64, 941	Bowlby, G. W., Pontiac, Mich. Combined back sight and cartridge retractor for fire-arms.....	May 21, 1867.
71, 963	Bowlen, Charles, Milwaukee, Wis. Safety gun-lock.....	Dec. 10, 1867.
63, 203	Bowler, N. P., assignor to self, Thomas Maher, William Bowler, and J. W. Lunt, Cleveland, Ohio. Railroad frog.....	Mar. 26, 1867.
66, 451	Bowles, Azro M., and Hiram Preston, Exfordville, Wis. Water elevator.....	July 9, 1867.
	Bowles, S. and B. F., et al. (See Bryan, Clark W., assignor.)	
62, 311	Bowles, Stephen, assignor to W. G. Creamer, Brooklyn, N. Y. Car-seat lock.....	Feb. 26, 1867.
67, 944	Bowls, L. H., Knoxville, Tenn. Fence.....	Aug. 20, 1867.
63, 360	Bowman, Daniel, Knoxville, Tenn. Mill-stone dress. (Antedated March 23, 1867).....	Apr. 2, 1867.
	Bowman, G. N., and D. H. Krausser. (See Krausser and Bowman.)	
67, 945	Bowman, Thomas S., St. Louis, Mo. Ventilating attachment for stoves.....	Aug. 20, 1867.
68, 162	Same.....Mode of closing bottles.....	Aug. 27, 1867.
69, 753	Boyd, A. H., Rockville, Mass. Device for locking doors and windows.....	Oct. 15, 1867.
62, 812	Boyd, Harkness, New York, N. Y. Overflow basin.....	Mar. 12, 1867.
70, 689	Boyd, Luther, and Philip Kreigbaum, Springfield, Ohio. Car coupling.....	Nov. 12, 1867.
68, 836	Boyd, Margaret D., Buffalo, N. Y. Ladder.....	Sept. 17, 1867.
70, 792	Boyd, Robert, Evansville, Ind. Ventilator, house.....	Nov. 12, 1867.
	Boyd, R. H., and W. W. Grier. (See Grier and Boyd)..... (Reissue).....	
	Boyd, S. M. (See Tripp, L. A., assignor.)	
	Boyd, Samuel R., and Jacob Spoonhour. (See Spoonhour & Boyd.)	
60, 677	Boyd, Thomas, Cambridgeport, Mass. Ventilator for mining shafts, buildings, &c.....	Jan. 1, 1867.
71, 964	Same.....Ventilator for buildings.....	Dec. 10, 1867.
	Boyden, N. B., et al. (See Finch, W. B., assignor.)	
71, 125	Boyden, William A., Altoona, Pa. Axle-box.....	Nov. 19, 1867.
66, 554	Boydston, Benjamin S., Richmond, Ind. Bag-holder.....	July 9, 1867.
66, 292	Boyer, Charles G., Greenfield, Ind. Hay rack.....	July 2, 1867.
69, 630	Boyer, Courtland, Marshall, Mich. Churn.....	Oct. 8, 1867.
72, 264	Boyer, M. C., Norristown, Pa. Shaft coupling.....	Dec. 17, 1867.
	Boyle, Augustus F., et al. (See Beardsley, Boyle, Lewis, and Clancy.)	
71, 576	Boyle, Ferdinand T. L., New York, N. Y. Runner for wheeled vehicles.....	Dec. 3, 1867.
2, 635	Boynton, Alfred, assr to Eben M. Boynton, Wright township, Mich. Saw..... (Reissue).....	July 23, 1867.
65, 551	Boynton, B. R., Keeseville, N. Y. Bed bottom.....	Sept. 3, 1867.
60, 784	Boynton, Charles, Lyons City, Iowa. Attaching thills.....	July 16, 1867.
70, 793	Boynton, C. B., St. Paul, Minn. Axle-box.....	Nov. 12, 1867.
72, 160	Boynton, D., assignor to self, H. G. O. Burrows, and Arthur E. Whitney, St. Johnsbury, Vt. Combined shovel and sifter.....	Dec. 17, 1867.
70, 949	Boynton, G. W., Auburn, N. Y. Child's toy.....	Nov. 19, 1867.
60, 829	Boynton, John F., Syracuse, N. Y. Anti-friction oil.....	Jan. 1, 1867.
60, 839	Same.....Roofing material.....	Jan. 1, 1867.
61, 309	Same.....Apparatus for carburetting gas and air.....	Jan. 22, 1867.
61, 390	Same.....Compound for telegraph insulators, and for other purposes.....	Jan. 22, 1867.
66, 452	Same.....Converting iron into steel.....	July 9, 1867.
66, 453	Same.....Insulator for telegraphs.....	July 9, 1867.
66, 785	Same.....Converting iron into steel.....	July 16, 1867.
68, 598	Same.....Steam generator.....	Sept. 10, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 940	Boynton, John F., Syracuse, N. Y. Fire extinguisher	Sept. 17, 1867.
70, 512	Same.....Carburetted gases and air	Nov. 5, 1867.
69, 621	Boynton, John F., assignor to Henri L. Stuart, Syracuse, N. Y. Gas light multiplier	Oct. 8, 1867.
62, 468	Boynton, Leander W., Hartford, Conn. Apparatus for drying wool.....	Feb. 26, 1867
62, 469	Same.....Apparatus for preparing peat for fuel.....	Feb. 26, 1867.
63, 461	Same.....Machine for drying cloths, &c.....	Apr. 2, 1867.
63, 462	Same.....Dryer for wool, &c.....	Apr. 2, 1867.
61, 602	Boynton, Nathaniel A., New York, N. Y. Coal stove.....	Jan. 29, 1867.
71, 446	Same.....Combined range and heater	Nov. 26, 1867.
61, 993	Boynton, William, Auburn, N. Y. Metal bung.....	Feb. 12, 1867.
65, 158	Boys, Hiram, Rushville, N. Y. Cultivator.....	May 28, 1867.
71, 845	Brabrook, George, assignor to Reed and Barton, Taunton, Mass. Construction of metal salvers.....	Dec. 10, 1867.
67, 490	Brabrook, William F., South Hardwick, Vt. Harvester.....	Aug. 6, 1867.
	Bracher, T. W. (See Shortau, C., assignor.)	
70, 317	Brackett, C. F., Brunswick, and George L. Goodale, Saco, Me. Process of extracting saline matters from marine plants	Oct. 29, 1867.
	Brackett, J. B. (See Witherill, Orin O., assignor.)	
63, 136	Brackett, John B., and Wyman Dearborn, Boston, Mass. Cotton gin.....	Mar. 26, 1867.
68, 035	Same.....Cotton gin and picker.....	Aug. 27, 1867.
66, 555	Brackett, Samuel, Port Huron, Mich. Washing machine.....	July 9, 1867.
72, 161	Brackett, Sewall, Jamaica Plains, Mass. Machine for separating roots from peat. (Antedated December 4, 1867).....	Dec. 17, 1867.
69, 068	Brada, Charles, Newton, Mass. Drawer for furniture.....	Sept. 24, 1867.
60, 854	Bradbury, Henry P., Springfield, Ohio. Water wheel.....	Jan. 1, 1867.
	Bradeen, A. R., and L. C. Wing. (See Wing and Bradeen.)	
	Braden, Samuel. (See Hough, Jacob B., assignor.)	
69, 395	Bradford, Charles K., Lynnfield, Mass. Lasting awl.....	Oct. 1, 1867.
	Bradford, Egbert C., et al. (See Martin, Henry, assignor)..... (Reissue.)	
61, 707	Bradford, P., assignor to Sargent & Co., New Haven, Conn. Ornamenting coffin screws.....	Feb. 5, 1867.
62, 729	Same.....Lifting handle.....	Mar. 12, 1867.
71, 965	Same.....Latch, door.....	Dec. 10, 1867.
62, 927	Bradford, William R., Charlestown, Mass. Cover for kilns of sugar refiners.....	Mar. 19, 1867.
72, 718	Bradley, Edward T., assignor to Howe Manufacturing Company, Birmingham, Conn. Head-roll for pin-machines.....	Dec. 31, 1867.
62, 598	Bradley, Henry W., assignor to self and B. Van Horn, New Berlin, N. Y. Paint.....	Mar. 5, 1867.
70, 157	Bradley, J. P., assignor to self and E. E. Allen, Lawrence, Mass. Boot and shoe shield.....	Oct. 29, 1867.
72, 162	Bradley, James R., and Moses D. Brown, Chicago, Ill. Steel, manufacture of.....	Dec. 17, 1867.
64, 276	Bradley, Joseph W., Rocheport, Mo. Washing machine.....	Apr. 30, 1867.
71, 690	Bradley, Mentor, Peru, Ind. Mode of preventing the heating of mill burrs.....	Dec. 3, 1867.
	Bradley, Milton & Company. (See Lincoln, William E., assignor.)	
	Bradley, Samuel C., and Lewis W. Upham. (See Bean, Albert B., assignor.)	
69, 170	Bradley, Thomas, Preble, N. Y. Hand seeder.....	Sept. 24, 1867.
61, 511	Bradley, William, Lynn, Mass. Nutmeg grater.....	Jan. 29, 1867.
68, 036	Same.....Wash basin.....	Aug. 27, 1867.
67, 260	Bradner, John J., Pine Creek, N. Y. Fanning mill.....	July 30, 1867.
63, 846	Brady, Benjamin F., New York, N. Y. Exercising apparatus. (Antedated Apr. 8, '67.)	Apr. 16, 1867.
68, 941	Brady, Christian H., assignor to self and William Brady, Mt. Joy, Pa. Corn sheller. (Antedated Sept. 10, 1867).....	Sept. 17, 1867.
71, 271	Brady, Edward, and John Sloan, assignors to Edward Brady, Philadelphia, Pa. Furnace for roasting ores, and for other purposes.....	Nov. 26, 1867.
68, 942	Brady, Edwin L., New Orleans, La. Lubricating oil.....	Sept. 17, 1867.
72, 360	Same.....Dredge-boat for excavating rivers.....	Dec. 17, 1867.
67, 946	Brady, Hugh, Factoryville, N. Y. Axle-box.....	Aug. 20, 1867.
	Brady, J., and E. Allen. (See Allen and Brady.)	
2, 819	Brady, O. G., assignor to Phineas Smith, New York, N. Y. Skate..... (Reissue)	Dec. 24, 1867.
64, 405	Bragdon, James, Boston, Mass. Refrigerator.....	May 7, 1867.
71, 126	Same.....Carpenters' work-bench.....	Nov. 19, 1867.
	Bragdon, J., & Company. (See McDonald, G. B., assignor.)	
71, 691	Brain, G., Springfield, Ohio. Screen-guard attachment.....	Dec. 3, 1867.
66, 786	Brainard, Edwin D., Albany, N. Y. Mode of drying and purifying air for preserving animal and vegetable substances.....	July 16, 1867.
63, 987	Brainerd, A. H., Rome, N. Y. Churn.....	Apr. 23, 1867.
72, 788	Brainerd, Charles D., Dansville, Vt. Bag-holder.....	Dec. 31, 1867.
2, 523	Brainerd, J., and W. H. Burrill, (said Brainerd assigns to said Burrill.) Cleveland, Ohio. Process of obtaining the extractive matter of tan-bark and other materials by displacement..... (Reissue)	Mar. 19, 1867.
60, 991	Branchagan, William, Burlington, Iowa. Steam generator.....	Jan. 8, 1867.
60, 992	Branch, E. W., East Henrietta, N. Y. Cider mill.....	Jan. 8, 1867.
66, 207	Same.....same.....	July 2, 1867.
	Branch, Joseph, and Joseph Crookes. (See Milligan, John F., assignor.) (Reissue.)	
	Branch, J. W. (See Milligan, John F., assignor.)	
	Branch, Joseph W., et al. (See Crookes, Joseph, assignor.)	
70, 513	Brandeis, Leopold, Brooklyn, N. Y. Alloy for the manufacture of foil metal sheets, &c. Branford Lock Works. (See Munger, Wallace T., assignor.)	Nov. 5, 1867.
71, 359	Branique, John, New York, N. Y. Musical tablet.....	Nov. 26, 1867.
	Brant, James W., and Purdy Mason. (See Mason and Brant.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
2, 781	Brashear, Robert B., deceased, by Nancy Poindexter Brashear, executrix, Pattersonville, La. Mode of applying sulphurous acid gas in the defecation of saccharine liquids..... (Reissue).....	Oct. 22, 1867.
65, 869	Brasher, Wm. M., & Company. (See Robley, Joseph, assignor)..... (Design)..... Brassington, Walter J., Brooklyn, and William B. Burnett, New York, N. Y. Method of supplying locomotive tenders with water.....	June 11, 1867.
62, 928	Brassington, W. J., and S. Samuels. (See Samuels and Brassington.)	
67, 628	Brassington, W. J., and J. P. Teale. (See Teale and Brassington.)	
65, 720	Brastow, John E., and E. K. Ingoldsbj, Van Buren Centre, N. Y. Railroad pick.....	Mar. 19, 1867.
72, 789	Bratton, Riley, Oskaloosa, Iowa. Wagon bed.....	Aug. 13, 1867.
69, 171	Brauer, Louis, Memphis, Tenn. Hydraulic weighing apparatus.....	June 11, 1867.
67, 491	Braun, Augustus F. H., San Francisco, Cal. Truss for hernia.....	Dec. 31, 1867.
71, 360	Braun, Joseph, Bridgewater, Pa. Dryer for scoured clothes.....	Sept. 24, 1867.
72, 790	Bray, Francis J., and Andrew Fuller. (See Fuller and Bray.) Bray, Mellen. (See Tapley, Joseph A., assignor.)	
63, 536	Brayton, George B., Providence, R. I. Eyelet.....	Aug. 6, 1867.
69, 396	Brayton, George B., assignor to self, Solomon W. Young, John W. Hoard, and Lyman A. Cook, Providence, R. I. Die for threading screws.....	Nov. 26, 1867.
61, 653	Brayton, George B., assignor to self and J. W. Hoard, Boston, Mass. Method of making eyelets.....	Nov. 21, 1867.
61, 603	Brayton, R. S. Curtis, and David June, Frémont, Ohio. Steam engine.....	June 4, 1867.
69, 754	Brayton, Robert, and Samuel Curtis, Frémont, Ohio. Respirator.....	Oct. 1, 1867.
61, 708	Bready, Charles W. (See Jones, Samuel H., assignor.)	
67, 947	Brecht, Elias. (See Munson, Phio H., assignor.) Breckenridge, E. K., West Meriden, Conn. Sash lock.....	Feb. 5, 1867.
61, 603	Bree, William R., Pottsville, Pa. Lining for oil barrels.....	Aug. 20, 1867.
61, 603	Breed, Henry A. (See Ayer, Charles C., assignor.) Same..... same.	
61, 603	Breed, Isaiah. (See Ellis, Josiah W., assignor.)	
61, 603	Breinig, David E., New York, N. Y. Preparing linseed and other oils for painting.....	Jan. 29, 1867.
69, 754	Breneman, A. N., Lancaster, Pa. Jack.....	Jan. 29, 1867.
61, 044	Same..... Shoe holder..... (Antedated Oct. 12, 1867).....	Oct. 15, 1867.
61, 512	Breneman, Joseph T., Springfield, Ohio. Hay-stacker.....	Jan. 8, 1867.
64, 626	Breneman, Martin, assignor to self and Samuel Eby, East Donegal township, Pa. Cultivator.....	Jan. 29, 1867.
71, 272	Brennan, James, New Haven, Conn. Carriage shackle.....	May 14, 1867.
60, 678	Brenneman, Christian, Orrville, Ohio. Cattle-guard for railways.....	Nov. 26, 1867.
2, 751	Bresée, Jacob R., Middletown, N. Y. Gate.....	Jan. 1, 1867.
71, 246	Brestle, Michael, jr., and Daniel W. Miller. (See Miller and Brestle.)	
2, 693	Brett, George, North Easton, Mass. Trade mark..... (Design).....	Aug. 20, 1867.
63, 204	Brett, M. L., Warren, Ohio. Manufacture of shoes, &c.....	Dec. 10, 1867.
66, 940	Brett, Thomas, Geneva, Ohio. Harvester..... (Reissue).....	July 23, 1867.
68, 281	Brettell, Edward W., Newark, N. J. Door lock.....	Mar. 26, 1867.
61, 994	Same..... Night latch.....	July 23, 1867.
70, 158	Same..... Permutation lock.....	Aug. 27, 1867.
70, 159	Breuer, George W., assignor to Breuer & Kessler, Philadelphia, Pa. Panel for lamp shades.....	Feb. 12, 1867.
65, 053	Brewer, Albert G., Washington, D. C. Leather quilting machine.....	Oct. 29, 1867.
66, 454	Brewer, George T., Prairie-du-Rouher, Ill. Gang plow. (Antedated Oct. 19, 1867).....	Oct. 29, 1867.
70, 794	Brewer, James H., Atlas, Mich. Garden hoe.....	May 23, 1867.
60, 679	Brewer, Stephen, et al. (See Darby, Joseph, assignor.) Brewster & Company. (See Lawrence, James W., assignor.) Brewster, E. B., et al. (See Warner, Stanton D., assignor.)	
67, 158	Brewster, F. A., Springfield, Mass. Hoop skirts.....	July 30, 1867.
64, 480	Brewster, James N., Brooklyn, N. Y. Ironing board and closet.....	May 7, 1867.
66, 454	Brewster, John W., West Laurens, N. Y. Farm gate.....	July 9, 1867.
70, 794	Brier, Mark J., Oxford, Ind. Gate latch.....	Nov. 12, 1867.
66, 556	Bricker, George, assignor to self and S. I. Irvin, Newville, Pa. Furniture polish and restorer.....	Jan. 1, 1867.
62, 929	Brickill, W. A., assignor to self and J. A. Sterling, N. Y. Car axle.....	July 9, 1867.
71, 273	Bridge, S. J., and A. M. Craig, Portage City, Wis. Water wheel.....	Mar. 19, 1867.
68, 037	Bridgins, W. H., New York, N. Y. Pea sheller.....	Nov. 26, 1876.
64, 832	Bridgeport Brass Company. (See Todd, Henry, assignor.) Same..... same..... (Reissue.)	
67, 403	Bridgeport Horseshoe Nail Company. (See Cowles, Harley D., assignor.)	
61, 310	Bridger, George E., Milwaukee, Wis. Egg beater.....	Aug. 27, 1867.
66, 557	Bridges, Alfred, Newton, Mass. Peat machine.....	May 21, 1867.
64, 942	Bridges, John R., assignor to self and G. O. Faucet, Pittsburg, Pa. Machine for making nuts.....	Aug. 6, 1867.
66, 557	Bridget, John F., Washington, D. C. Thill coupling.....	Jan. 22, 1867.
64, 942	Bridgins, James H., Astoria, N. Y. Ice pick.....	July 9, 1867.
62, 930	Bried, Charles, Newark, N. J. Carriage trimmings.....	May 21, 1867.
71, 966	Brien, Livingston, and James R. Willett. (See Willett & Brien.) Brierley, Edward. (See Jack, Alexander, assignor.) Brissen, A. V. (See Warren & Blume, assignors.) Briggs, Albert. (See Crossman, Horace, assignor.)	
68, 552	Briggs, Edward T., Boston, Mass. Curtain fixture. (Antedated Aug. 26, 1867).....	Sept. 3, 1867.
66, 455	Briggs, sr., Elisha, Fayette, Iowa. Corn husker and stalk cutter.....	July 9, 1867.
66, 456	Briggs, sr., Elisha, Fayette, Iowa. Water wheel.....	July 9, 1867.
62, 930	Briggs, George M., Boston, N. Y. Wool press.....	Mar. 19, 1867.
71, 966	Briggs, Harvey, Smithland, Ky. Plow.....	Dec. 10, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 402	Briggs, H. B., Clarksburg, Mass. Spinning jack.....	Nov. 5, 1867.
	Briggs, I. W. (See Budd, James, assignor.)	
69, 755	Briggs, James H., Brooklyn, N. Y. Comb.....	Oct. 15, 1867.
2, 822	Same.....(Reissue).....	Dec. 31, 1867.
67, 018	Briggs, John, Roxbury, Mass. Valve.....	July 23, 1867.
63, 006	Briggs, John C., Ansonia, Conn. Reed musical instrument.....	Mar. 19, 1867.
17, 967	Briggs, Joshua, Peterboro', N. H. Piano stool.....	Dec. 10, 1867.
65, 334	Briggs, Martin T., Schoolcraft, Mich. Hame strap.....	June 4, 1867.
69, 397	Briggs, Richard F., Amesbury, Mass. Folding seat for carriage bodies.....	Oct. 1, 1867.
65, 159	Briggs, William, assignor to self and Thomas Holmes, Bristol, R. I. Molasses vessel.....	May 28, 1867.
67, 019	Brigham, Alden, Coldbrook, Mass. Dust pan.....	July 23, 1867.
71, 692	Brigham, Emeline T., Philadelphia, Pa. Pessary.....	Dec. 3, 1867.
71, 447	Brigham, Owen B., assignor to Young, Haines & Dyer, Cambridge, Mass. Snap for glassware makers.....	Nov. 26, 1867.
61, 391	Bright, George W., Philadelphia, Pa. Steam blower.....	Jan. 22, 1867.
67, 404	Bright, Pittman, Philadelphia, Pa. Rolling mill.....	Aug. 6, 1867.
63, 694	Bright, S. E., Elkhorn, Wis. Door for grain cars. (Antedated Aug. 26, 1867).....	Sept. 10, 1867.
61, 045	Bright, W. S., and J. G. Morey, New Orleans, La. Medicated plaster.....	Jan. 8, 1867.
67, 712	Brighton, William, assignor to self and Noah H. Tilman, Arcanum, Ohio. Meat safe.....	Aug. 13, 1867.
62, 931	Brill, George, Philadelphia, Pa. Axle box.....	Mar. 19, 1867.
65, 160	Brinckmann, A., New York, N. Y. Faucet.....	May 28, 1867.
70, 690	Bringier, M. S., Parish of Ascension, La. Evaporation and vaporization.....	Nov. 12, 1867.
70, 611	Same.....Process for extracting saccharine matters from sugar cane.....	Nov. 12, 1867.
	Brink, Lawrence, et al. (See Mott, Winer & Brink.)	
67, 100	Brinkerhoff, A. W., Upper Sandusky, Ohio. Clothes pin.....	July 23, 1867.
67, 713	Brinkerhoff, Jacob, Auburn, N. Y. Corn sheller.....	Aug. 13, 1867.
65, 335	Brinkerhoff, Parcel, Chillicothe, Mo. Measure for liquids.....	June 4, 1867.
67, 948	Same.....same.....	Aug. 20, 1867.
71, 968	Brinly, T. E. C., Louisville, Ky. Plow.....	Dec. 3, 1867.
72, 596	Same.....Manufacture of plow handles.....	Dec. 24, 1867.
2, 726	Same.....Plow.....(Reissue).....	Aug. 13, 1867.
66, 787	Brinley, T. E. C., assignor to self and J. G. Dodge, Louisville, Ky. Plows.....	July 16, 1867.
68, 837	Brinsler, A. C., Middletown, Pa. Lifting jack.....	Sept. 17, 1867.
63, 697	Brisbane, A., New York, N. Y. Wooden pipe.....	Apr. 9, 1867.
72, 446	Bristol, Almeron, Constantine, Mich. Fly trap.....	Dec. 24, 1867.
62, 599	Bristol, Charles B., New Haven, Conn. Attaching door knobs to their spindles.....	Mar. 5, 1867.
67, 020	Same.....Snap hook.....	July 23, 1867.
72, 597	Same.....Attaching door knobs to spindles.....	Dec. 24, 1867.
63, 698	Bristol, H. C., Ravenna, Ohio. Cultivator.....	Apr. 9, 1867.
60, 855	Bristow, Samuel, Bedford, Ind. Saw mill.....	Jan. 1, 1867.
67, 949	Brittain, P. F., Geneseo, Ill. Corn cultivator.....	Aug. 20, 1867.
2, 601	Brittan, N., Chicago, Ill. Lightning rod.....(Reissue).....	May 14, 1867.
61, 801	Britten, Benjamin, Galena, Ill. Window-sash supporter.....	Feb. 5, 1867.
62, 600	Same.....Clothes dryer.....	Mar. 5, 1867.
69, 398	Britton, R. G., Springfield, Vt. Clothes pin.....	Oct. 1, 1867.
65, 161	Britton, Walter, Abington, Ill. Bolt cutter.....	May 28, 1867.
64, 066	Broad, Lucy, St. Louis, Mo. Child's toy.....	Apr. 23, 1867.
64, 277	Broadbent, Charles R., Boston, Mass. Slipper.....	Apr. 30, 1867.
65, 638	Broadbooks, Peter, Batavia, N. Y. Wire-cutting pincers.....	June 11, 1867.
69, 897	Broadnax, Amos, New York, N. Y. Apparatus for rendering lard and tallow.....	Oct. 15, 1867.
66, 293	Brock, Charles N., Philadelphia, Pa. Pressure filter.....	July 2, 1867.
2, 679	Same.....Mode of cleaning and purifying boneblack.....(Reissue).....	July 16, 1867.
66, 124	Brock, Elias, Ellenville, N. Y. Machine for unhairing hides.....	June 25, 1867.
	Brock, Ephraim F., et al. (See Gould, D. C., assignor.)	
70, 070	Brock, George F., and Eli Brondige, Davisburg, Mich. Combined land roller and plaster sower.....	Oct. 22, 1867.
67, 021	Brock, W. E., New York, N. Y. Stand for displaying clothing.....	July 23, 1867.
	Brodeur, Cleophas, et al. (See Allen, Peter, assignor.)	
63, 205	Brombacher, Charles, New York, N. Y. Shears for brushes.....	Mar. 26, 1867.
	Bromberg, Samuel, et al. (See Thoma, Alois, assignor.)	
	Same.....same.....	
	Same.....same.....	
	Same.....same.....	
71, 847	Bromley, T. C., Fort Howard, Wis. Scoop.....	Dec. 10, 1867.
	Broudige, Eli, and George F. Brock. (See Brock & Brondige.)	
70, 950	Brookbank, Charles A., Connersville, Ind. Head block for saw mills.....	Nov. 19, 1867.
49, 069	Brooke, John M., Lexington, Va. Boat-detaching tackle.....	Sept. 24, 1867.
63, 699	Brookfield, Mahlon, Brookfield, Iowa. Let-off mechanism for looms.....	Apr. 9, 1867.
65, 879	Brooks, Alexander, Waverly, N. Y. Washing machine.....	June 18, 1867.
72, 791	Brooks, Asa T., New Britain, Conn. Door bell.....	Dec. 31, 1867.
63, 206	Brooks, David, Philadelphia, Pa. Insulator for telegraph wires.....	Mar. 26, 1867.
2, 717	Same.....same.....(Reissue).....	Aug. 6, 1867.
69, 622	Same.....Insulator for telegraphs.....	Oct. 8, 1867.
65, 721	Brooks, Frank W., Washington, D. C. Slide for safety reins.....	June 11, 1867.
66, 788	Brooks, George P., and James McGrady, Boston, Mass. Shaving cup.....	July 16, 1867.
	Brooks, H. P., and O. L. Hopson. (See Hopson & Brooks.)	
	Brooks, John, and Charles F. Sylvester. (See Sylvester & Brooks.)	
72, 598	Brooks, Joseph E., Gooding's Grove, Ill. Cultivator. (Antedated Dec. 19, 1867)....	Dec. 24, 1867.
69, 756	Brooks, J. M., and Perry Munson, Independence, Iowa. Combined pump and measure.....	Oct. 15, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Brooks, Joshua, and Philander Perry. (See Perry & Brooks.)	
	Brooks, L. A., and W. Jeggle. (See Jeggle & Brooks.)	
69, 898	Brooks, Myron D., Albany, N. Y. Bed-clothes holder.....	Oct. 15, 1867.
66, 457	Brooks, O. M., and R. W. Soper, Janesville, Wis. Burglar alarm.....	July 9, 1867.
70, 692	Brooks, O. M., and E. J. Matteson, Janesville, Wis. Mop wringer.....	Nov. 12, 1867.
69, 757	Brooks, jr., Reuben, Rockport, Wis. Carriage wheel.....	Oct. 15, 1867.
71, 969	Brooks, S. P., assignor to self and Benj. Woodward, Somerville, Mass. Combined shovel and sifter.....	Dec. 10, 1867.
	Brooks, William, et al. (See Page, Phillip A., assignor.)	
65, 208	Brooks, William D., Baltimore, Md. Process of preserving fruits and other perishable articles.....	July 2, 1867.
	Brooks, William D. (See Cramer, A. W., assignor.)	
61, 604	Broomhall, Webb, Circleville, Ohio. Door and gate latch.....	Jan. 29, 1867.
64, 278	Broome, Robert, Central Falls, R. I. Cooking vessel for frying, steaming, &c.....	Apr. 30, 1867.
	Brosey, David, and Foster Nevergold. (See Nevergold & Brosey.)	
70, 795	Brosius, George, Ranch's Gap, Pa. Sash fastener.....	Nov. 13, 1867.
	Brosius, Jacob, et al. (See Penn, Geiss & Brosius.).....(Reissue.)	
	Brossy, Francis, et al. (See Johnson, George, assignor.)	
64, 833	Brothers, James S., Duncannon, Pa. Railway switch.....	May 21, 1867.
	Broughton, John, New York, N. Y. Oiler.....(Reissue.)	July 16, 1867.
66, 941	Brower, William, Baltimore, Md. Pulley bits for bridles.....	July 23, 1867.
61, 922	Brown, Albert, Troy, N. Y. Coal stove.....	Feb. 13, 1867.
64, 943	Same.....Heating stove.....	May 21, 1867.
70, 071	Brown, Alfred, Horatio D. Worcester, and Abram M. Griswold, assignors to selves and B. F. Gray, Gamber, Ill. Guard finger for harvesters.....	Oct. 22, 1867.
	Brown, Ammi. (See Willis, Newiel, assignor.)	
64, 279	Brown, A. H., Springfield, Vt. Meat hammer.....	Apr. 30, 1867.
69, 623	Same.....Churn.....	Oct. 8, 1867.
71, 970	Brown, A. H., May's Landing, N. J. Seat and desk.....	Dec. 10, 1867.
61, 802	Brown, Anson R., Litchfield, Mich. Medical compound.....	Feb. 5, 1867.
60, 917	Brown, Anson R., assignor of one-half interest to Gardner Herrick, Litchfield, Mich. Instrument for acupuncture.....	Jan. 1, 1867.
2, 753	Brown, Augustus, New York, N. Y. Governors for steam engines.....(Reissue.)	Aug. 27, 1867.
65, 038	Brown, Augustus P., New York, N. Y. Steam-generator water gauge. (Antedated June 11, 1867.....)	Aug. 27, 1867.
	Brown, B. F. (See Roberts, A. J., assignor.)	
68, 282	Brown, Charles, Buffalo, N. Y. Baling short-cut hay, &c.....	Aug. 27, 1867.
68, 345	Same.....Preparing short-cut straw for feed.....	Sept. 3, 1867.
61, 150	Brown, C. D., Sterling, Ill. Device for planting hedges.....	Jan. 15, 1867.
66, 209	Same.....Tampico, Ill. Hedge fastener.....	July 2, 1867.
60, 210	Same.....Device for bending down plants to form hedges.....	July 2, 1867.
2, 754	Brown, Charles H., and Charles Burleigh, assignors to the Putnam Machine Company, Fitchburg, Mass. Valve gear for steam engines.....(Reissue.)	Aug. 27, 1867.
63, 700	Brown, Clarence F., assignor to self and Florence Manufacturing Co., Northampton, Mass. Blacking case.....	Apr. 9, 1867.
64, 944	Brown, Darius C., Lowell, Mass. Warp eyes of wire heddles for loom harness.....	May 21, 1867.
63, 847	Brown, Ellison, assignor to self and James B. Bell, Indianapolis, Ind. Composition for coating leather.....	Apr. 16, 1867.
61, 311	Brown, Erasmus D., Buffalo, N. Y. Basket attachment for pistons of deep-well pumps.....	Jan. 22, 1867.
62, 730	Brown, Eugene, and William Pool, Birmingham, Mich. Potato scoop.....	Mar. 12, 1867.
	Brown, E. F., et al. (See Herbster, E., assignor.)	
66, 942	Brown, Felix, assignor to John George Gunther, New York, N. Y. Fog signal.....	July 23, 1867.
63, 607	Brown, Franklin H., Chicago, Ill. Sewing machine for soling boots and shoes.....	Apr. 9, 1867.
60, 680	Brown, Franklin H., assignor to self and James T. Griffin, Chicago, Ill. Coal-oil stove.....	Jan. 1, 1867.
68, 695	Brown, F. H., assignor to self, Edward F. Pengeot, and Lemuel H. Flershiem, Chicago, Ill. Machine for weaving baskets. (Antedated March 10, 1867.....)	Sept. 10, 1867.
69, 309	Same.....Machine for weaving baskets.....	Oct. 1, 1867.
70, 072	Same.....Machine for making baskets.....	Oct. 22, 1867.
70, 160	Same.....Machine for braiding open-work baskets.....	Oct. 29, 1867.
70, 318	Same.....Machine for finishing baskets.....	Oct. 29, 1867.
66, 450	Brown, Frederick, Detroit, Mich. Means for hanging mirrors.....	July 9, 1867.
63, 639	Brown, G. E. E. Burnham, and J. Morriss, Gloucester, Mass. Metallic surface-coating composition.....	June 11, 1867.
	Brown, George, and Edward E. Burnham. (See Burnham & Brown.)	
	Brown, George W., Galesburg, Ill. Seed planter.....(Extension of No. 1,036).....	Feb. 1, 1867.
	Same.....same.....(Extension of No. 1,037).....	Feb. 1, 1867.
	Same.....same.....(Extension of No. 1,038).....	Feb. 1, 1867.
	Same.....same.....(Extension of No. 1,039).....	Feb. 1, 1867.
71, 693	Brown, G. W., Sacramento, Cal. Animal trap.....	Dec. 3, 1867.
67, 950	Brown, Harvey, New York. Clothes dryer.....	Aug. 20, 1867.
	Brown, Harvey A., and Charles Waters. (See Waters & Brown.)	
	Brown, Henry, and Garretson Smith. (See Smith & Brown.).....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Brown, Hiram L., and Calvin P. (See Jessup, Gilbert, assignor.).....(Reissue.)	
	Brown, Hugh B. (See Vincent, Hunneville, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 513	Brown, Ira S. and Charles N., assignors to selves and J. Mason Gross, Providence, R. I. Saw.....	Jan. 29, 1867.
52, 813	Same.....	Mar. 12, 1867.
70, 951	Same.....Machine for grinding saw teeth.....	Nov. 19, 1867.
72, 447	Brown, Isaac, Cecilton, Md. Mode of driving reciprocating saws..... (Extension)	July 18, 1867.
68, 943	Brown, Israel F., New London, Conn. Tool holder for slide rests.....	Dec. 24, 1867.
69, 172	Brown, Israel F., assignor to E. F. Brown, New London, Conn. Fruit box.....	Sept. 17, 1867.
68, 346	Brown, Jas. B., assignor to self and Joshua Draper, Middletown, N. Y. Hat block.....	Sept. 24, 1867.
60, 681	Brown, Jas. D., Preble county, Ohio. Machine for removing seed from broom corn.....	Sept. 3, 1867.
62, 525	Brown, J. Hamilton, Watertown, Mass. Hand pegging machine.....	Jan. 1, 1867.
	Same.....	Mar. 5, 1867.
	Brown, J. Hamilton, and Alonzo W. Porter. (See Porter & Brown.)	
63, 207	Brown, James H., Berea, Ohio. Rest for grinding tools.....	Mar. 26, 1867.
64, 067	Brown, J. J., Madison, Wis. Carriage thill coupling.....	Apr. 23, 1867.
70, 514	Brown, J. L., New York, N. Y. Wood pavement.....	Nov. 5, 1867.
66, 294	Brown, James M., Boston, Mass. Machine for cleaning and softening sheepskins.....	July 2, 1867.
2, 727	Same.....	(Reissue) Aug. 13, 1867.
68, 838	Brown, J. Milton, Auburn, N. Y. Telegraph apparatus.....	Sept. 17, 1867.
65, 162	Brown, James R., assignor to self and W. S. Lovell, Boston, Mass. Pipe wrench.....	May 28, 1867.
67, 405	Brown, John, assignor to William P. Brown, New York, N. Y. Umbrella.....	Aug. 6, 1867.
	Brown, John A. (See Ladd, George W., assignor.)	
	Brown, John A., and George H. Hoke. (See Hoke & Brown.)	
69, 310	Brown, John C., Crawfordsville, Ind. Cane stripper.....	Oct. 1, 1867.
71, 127	Brown, John E., ass'or to self and John Q. Wright, Fitchburg, Mass. Spindle bolster.....	Nov. 19, 1867.
66, 295	Brown, John F., New London, Conn. Churn.....	July 2, 1867.
2, 852	Brown, John H., Genesee, N. Y. Moulding for picture frames..... (Design)	Dec. 31, 1867.
	Brown, John W., et al. (See Beswick, Richardson & Brown.)	
67, 406	Brown, Julia P., Boston, Mass. Folding table.....	Aug. 6, 1867.
68, 347	Brown, Justus A., Bath, Maine. Railway car seat.....	Sept. 3, 1867.
63, 608	Brown, J. S., and William Frank Browne, Washington, D. C. Horse hay fork.....	Apr. 9, 1867.
62, 312	Brown, J. Warren, assignor to N. P. Chipman, A. A. Hosmer, C. D. Gilmore and J. C. Smith, Washington, D. C. Manufacture of pearl ashes.....	Feb. 26, 1867.
69, 535	Brown, L. F., Keokuk, Iowa. Gate.....	Oct. 8, 1867.
	Brown, Lewis J. (See Mills, Jonathan, assignor.)	
	Brown, Moses D., and James R. Bradley. (See Bradley & Brown.)	
69, 624	Brown, M. M., Pimento, Ind. Churn.....	Oct. 8, 1867.
71, 274	Brown, Neal N., Reading, Pa. Pie rimmer.....	Nov. 26, 1867.
70, 403	Brown, O. B., Malden, Mass. Cleaner for lamp chimneys.....	Nov. 5, 1867.
63, 007	Brown, Ransome, West Edmeston, N. Y. Water elevator.....	Mar. 19, 1867.
72, 599	Brown, Robert D., Covington, Ind. Harvester rake.....	Dec. 24, 1867.
65, 336	Brown, R. F., Savannah, Ga. Steam rotary valve.....	June 4, 1867.
61, 922	Brown, Reuben F., Lewisburg, Pa. Sash spring holder.....	Feb. 12, 1867.
62, 526	Brown, Robert H., Detroit, Mich. Toilet glass. (Antedated February 20, 1867).....	Mar. 5, 1867.
61, 312	Brown, Samuel, assignor to the Brown and Level Life Saving Tackle Company, New York, N. Y. Boat detaching tackle.....	Jan. 22, 1867.
63, 463	Brown, Samuel C., Carlisle, Pa. Plaiting attachment for sewing machines.....	Apr. 2, 1867.
65, 996	Brown, Samuel C., assignor to J. A. Fay & Co., Richmond, Ind. Mortising machine.....	June 25, 1867.
70, 319	Brown, Samuel C., assignor to self and James Smith, Richmond, Ind. Chair for schools, &c.....	Oct. 29, 1867.
	Brown, Samuel C., and James Smith. (See Smith & Brown.)	
64, 068	Brown, S. H., New York, N. Y. Rotary steam engine.....	Apr. 23, 1867.
68, 599	Brown, Thomas, Roseburg, Oregon. Washing machine.....	Sept. 10, 1867.
62, 601	Brown, Thomas S., assignor to self and John P. Adriance, Poughkeepsie, N. Y. Lubricating device.....	Mar. 5, 1867.
69, 311	Brown, T. W., New York, N. Y. Hat and coat rack.....	Oct. 1, 1867.
61, 709	Brown, William, Worcester, Mass. Fruit picker.....	Feb. 5, 1867.
61, 803	Brown, William, Springfield, Mass. Carpet stretcher and tack driver.....	Feb. 5, 1867.
67, 159	Same.....New York, N. Y. Carpet stretcher and tack driver.....	July 30, 1867.
69, 399	Brown, William, Hoboken, N. J. Ratchet brace.....	Oct. 1, 1867.
66, 296	Brown, William, assignor to William W. Wilcox and Joseph Hall, jr., Middletown, Conn. Grommet.....	July 2, 1867.
65, 537	Brown, William D., Milwaukee, Wis. Bottle stopper and coupling.....	June 11, 1867.
71, 577	Brown, W. F., Washington, D. C., and J. N. Smith, Jersey City, N. J. Hay raker and loader. (Antedated November 28, 1867).....	Dec. 3, 1867.
64, 742	Browne, A. W., Brooklyn, N. Y. Button.....	May 14, 1867.
72, 792	Browne, A. W., assignor to self and Charles R. Squire, Brooklyn, N. Y. Mechanical movement.....	Dec. 31, 1867.
	Browne, A. W., and William F. Goodwin. (See Goodwin & Browne.)	
	Same.....	
	Browne, Charles, and W. J. Armstrong. (See Armstrong & Browne.)	
67, 101	Browne, Charles L., Brooklyn, N. Y. Jumping hoop. (Antedated July 5, 1867).....	July 23, 1867.
61, 313	Browne, D. Jay, Cambridge, and Steuben T. Bacon, Boston, Mass. Manufacture of brandy. (Antedated January 14, 1867).....	Jan. 22, 1867.
64, 280	Browne, George W., New York, N. Y. Rowlock.....	Apr. 30, 1867.
65, 871	Browne, James W., New York, N. Y. Pocket sun shade.....	June 18, 1867.
65, 979	Browne, John David, Cincinnati, Ohio. Hand loom.....	June 25, 1867.
67, 407	Browne, Sarah Frances, assignor to Charles W. Brunner, Savannah, Ga. Marker for sewing machines.....	Aug. 6, 1867.
65, 471	Browne, William F., Washington, D. C. Apparatus for stacking hay and grain.....	June 4, 1867.
	Browne, William Frank, and J. S. Brown. (See Brown & Browne.)	
68, 039	Browne, William F., and A. J. Hoyt, Washington, D. C. Water wheel.....	Aug. 27, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 464	Brownell, Franklin C., East Orange, N. J. Seat or shelf	Apr. 2, 1867.
	Brownell, J. Augustus. (See Ashley, Joshua B., assignor.)	
	Browning, Clinton, and William Harris. (See Harris & Browning.)	
	Same.....same.....	
	Browning, R. C. (See Doty, William M., assignor.)	
	Browning, W. S., et al. (See Howell, R. L., assignor.)	
72, 448	Brownlee, George, Princeton, Ind. Skate	Dec. 24, 1867.
2, 582	Brownlich, A. C., assignor through mesne assignments to Cyrenus Wheeler, jr., Poplar Ridge, N. Y. Harvester.....(Division A, reissue).....	Apr. 30, 1867.
2, 583	Same.....same.....(Division B, reissue).....	Apr. 30, 1867.
66, 943	Brownson, Walter G., Wellsville, Ohio. Telegraphic switch board	July 23, 1867.
66, 944	Same.....Telegraph battery switch board	July 23, 1867.
67, 160	Same.....Relay magnet	July 30, 1867.
66, 945	Brownson, Walter G., and Daniel C. Shull, Wellsville, Ohio. Telegraph repeating instrument	July 23, 1867.
60, 993	Brua, Franklin, Gordonville, Pa. Harvester rake	Jan. 8, 1867.
2, 618	Bruce, David, Newtown, N. Y. Printer's type.....(Design).....	Apr. 16, 1867.
2, 831	Bruce, David, assignor to David Wolfe Bruce, Brooklyn, N. Y. Printer's type.....(Design).....	Nov. 19, 1867.
	Bruce, David Wolfe. (See Herriet, Julius, assignor).....(Design).....	
	Same.....same.....(Design).....	
	Same.....same.....(Design).....	
61, 314	Bruce, Duncan, Rossville, N. Y. Process of making sugar. (Antedated Jan. 17, 1867)	Jan. 22, 1867.
61, 315	Same.....Apparatus for decomposing animal and vegetable substances, for curing meat, tanning, &c. (Antedated January 17, 1867).....	Jan. 22, 1867.
69, 758	Bruce, George, Corydon, Ind. Pumps	Oct. 15, 1867.
60, 856	Bruce, N. H., Forge Village, Westford, Mass. Tag or label	Jan. 1, 1867.
63, 944	Same.....Foot warmer	Sept. 17, 1867.
64, 834	Bruce, Norman H., and Frederick G. Sargent. (See Sargent & Bruce.)	
70, 952	Bruce, Samuel C., New York, N. Y. Quartz mill	May 21, 1867.
61, 995	Brucker, Otto, New York, N. Y. Fan	Nov. 19, 1867.
65, 538	Brucker, John, Chicago, Ill. Soap	Feb. 12, 1867.
71, 448	Brickner, William, San Francisco, Cal. Furnace for desulphurizing ores. Same.....Central City, Col. Furnace for roasting ores	June 4, 1867. Nov. 26, 1867.
60, 682	Brucek, Gustav, and Frederick Koppenfels. (See Koppenfels & Brucek.)	
63, 839	Bruen, Lewis Budd, New York, N. Y. Sewing machine	Jan. 1, 1867.
66, 558	Bruen, Lewis Budd, assignor to the Bruen Manufacturing Company, New York, N. Y. Sewing machine	Sept. 17, 1867.
69, 312	Brühl, Christopher, Green Point, N. Y. Machine for stripping the hides from cattle	July 9, 1867.
66, 789	Brunetti, L., Italy. Mode of embalming and preserving animal substances	Oct. 1, 1867.
69, 070	Brunner, Charles W. (See Browne, Sarah Frances, assignor.)	
63, 990	Brunner, John D., Doylestown, Pa. Attaching thills to vehicles	July 16, 1867.
63, 465	Brunot, Felix R., Allegheny, Pa. Sluice gate for dams or locks	Sept. 24, 1867.
63, 990	Brunson, Rufus, Chicago, Ill. Brick press	Apr. 23, 1867.
63, 465	Brunswick, E., Chicago, Ill. Clamp for leathering billiard cues	Apr. 2, 1867.
66, 211	Brusher, John B. (See Maguire, James, assignor.)	
67, 161	Brusie, Russel, Cleveland, Ohio. Apparatus for gathering apple seeds	July 2, 1867.
63, 848	Bruso, Charles, jr., Worcester, Mass. Gas pipe joints	July 30, 1867.
62, 313	Bruzo, Peter, assr to self and Charles B. Clark, Erie, Pa. Electro-magnetic battery	Apr. 16, 1867.
63, 466	Bryan, Clark W., assignor to self, S. and B. F. Bowles, and J. F. Tapley, Springfield, Mass. Calendars	Feb. 26, 1867.
64, 743	Bryan, Joseph T., Lebanon, Ind. Gate Latch	Apr. 2, 1867.
62, 932	Bryan, Samuel, Jefferson, Wis. Cornstalk cutter	May 14, 1867.
71, 361	Bryant, Charles R., assignor to Calvin Eaton, Frankfort, N. Y. Extension ladder	Mar. 19, 1867.
66, 790	Bryant, H. F., Marathon, N. Y. Dental drill	Nov. 26, 1867.
67, 154	Bryant, H. H., Boston, Mass. Fire-proof safe	July 16, 1867.
67, 629	Same.....Construction of fire-proof safe	July 23, 1867.
	Same.....Filling for safes	Aug. 13, 1867.
	Bryant, M. B. (See Thayer, Austin E., assignor.)	
	Bryant, S. E. (See Seavey, John E., assignor.)	
70, 796	Bryant, William H., Chicago, Ill. Apparatus for drawing tires from engine driving wheels	Nov. 12, 1867.
63, 945	Bryson, James D., Newcastle, Pa. Water wheel	Sept. 17, 1867.
2, 755	Bryson, Robert, Schenectady, N. Y. Harvester rake.....(Division 2, reissue).....	May 21, 1867.
69, 759	Same.....Harvester.....(Division 1, reissue).....	Aug. 27, 1867.
	Bryson, T. B., New Castle, Pa. Dumb waiter	Oct. 15, 1867.
	Brzezinsky, Julius, and Charles Hollwede. (See Hollwede & Brzezinsky.)	
	Same.....same.....	
70, 404	Buch, Addison, West Earl township, Pa. Straw Cutter	Nov. 5, 1867.
63, 343	Buchanon, John R., Chicago, Ill. Hose coupling	Sept. 3, 1867.
63, 137	Buchanan, W., New York, and J. M. Toucey, Poughkeepsie, N. Y. Steam generator	Mar. 26, 1867.
	Buchanan, William C. (See Harrison, Theophilus, assignor.)	
	Buchaw, James, & Company. (See Fahnstock, John, assignor).....(Design).....	
	Bucher, Gibbs & Co. (See Gibbs, Lewis, assignor.)	
	Same.....same.....	
	Bucher, John R. (See Little & Gibbs, assignors.)	
67, 714	Buchner, Henry, and Frederick Ebertz, New York, N. Y. Fulminating powder for needle guns	Aug. 13, 1867.
69, 536	Buck, Charles H., St. Louis, Mo. Cooking stove	Oct. 8, 1867.
69, 537	Same.....Heating stove	Oct. 3, 1867.
71, 848	Same.....Water reservoir for extension top stoves	Dec. 10, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention-or discovery.	Date.
69, 538	Buck, Thomas W. Fawn River, Mich. Churn.....	Oct. 8, 1867.
63, 994	Buck, Walter S., Philadelphia, Pa. Machine for making tin cans.....	Jan. 8, 1867.
63, 849	Buckalew, W. F., Caddo Parish, La. Cotton tie.....	Apr. 16, 1867.
61, 710	Buckham, Andrew, and Joseph Evans, assignors to Andrew Buckham, Newark, N. J. Tinsmiths' seaming machine.....	Feb. 5, 1867.
69, 760	Buckhout, D. M., Mount Kisco, N. Y. Hub and axle for vehicles.....	Oct. 15, 1867.
69, 173	Buckley, Charles, jr., Rochester, N. Y. Nut fastener.....	Sept. 24, 1867.
2, 533	Buckley, Charles C., and Louis Dovell, Newark, N. J. Trade mark..... (Design)	Jan. 1, 1867.
63, 998	Buckley, Chauncey, assignor to Charles Parker, Meriden, Ct. Machine for forming spectacle frames.....	June 25, 1867.
68, 696	Buckley, Joel T., administrator of Stephen Rigler, deceased. (See Rigler, Stephen.)	
62, 933	Buckley, John, assignor to Thomas J. Logan, Baltimore, Md. Milk and oyster can.....	Sept. 10, 1867.
	Buckley, Joseph H., New Haven, Conn. Hydrant.....	Mar. 19, 1867.
	Buckley, T. T., et al. (See Russell, Jacob, assignor.)	
67, 951	Buckley, W., New York, N. Y. Base ball table.....	Aug. 20, 1867.
63, 946	Bucklin, Edward, jr., assignor to Frederick A. Soule, North Providence, R. I. File cutting machine.....	Sept. 17, 1867.
61, 605	Buckman, E. and A., East Greenbush, N. Y. Farm gate.....	Jan. 29, 1867.
62, 602	Buckminster, P. S., Gold Hill, Nevada. Shaking table for concentrating ores.....	Mar. 5, 1867.
63, 361	Bucknam, Frederick, Portland, Me. Dish pan and drainer.....	Apr. 2, 1867.
	Buckwalter & Co. (See Smith & Brown, assignors)..... (Design)	
	Buckwalter, Francis & Co. (See Sailor, Samuel, assignor)..... (Design)	
65, 539	Budd, E. G., Budd's Lake, N. J. Water wheel.....	June 11, 1867.
64, 191	Budd, Henry L., New York, N. Y. Grate bar.....	Apr. 30, 1867.
64, 192	Budd, James, assignor to Budd & Briggs, Pittsford, N. Y. Well pipe.....	Apr. 30, 1867.
64, 193	Same..... Gate.....	Apr. 30, 1867.
65, 337	Budd, James, assignor to self and J. W. Briggs, Pittsford, N. Y. Churn power.....	June 4, 1867.
65, 338	Budd, M. D., Roseoe, Ill. Bolt and rivet trimmer.....	June 4, 1867.
70, 797	Budd, S. A., Cleveland, Ohio. Carriage top button hole.....	Nov. 12, 1867.
64, 481	Budding, B. Q., Milford, Mass. Pegging machine.....	May 7, 1867.
65, 640	Buehler, Henry, New York, N. Y. Divan and bed.....	June 11, 1867.
61, 514	Buel, Ebenezer, Silver Creek, N. Y. Bee feeding apparatus.....	Jan. 29, 1867.
61, 046	Buell, Albert, West Lyden, N. Y. Head block for saw mills.....	Jan. 8, 1867.
67, 162	Buell, Charles O., Stamford, Conn. Umbrella.....	July 30, 1867.
71, 161	Buell, John M., et al. (See Behel, Perrine & Buell.)	
	Buercky, John, assignor to self and Michael Wehr, Overpeck's Station, Ohio. Brush.	Oct. 29, 1867.
	Buffalo Agricultural Machine Works. (See Powers, D. J., assignor.)	
	Same..... (See Powers & Stevens, assignors.)	
	Same..... same.	
62, 603	Buffington, G. W., Mechanicsburg, Ohio. Fruit jar.....	Mar. 5, 1867.
69, 071	Buffington, M. C., La Harpe, Ill. Corn plow.....	Sept. 24, 1867.
69, 538	Buble, Francis, Newark, N. J. Paper file.....	Oct. 8, 1867.
62, 110	Buble, Nicholas A., New York, N. Y. Grinding and polishing implement.....	Feb. 19, 1867.
67, 492	Buhrer, Jacob, Bavaria. Apparatus for the combustion of fuel.....	Aug. 6, 1867.
68, 349	Buiesson, F. C., France. Buoy safe.....	Sept. 3, 1867.
69, 964	Bulkley, H. G., New York, N. Y. Drying and desiccating apparatus.....	Oct. 22, 1867.
65, 163	Bulkley, Melissa E., Providence, R. I. Corset clasp.....	May 28, 1867.
68, 947	Bull, Daniel, Amboy, Ill. Door and blind fastening.....	Sept. 17, 1867.
68, 948	Same..... Table attachment for bedsteads.....	Sept. 17, 1867.
62, 245	Bull, Daniel, assignor to J. B. Booker and W. S. Best, Amboy, Ill. Table leaf support.	Feb. 19, 1867.
71, 694	Bull, James, Galesburg, Illinois. Gate fastening.....	Dec. 3, 1867.
68, 283	Bullard, E. W., assignor to self and J. W. Jenkins, jr., Barre, Mass. Horse rake.....	Aug. 27, 1867.
63, 850	Bullard, Ira S., assignor to self and C. H. Parker, Geneva, N. Y. Attachment for controlling draft in stove pipes.....	Apr. 16, 1867.
71, 971	Bullis, E. G., assignor through mesne assignments to D. E. Lyon, Manchester, N. H. Grain fork.....	Dec. 10, 1867.
64, 482	Bullis, Jonathan, Macedon, N. Y. Hay loader.....	May 7, 1867.
65, 164	Bullock, Israel L., Marcy, Ind. Horse rake.....	May 28, 1867.
61, 996	Bullock, William, Philadelphia, Pa. Printing press.....	Feb. 12, 1867.
	Bundy, J. K., et al. (See Fairchild, J. M., assignor.)	
	Same..... same.	
	Same..... same.	
72, 793	Bundy, Nelson H., assignor to self and E. Philbrick, New York, N. Y. Boiler water gauge.....	Dec. 31, 1867.
65, 722	Bunger, Charles, New Haven, Conn. Match safe.....	June 11, 1867.
62, 604	Bunker, Russell, Hudson, Wis. Burglar alarm.....	Mar. 5, 1867.
2, 609	Buntin, George, East Boston, Mass. End frame of a car seat..... (Design)	Apr. 2, 1860.
67, 493	Burch, John L., Franklin, Tenn. Splint.....	Aug. 6, 1867.
68, 553	Burch, Nicholas, North Fairfield, Ohio. Fence gate.....	Sept. 3, 1867.
66, 125	Burcham, F. J., Racine, Wis. Machine for softening or dressing leather or skins.....	June 25, 1867.
64, 945	Burchard, John A., Beloit, Wis. Gate.....	May 21, 1867.
	Burchard, John A., and Richard Tattershall. (See Tattershall & Burchard.)	
	Burchard, Charles. (See Hoepfner, F. G., assignor.)	
67, 630	Burdge, J. E., Cincinnati, Ohio. Adjustable rest for lathes.....	Aug. 13, 1867.
	Burdge, Jonathan E., and David A. Scott. (See Scott & Burdge.)	
	Burdick, Alfred G., and McCollum Russell. (See Russell & Burdick.)	
67, 261	Burdick, J. D., New Haven, Conn. Straw cutter.....	July 30, 1867.
71, 972	Burdick, Matthew S., assignor to self and John M. May, Milton, Wis. Seed planter.....	Dec. 10, 1867.
	Burdick, R. M. (See Clapp, Cyrus, assignor.)	
68, 554	Burdiet, O. C., New Haven, Conn. Carriage bolt.....	Sept. 3, 1867.
68, 555	Same..... Machine for heading bolts.....	Sept. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 556	Burdiet, O. C., New Haven, Conn. Nut machine	Sept. 3, 1867.
67, 483	Burditt, P. S., and O. Preston, Haskinsville, N. Y. Signal whistle	May 7, 1867.
61, 627	Burditt, Thomas and George B., Dansville, N. Y. Potato digger	May 14, 1867.
70, 515	Burdon, Thomas R., Waltham, Mass. Blacking brush	Nov. 5, 1867.
66, 126	Burge, William J., Atchison, Kansas. Knife cleaner	June 25, 1867.
65, 165	Burgess, A. H., and A. Marden. (See Marden & Burgess.) Burgess, Hubert, San Francisco, Cal. Pencil sharpener	May 28, 1867.
67, 716	Burgess, Hugh, and Charles Watt. (See Watt & Burgess.) (Extension.) Same..... Gate..... same..... same.....	Aug. 13, 1867.
71, 849	Burgess, Svlivanus, Providence, R. I. Rolling or winding paper in the manufacture of paper cop tubes. (Antedated August 6, 1867)	Dec. 10, 1867.
68, 840	Burgess, Sulivau, et al. (See Stafford, D. S., assignor.) Burgess, Thomas F., Lowell, Mass. Journal box	Sept. 17, 1867, Feb. 26, 1867, Mar. 19, 1867.
62, 470	Burgin, John H., assignor to self, George H., jr., Charles F., and William M. Burgin, Philadelphia, Pa. Process of producing gas for fuel	May 23, 1867.
63, 008	Burhyte, T. I., Fond du Lac, Wis. Churn	June 25, 1867.
65, 166	Same..... Gate	Nov. 12, 1867.
65, 999	Burk, H., Mineral Point, Ohio. Converting motion	Dec. 24, 1867.
70, 798	Burke, A. M., and S. Wright, Cleveland, Ohio. Mode of treating hydro-carbon oils	Jan. 25, 1867.
72, 600	Burke, John, Sycamore, Ill. Harvester	Nov. 12, 1867.
61, 392	Burke, Patrick, Philadelphia, Pa. Bolt for shutters	Dec. 24, 1867.
61, 151	Burke, R. H., Greenpoint, N. Y. Tool for cutting off boiler tubes	Jan. 22, 1867.
63, 009	Burket, George, and Samuel M. Gaskill, Bluffton, Ohio. Sulky plow	Jan. 15, 1867.
68, 949	Same..... Head block for saw mills	Mar. 19, 1867.
68, 284	Burkholder, A. (See Emmore, Samuel, assignor.) Burkholder, C. K., and Henry Lerew, York Springs, Pa. Machine for making fly- net straps	Sept. 17, 1867.
72, 361	Burkholder, H. K. (See Minnich, Simon B., assignor.) Burleigh, Charles, and Charles H. Brown. (See Brown & Burleigh)	Aug. 27, 1867.
60, 683	Burlew, Cornelius, assignor to self and Thornton Smith, Lock Haven, Pa. Con- crete and tile paving	Dec. 17, 1867.
71, 972	Burley, Charles, Cincinnati, Ohio. Combined low-water indicator and safety valve ..	Jan. 1, 1867.
67, 717	Burling, E. G., et al. (See Clay, Robert J., assignor.) Burling, Etenger J., et al. (See Clay, Robert J., assignor.)	Dec. 10, 1867.
70, 516	Burlingame, William, Exeter, N. H. Making reamers	Nov. 5, 1867.
66, 212	Burlock Manufacturing Company. (See Perkins, George B., assignor.)	July 2, 1867.
66, 213	Burnap, John A., Albany, N. Y. Pulley block	July 2, 1867.
68, 183	Burnap, N. C., Argusville, N. Y. Milk cooler	Aug. 27, 1867.
67, 494	Same..... Construction of milk cans	Aug. 6, 1867.
65, 791	Burnet, William, New York, N. Y. Bottle cap or top	June 18, 1867.
67, 718	Same..... Top for muclage and varnish bottles	Aug. 13, 1867.
72, 449	Same..... Brush and top for muclage bottles	Dec. 24, 1867.
68, 600	Burnett, D., Bedford Station, N. Y. Elevated bedstead	Sept. 10, 1867.
70, 953	Burnett, Marshall, Boston, Mass. Faucet	Nov. 19, 1867.
62, 111	Burnham, Andrew, and Increase S. Hill. (See Hill & Burnham.) Burnham, Charles, Philadelphia, Pa. Paint can	Feb. 19, 1867.
72, 450	Same..... Door spring	Dec. 24, 1867.
69, 625	Burnham, E. E., et al. (See Brown, Burnham & Morrisc.) Burnham, Edward E., and George Brown, Gloucester, Mass. Preventing a horse from running away with a carriage	Oct. 8, 1867.
61, 393	Burnham, F. A. S., et al. (See Baughn, William D., assignor.) Burnham, George. (See Martin, Gaylord, assignor.)	Jan. 22, 1867.
69, 174	Burnham, John, assignor to self and David L. Hough, La Salle, Ill. Marker for planting corn	Sept. 24, 1867.
63, 208	Burnham, John W., Winterport, Me. Liniment	Mar. 26, 1867.
68, 557	Burnham, Leonard A. (See Markuson, Knud, assignor.) Burnham, Nathan F., York, Pa. Guide for water wheels	Sept. 3, 1867.
63, 851	Burnham, Parker, Gloucester, Mass. Hawse pipe	Apr. 23, 1867.
64, 069	Burns, J., New York, N. Y. Cooler for coffee, &c.	Feb. 26, 1867.
62, 390	Same..... Grinding mill	June 11, 1867.
65, 641	Burns, Jabez, New York, N. Y. Powder mixer	Mar. 19, 1867.
63, 010	Burns, James A., assignor to self and T. B. Carpenter, New Haven, Conn. Plate lifter	Aug. 13, 1867.
67, 719	Burns, John, Elyria, Ohio. Corn planter	Aug. 27, 1867.
68, 285	Burns, John F. (See Barrett, Edward, assignor.) Burns, John W., Henry, Ill. Brick machine	Oct. 22, 1867.
70, 073	Burns, Leander, Port Chester, N. Y. Tool for turning bolts	Jan. 1, 1867.
60, 684	Burns, L., assignor to self and Josiah Wilcox, Port Chester, N. Y. Die for forming thill couplings	Sept. 3, 1867.
62, 350	Burns, William, Chicago, Ill. Lantern	Jan. 1, 1867.
67, 631	Burns, William, and Anthony Wrealsch. (See Wrealsch & Burns.) Burr, John T., Brooklyn, N. Y. Hydraulic press	Sept. 3, 1867.
66, 673	Burr, Milo S., Boston, Mass. Nursing bottle	Sept. 2, 1867.
60, 684	Burr, Nathaniel, and William Martin, Pawtucket, R. I. Machine for hulling and scouring wheat	Aug. 13, 1867.
62, 350	Burr, Richard, et al. (See Botticher, Morris, assignor)	Oct. 22, 1867.
67, 631	Burr, Sanford S., Dedham, Mass. Crib and walking stool	Jan. 1, 1867.
66, 673	Burr, T., and T. Wakelee, Battle Creek, Mich. Apparatus for testing deep wells ..	Sept. 3, 1867.
67, 631	Burrall, Thomas D., Geneva, N. Y. Corn sheller	Sept. 2, 1867.
66, 673	Burrell, jr., John H., Charlestown, Mass. Carriage coupling	Aug. 13, 1867.
66, 673	Burridge, Thomas H., assignor to self and G. C. Fabian, St. Louis, Mo. Sash fastener ..	July 16, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 070	Burridge, Thomas H., assignor to self and G. C. Fabian, St. Louis, Mo. Steam safety valve.	Apr. 23, 1867.
60, 857	Burridge, W. H., Cleveland, Ohio. Apparatus for charging gas or air with hydro-carbon vapor.	Jan. 1, 1867.
61, 606	Same.....Carbureting illuminating gas	Jan. 29, 1867.
	Burridge, W. H., and J. Brainerd. (See Brainerd & Burridge)..... (Reissue.)	
70, 405	Burrows, A. W., Cleveland, Ohio. Illuminating oil.	Nov. 5, 1867.
69, 899	Burrows, Charles C., Mystic River, Conn. Row lock for boats.	Oct. 15, 1867.
61, 152	Burrows, Francis, Peoria, Ill. Lamp	Jan. 15, 1867.
	Burrows, H. G. O., et al. (See Boynton, D., assignor.)	
63, 852	Burson, W. W., Rockford, Illinois. Straw cutter.	Apr. 16, 1867.
	Burt, Charles S. (See Low, H. H., assignor)..... (Reissue.)	
	Same.....same..... (Reissue.)	
66, 074	Burt, George E., Harvard, Mass. Hay spreader. (Antedated Dec. 25, 1866)	June 25, 1867.
98, 950	Same.....Horse rake	Sept. 17, 1867.
69, 761	Same.....Hay spreader	Oct. 15, 1867.
68, 601	Burt, George E., and Edwin A. Hildreth, Harvard, Mass. Car brake for stopping and starting cars.	Sept. 10, 1867.
60, 175	Burt, George R., Perry, N. Y. Land roller	Sept. 24, 1867.
65, 054	Burt, John, Detroit, Mich. Canal lock	May 28, 1867.
66, 539	Same.....Westport, Mass. Grain dryer	July 9, 1867.
70, 517	Same.....Sturgis, Mich. Carriage-seat back	Nov. 5, 1867.
66, 946	Burt, John, and A. M. Miller, Sturgis, Mich. Trial square	July 23, 1867.
62, 314	Burt, Melzer, Norton, Mass. Ladder	Feb. 26, 1867.
65, 540	Burt, Samuel S., Marquette, Mich. Railway chair	June 11, 1867.
70, 799	Same.....Car axle	Nov. 12, 1867.
64, 194	Burtis, Thomas B., Chicago, Ill. Gas condenser, scrubber, and washer.	Apr. 30, 1867.
	Burtis, William H. (See Ritson, Edwin, assignor.)	
64, 195	Burnett, William B., New York, N. Y. Brush block	Apr. 30, 1867.
64, 466	Same.....Means of attaching handles to whitewash brushes.	May 7, 1867.
	Burnett, W. B., et al. (See Samuels & Brassington, assignors.)	
	Burnett, William B., and Walter J. Brassington. (See Brassington & Burnett.)	
71, 449	Burton, Henry E., assignor to self, Samuel N., and Hezekiah G. Ufford, Boston, Mass. Lamp	Nov. 26, 1867.
66, 000	Burton, Martin, Indianapolis, Ind. Steam water elevator	June 25, 1867.
61, 997	Burton, Oscar F., Jersey City, N. J. Alloy for moulds, boards, and other parts of plows	Feb. 12, 1867.
	Burton, William H. (See Christie, William H., assignor.)	
66, 674	Burwell, William B., Chicago, Ill. Refrigerator, cooler, and filter	July 16, 1868.
	Buschick, Gustavus E., and James J. Walworth. (See Zwicki, Caspar, assignor.)	
72, 362	Buser, John, New York, N. Y. Loom for circular weaving	Dec. 17, 1867.
71, 128	Bush, Clark T., Rensselaerville, N. Y. Hop-vine supports	Nov. 19, 1867.
68, 040	Bush, David W. Clarence, Mo. Tool for clenching nails in horseshoeing	Aug. 27, 1867.
70, 518	Bush, Franklin P., assignor to self and Jephtha Garrard, Cincinnati, Ohio. Mash cooler	Nov. 5, 1867.
63, 467	Bush, Ira D., Detroit, Mich. Padlock	April 2, 1867.
62, 391	Bush, John H., Bone Creek, West Va. Folding table	Feb. 26, 1867.
	Bush, L. E. P., and Henry Hill. (See Hill & Bush.)	
67, 408	Bush, Richard, South Brooklyn, N. Y. Soap holder	Aug. 6, 1867.
71, 129	Bush, William M., and T. B. Richards, Cincinnati, Ohio. Coal stove	Nov. 19, 1867.
	Bushee, Stillman. (See Nevess, Robert B., assignor.)	
61, 998	Bushman, Charles, West Chester, Pa. Skate	Feb. 12, 1867.
69, 401	Bushnel, George, Schodack, N. Y. Bellows. (Antedated Sept. 26, 1867)	Oct. 1, 1867.
	Bushong, A. A., et al. (See Stouffer, Heaton, and Bushong.)	
	Buss, Ezra, and James Hotchkiss. (See Hotchkiss & Buss.)	
	Same.....same	
	Same.....same	
62, 934	Buss, G. W., Boston, Mass. Car spring	Mar. 19, 1867.
	Bussell, E. T., Indianapolis, Ind. Combined India-rubber and steel springs. (Extension.)	Nov. 12, 1867.
68, 410	Bussell, E. T., assignor to self, W. A. Candee, and Jacob Eldredge, Indianapolis, Ind. Rotary plow	Sept. 3, 1867.
66, 214	Busser, Jacob, Philadelphia, Pa. Shifting bucket propeller	July 2, 1867.
71, 130	Busser, Joseph, Troy, Ohio. Wooden building	Nov. 19, 1867.
64, 835	Butcher, Benjamin N., Philadelphia, Pa. Saw set	May 21, 1867.
65, 339	Butcher, William, jr., England, and Thomas Shaw, Philadelphia, Penn. Machine for shooting metals	June 4, 1867.
65, 642	Butcher, William, jr., England, and Thomas Shaw, Philadelphia, Penn. Method of forming wheels, tires, &c., by casting.	June 11, 1867.
65, 340	Butler, Charles E., Hudson, N. Y. Weather strip	June 4, 1867.
72, 719	Butler, E. B., New Britain, Conn. Method of making hub bands	Dec. 31, 1867.
69, 401	Butler, Edward M., Croton Falls, N. Y. Attaching thills to vehicles	Oct. 1, 1867.
	Butler, J. L., et al. (See Skillin & Reed, assignors.)	
63, 011	Butler, Manlove, Vernon, Ind. Horse lay rake	Mar. 19, 1867.
63, 072	Butler, P. L., Utica, N. Y. Rein soap	Sept. 24, 1867.
63, 411	Butler, W. H., Chicago, Ill. Machine for loosening earth to be excavated	Sept. 3, 1867.
65, 055	Butler, William H., New York, N. Y. Fire-proof safe	May 28, 1867.
70, 519	Butler, William M., Waukegan, Ill. Machine for sharpening calks of horse shoes	Nov. 5, 1867.
68, 164	Buttenheim, S., New York, N. Y. Nursery lounge	Aug. 27, 1867.
71, 450	Butter, John, Buffalo, N. Y. Pitman	Nov. 26, 1867.
61, 999	Butterfield, Chessnon, West Waterville, Me. Dust receptacle	Feb. 12, 1867.
60, 831	Butterfield, C. H., assignor to J. E. Taylor, Sturbridge, Mass. Carriage spring	Jan. 1, 1877.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
2, 452	Butterfield, J. S., assignor to Andrew J. Holman, Philadelphia, Pa. Harvester.....(Division A, reissue).	Jan. 15, 1877.
2, 453	Butterfield, J. S., assignor to Andrew J. Holman, Philadelphia, Pa. Harvester.....(Division B, reissue).	Jan. 15, 1867.
71, 974	Butterfield, J. S., and Joseph A. Read, Philadelphia, Pa. Sad-iron.....	Dec. 10, 1867.
60, 995	Butterfield, W., Madison, Wis. Rotary pump.....	Jan. 8, 1867.
	Butterfield, William, Boston, Mass. Sewing machine.....(Extension).	Nov. 20, 1867.
	Butterick, E. (See Wilder, J. W., assignor.)	
64, 916	Butterworth, Chas., assign'r to self and Jacob Kercher, Miamisburg, Ohio. Lifting jack.	May 21, 1867.
66, 075	Butterworth, H. W., Philadelphia, Pa. Steam drying cylinder.....	June 25, 1867.
62, 351	Same.....Apparatus for coating metal plates with tin and other metals.....	Sept. 3, 1867.
63, 341	Buttles, C. A., and James Cowles, Milwaukee, Wis. Tinners' stove for heating soldering irons.....	June 4, 1867.
	Buttolph, William W., and R. Reniff. (See Reniff and Buttolph.)	
	Button, Charles Pomeroy. (See Restell, Thomas, assignor.)	
	Same.....(See Cook, Thomas, assignor).....(Reissue.)	
	Button, J. B., and H. Pierce. (See Pierce & Button.)	
	Same.....same.....(Reissue.)	
61, 153	Buttrick, John W., Farmington, Wis. Seed planter.....	Jan. 15, 1867.
67, 952	Butts, John, Evansville, Wis. Attachment for preventing hogs from rooting.....	Aug. 20, 1867.
67, 409	Butts, L. A., Ripon, Wis. Seed planter.....	Aug. 6, 1867.
61, 154	Buzby, A. G., Philadelphia, Pa. Case for pen and ink.....	Jan. 15, 1867.
67, 163	Same.....Portable writing and copying case.....	July 30, 1867.
67, 262	Buzzee, D. H., East Hampton, Mass. Machine for laying rubber sheets to be cut into threads.....	July 30, 1867.
69, 402	Buzzell, John G., Lynn, Mass. Carriage wheel.....	Oct. 1, 1867.
	Byers, C. E., et al. (See Wooten, J. E., assignor.)	
72, 451	Byers, Jacob B., Geneseo, Ill. Washing machine.....	Dec. 24, 1867.
71, 275	Bymer, Clemens, and John Inlay, Greensburg, Ind. Ditching machine.....	Nov. 26, 1867.
62, 935	Byrd, Harvey L., Baltimore, Md. Kindling arrangement for stoves.....	Mar. 19, 1867.
70, 406	Byrns, P., and George Stannard, Mindora, Wis. Churn.....	Nov. 5, 1867.
65, 872	Cabell, Samuel G., Quincy, Ill. Air pump for marine alarms.....	June 18, 1867.
65, 873	Same.....Copying press.....	June 18, 1867.
66, 001	Same.....Electro-magnet.....	June 25, 1867.
66, 459	Same.....Atmospheric alarm whistle.....	July 9, 1867.
67, 410	Same.....Telegraphic instrument.....	Aug. 6, 1867.
68, 041	Same.....Electrical apparatus for preventing incrustation of steam boilers.....	Aug. 27, 1867.
71, 455	Cabell, Samuel G., Quincy, Ill. Preventing incrustation of steam boilers.....	Nov. 26, 1867.
72, 794	Same.....same.....	Dec. 31, 1867.
72, 163	Cadman, Isaac P., assignor to self and James Aiken, Mendota, Ill. Harvester rake.....	Dec. 17, 1867.
61, 394	Cadwell, Caleb, Waukegon, Ill. Harvester cutter.....	Jan. 22, 1867.
65, 056	Same.....Steam engine.....	May 28, 1867.
71, 131	Same.....Sewing machine.....	Nov. 19, 1867.
61, 047	Cady, C. C., West Union, Iowa. Car coupling.....	Jan. 8, 1867.
71, 452	Cady, George R., and William H. Cooper, New Haven, Conn. Concealed hinge.....	Nov. 26, 1867.
69, 762	Cady, Henry G., St. Louis, Mo. Well point.....	Oct. 15, 1867.
69, 763	Same.....Pump valve.....	Oct. 15, 1867.
60, 685	Cady, William, Marietta, Ohio. Oil filter.....	Jan. 1, 1867.
62, 936	Cafisch, John, Union Mills, Pa. Composition for roofing, covering wood, &c.....	Mar. 19, 1867.
	Cahill, Patrick, and John Tunncliff. (See Tunncliff & Cahill.)	
70, 407	Cahoon, Charles W., Portland, Me. Steam engine.....	Nov. 5, 1867.
72, 795	Cahoon, James W., assignor to Burgess B. Long, Philadelphia, Pa. Cart.....	Dec. 31, 1867.
60, 686	Cairnes, James, Philadelphia, Pa. Molding turbine wheels.....	Jan. 1, 1867.
70, 520	Caithness, James, Earl of, England. Ship's compass.....	Nov. 5, 1867.
61, 711	Cajar, Emil, assignor to self and Charles Sichel, New York, N. Y. Button-hole sewing machine.....	Feb. 5, 1867.
65, 167	Cajar, F., New York, N. Y. Car spring.....	May 28, 1867.
63, 722	Caldwell, George S., Syracuse, N. Y. Harness buckle.....	April 16, 1867.
71, 132	Same.....Harness rosette.....	Nov. 19, 1867.
67, 632	Caldwell, John K., Pittsburg, Pa. Brick car.....	Aug. 13, 1867.
	Caldwell, William G., and Luther T. Wilcox. (See Wilcox & Caldwell.)	
	Caley, E. L., and J. R. Rose. (See Rose & Caley).....(Design.)	
63, 012	Calkins, Allen, and William Power, Almont, Mich. Machine for forming eaves troughs.....	Mar. 19, 1867.
63, 362	Calkins, Belus and Veranous, Varysburg, N. Y. Portable fence.....	April 2, 1867.
67, 102	Calkins, L. S., El Paso, Ill. Clothes dryer.....	July 23, 1867.
	Calkins, Thomas L., and Benjamin Shiverick. (See Shiverick & Calkins.)	
71, 695	Call, Hiram H., Kohrerstown, Pa. Device for operating pumps on railroad stations.....	Dec. 3, 1867.
	Callaghan, Cornelius. (See Landear, William R., assignor).....(Reissue.)	
64, 444	Callahan, Henry, assignor to self and John Reese, Dayton, Ohio. Bucket car.....	May 7, 1867.
2, 493	Callender, Mills L., assignor through mesne assignments to Alexander J. Walker, New York, N. Y. Lamps.....(Reissue.)	Feb. 26, 1867.
66, 215	Calrow, Richard, Mamaroneck, N. Y. Insulator holder. (Antedated June 22, 1867.)	July 2, 1867.
61, 155	Cameron, Adam S., New York, N. Y. Pump valve.....	Jan. 15, 1867.
72, 363	Same.....Steam pump.....	Dec. 17, 1867.
70, 800	Cameron, John R., Pittsburg, Pa. Air engine.....	Nov. 12, 1867.
68, 042	Cameron, R. A., Valparaiso, Ind. Hemorrhoidal.....	Aug. 27, 1867.
61, 156	Cameron, R. M. and D., North Britain. Pen.....	Jan. 15, 1867.
63, 013	Cammerer, David, Cincinnati, Ohio. Beer cooler.....	Mar. 19, 1867.
	Camp, B. H. (See Woodruff, Edmund W., assignor.)	
72, 164	Camp, B. H., assignor to self and Rufus Prentice, Washington, D. C. Device for attaching over soles to boots and shoes.....	Dec. 17, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 485	Camp, Edwin H., Jackson, Mich. Hot-air furnace.....	May 7, 1867.
66, 002	Camp, H. W., and A. W. Fox, Owego, N. Y. Corn planter.....	June 25, 1867.
66, 792	Camp, William L., Holden, Mass. Washing machine.....	July 16, 1867.
70, 693	Campbell, Alexander R., assignor to self and John B. Bompert, Cheltenham, Mo. Washing machine.....	Nov. 12, 1867.
69, 764	Campbell, Archibald, Peoria, Ill. Hay raker and loader.....	Oct. 15, 1867.
65, 541	Campbell, Cornelius L., Binghamton, N. Y. Wagon axle-tree.....	June 11, 1867.
62, 180	Campbell, Daniel, assignor to Henry Seymour, Elizabeth, N. J. Pruning shear.....	Feb. 19, 1867.
64, 281	Campbell, D. E., Boston, Mass. Attachment for door keys.....	April 30, 1867.
70, 162	Campbell, G. W., Pendleton, Ind. Portable fence..... Campbell, J. (See Raymond, Seymour, assignor.)	Oct. 29, 1867.
63, 363	Campbell, J., and A. D. Krevson, Harrison, Ohio. Farm gate.....	April 2, 1867.
64, 836	Campbell, James A., Stow, Ohio. Cane and sorghum stripper.....	May 21, 1867.
62, 315	Campbell, J. B., Cincinnati, Ohio. Bed bottom.....	Feb. 26, 1867.
62, 937	Same..... Apparatus for regulating draught in steamboat and other chimneys.....	Mar. 19, 1867.
64, 837	Campbell, James F., and Cornelius Tinney, Williamsburg, N. Y. Portable seat for drivers upon cars.....	May 21, 1867.
	Campbell, John, and William C. Joy. (See Joy & Campbell.)	
65, 168	Campbell, John S., Newton, N. J. Vehicle.....	May 28, 1867.
63, 853	Campbell, John T., Rockville, Ind. Portable fence.....	April 16, 1867.
	Same..... (See Cook, Joseph P., assignor.)	
62, 392	Campbell, John W., New York, N. Y. Ice box or cooler.....	Feb. 26, 1867.
	Campbell, Justin, and Abram Westbrook. (See Westbrook & Campbell.)	
63, 014	Campbell, Luther W., Aurora, Ill. Steam generator.....	Mar. 19, 1867.
	Campbell, Luther W., and C. F. Allen. (See Allen & Campbell.)	
	Same..... same.	
70, 521	Campbell, Luther W., assignor to self, A. T. Hall, C. F. Allen, and A. J. Ambler, Aurora, Ill. Piston packing.....	Nov. 5, 1867.
70, 522	Same..... same.	
63, 783	Campbell, Neil, assignor to self and William Frazier, Brooklyn, N. Y. Axle box.....	April 16, 1867.
	Campbell, Peter, jr., and Reuben Tyler. (See Tyler & Campbell.)	
	Campbell, Robert T. (See Stealey, Thomas J., assignor.)..... (Reissue.)	
	Same..... same.	
66, 791	Campbell, S. P., assignor to self and Francis P. Loring, Buffalo, N. Y. Tellurian.....	July 16, 1867.
	Campbell, Walter. (See Galippo, Joseph, assignor.)	
69, 176	Campbell, William, New York, N. Y. Window shade fixture.....	Sept. 24, 1867.
	Campbell, William, et al. (See Winsler, Campbell & Hardman.)	
	Candee, W. A., et al. (See Russell, E. T., assignor.)	
67, 843	Canfield, Andrew, Lyons, Iowa. Corn plow.....	Aug. 20, 1867.
67, 844	Same..... same.	Aug. 20, 1867.
68, 165	Same..... Corn cultivators.....	Aug. 27, 1867.
66, 947	Canfield, Dayton G., Niagara Falls, N. Y. Circular sawing machine.....	July 23, 1867.
69, 540	Canfield, F. P., Boston, Mass. Sash lock and support.....	Oct. 8, 1867.
63, 855	Canham, James L., Newark, N. J. Locking apparatus for ferry boats.....	April 16, 1867.
64, 071	Cannell, D. C., Lafayette, Ind. Draw bar for locomotives.....	Apr. 23, 1867.
72, 364	Canning, J. F., Boston, Mass. Binder for paint brushes.....	Dec. 17, 1867.
61, 157	Cantel, Lazare, New York, N. Y. Trunk.....	Jan. 15, 1867.
70, 163	Canter, William, assignor to J. Henry Vogt and J. Jacob Gass, New York, N. Y. Chenille. (Antedated Oct. 16, 1867.).....	Oct. 29, 1867.
62, 000	Capen, Ephraim, Batavia, Ill. Truss.....	Feb. 12, 1867.
62, 001	Capewell, George J., West Cheshire, Conn. Button fastening.....	Feb. 12, 1867.
68, 951	Same..... Carriage attachment.....	Sept. 17, 1867.
71, 578	Capewell, William H., Westville, N. J. Glass-maker's pot.....	Dec. 3, 1867.
	Capp, Charles S. (See Hinkle, Philip, assignor.)	
	Capron, William O., et al. (See Hodges, Charles M., assignor.)	
70, 408	Card, Daniel O., Rawsonville, Ohio. Bent knee and beam for sleighs.....	Nov. 5, 1867.
63, 468	Card, Edward, Providence, R. I. Clamp for furnace molds.....	Apr. 2, 1867.
65, 169	Same..... North Providence, R. I. Pattern lifter.....	May 28, 1867.
71, 362	Card, George F., and Charles A. Studley, Bridgeport, Conn. File cutter.....	Nov. 26, 1867.
61, 924	Card, M. H., and A. Sallee, Fulton, Ill. Clothes-line reel and house.....	Feb. 12, 1867.
70, 164	Card, William E., and Pardon Andrews, Phoenix, R. I. Picker for looms.....	Oct. 29, 1867.
61, 925	Card, William L., Gardiner, Ill. Churn.....	Feb. 12, 1867.
65, 542	Carden, Henry C., France, Metronome.....	June 11, 1867.
64, 744	Cardot, Chas. W., Fredonia, N. Y. Harvester.....	May 14, 1867.
64, 745	Same..... Attaching the draught pole to mowing machines.....	May 14, 1867.
64, 746	Same..... Draught pole for mowing machines.....	May 14, 1867.
67, 263	Garey, Augustus C., assignor to self and Hugh K. Moore, Malden, Mass. Knitting machine.....	July 30, 1867.
67, 264	Same..... Machine knitted stocking.....	July 30, 1867.
70, 796	Carkeet, James H., Montgomery, Ala. Anti-friction axle and journal box.....	Dec. 31, 1867.
63, 856	Carl, Frederic, Charlestown, Mass. Machine for stuffing and currying leather.....	Apr. 16, 1867.
60, 996	Carl, Nelson, Cincinnati, Ohio. Extension table.....	Jan. 8, 1867.
69, 765	Carleman, M. B., Chicago, Ill. Vapor bath.....	Oct. 15, 1867.
67, 633	Carleton, Benjamin F., Nashua, N. H. Window fastening.....	Aug. 13, 1867.
63, 286	Carleton, C. M., Forester, Mich. Washing machine.....	Aug. 27, 1867.
62, 731	Carleton, Enoch, and Eli Goss, Portland, Maine. Artificial leg.....	Mar. 12, 1867.
60, 687	Carleton, F. B., Cambridge, Vt. Elastic hoof pad.....	Jan. 1, 1867.
	Carleton, William. (See Merrill, Rufus S., assignor.)	
71, 453	Carleton, William, assignor to self, Daniel A. Loomis, and Adam Wagener, Adrian, Mich. Horse hay fork.....	Nov. 26, 1867.
64, 838	Carley, Horace S., Cambridgeport, Mass. Bottle stopper.....	May 21, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 424	Carley, Horace S., Cambridgeport, Mass. Bottle stopper.....	Sept. 3, 1867.
68, 485	Same..... same.....	Sept. 3, 1867.
69, 177	Same..... Bottle.....	Sept. 24, 1867.
68, 486	Carlisle, James, Mt. Gilead, Ohio. Rail for buggy seat.....	Sept. 3, 1867.
60, 997	Carlos, Hector, assignor to self and Henry C. Watson, New York, N. Y. Button.....	Jan. 8, 1867.
63, 015	Carlton, William, Dunkirk, N. Y. Head block for saw mills.....	Mar. 19, 1867.
70, 954	Carman, Irvine, Schoolcraft, Mich. Horseshoe.....	Nov. 19, 1867.
61, 648	Carman, J. T., assignor to self, John W. and Lee W. Fulton, Springfield, Ill. Brick machine.....	Jan. 1, 1867.
71, 133	Carmichael, Hiram, Rochester, N. Y. Transplanter for garden use.....	Nov. 19, 1867.
63, 558	Carmichael, Robert, assignor to Frederick Stevens, Newark, N. J. Skate.....	Sept. 3, 1867.
62, 002	Carmichel, Alexander, Westerly, R. I. Teapot.....	Feb. 12, 1867.
63, 209	Carpenter, B., et al. (See Russell, Carpenter & Drake.)	
71, 850	Carpenter, Daniel, Peeksville, N. Y. Air Pump.....	Mar. 26, 1867.
65, 170	Carpenter, E. H., Dexter, Mich. Hay elevator.....	Dec. 10, 1867.
	Carpenter, E. M., Elkart, Ind. Liniment.....	May 28, 1867.
	Carpenter, G., et al. (See Beardsley, George M., assignor.)	
72, 265	Carpenter, George W., Jarvis, Ind. Animal poke.....	Dec. 17, 1867.
64, 486	Carpenter, George W., assignor to self and P. C. Stuart, Jarvis, Ind. Door strip.....	May 7, 1867.
67, 164	Carpenter, George W., assignor to self and Sam'l Williams, Northville, Mich. Sheep shears.....	July 30, 1867.
72, 797	Carpenter, Henry. Form block for shaping baskets.....	Dec. 31, 1867.
	Carpenter, James E. (See Goulding, Lewis, assignor.)	
62, 471	Carpenter, J. F., Harrisburg, Pa. Broom head.....	Feb. 26, 1867.
61, 395	Carpenter, L. B., Milwaukee, Wis. Scaffold.....	Jan. 22, 1867.
68, 602	Carpenter, Luman, Oswego, N. Y. Rotary steam engine.....	Sept. 10, 1867.
62, 605	Carpenter, Michael, Moscow, Iowa. Water wheel. (Antedated Feb. 25, 1867.).....	Mar. 5, 1867.
66, 793	Carpenter, Newel, and James Hutchinson, White Creek, Wis. Hop press.....	July 16, 1867.
65, 171	Carpenter, R. W., Brattleboro', Vt. Melodeon and other wind instruments. (Antedated May 23, 1867.).....	May 28, 1867.
65, 472	Same..... Tremolo attachment for melodeons, &c.....	June 4, 1867.
71, 579	Carpenter, Samuel, Brookfield, Ill. Horse rake.....	Dec. 3, 1867.
71, 975	Carpenter, S., and A. McKenney. (See McKenney & Carpenter.)	
	Carpenter, Seth P., Milford, Mass. Pruning shears.....	Dec. 10, 1867.
	Carpenter, T. B. (See Burns, James A., assignor.)	
64, 282	Carpenter, W. W., Middletown, N. Y. Heating stove.....	Apr. 30, 1867.
67, 411	Carr, Gouverneur, New York, N. Y. Razor.....	Aug. 6, 1867.
63, 342	Carr, Henry G., Lewistown, Pa. Protector for car windows.....	June 4, 1867.
63, 343	Carr, William S., New York, N. Y. Basin plug.....	June 4, 1867.
70, 694	Carrier, Asa L., Washington, D. C. Mode of attaching ferrules to handles. (Antedated Nov. 2, 1867.).....	Nov. 12, 1867.
71, 976	Carrier, Frances H., Bridgeport, Conn. Wash stand and clothes dryer.....	Dec. 10, 1867.
67, 022	Carrier, Lucius, Providence, R. I. Pasteboard box. (Antedated July 19, 1867.).....	July 23, 1867.
69, 766	Carrington, Edwin, West Meriden, Conn. Drapery hook.....	Oct. 15, 1867.
72, 452	Carrington, E. O., Philadelphia, Pa. Mosquito and fly net.....	Dec. 24, 1867.
66, 297	Carrington, E. O. and E., Wallingford, Conn. Machine for cutting down augers.....	July 2, 1867.
64, 628	Carroll, David, Union, Pa. Stump extractor.....	May 14, 1867.
63, 701	Carroll, John, New York, N. Y. Sheet-metal boilers and other vessels.....	Apr. 9, 1867.
65, 172	Same..... Bath tub.....	May 28, 1867.
61, 316	Carroll, S. John, Baltimore, Md. Preserving green corn.....	Jan. 22, 1867.
60, 688	Carroll, Thomas B., Noblesville, Ind. Broom head.....	Jan. 1, 1867.
70, 695	Carroll, William, assignor to self and S. H. Rhodes, Hillsdale, Mich. Horse hay fork.....	Nov. 12, 1867.
	Carroll, W., and S. H. Rhoades. (See Rhoades & Carroll.)	
64, 747	Carson, Andrew, Memphis, Tenn. Plow.....	May 14, 1867.
65, 792	Same..... Float or raft.....	June 18, 1867.
66, 216	Same..... Clapboard gauge.....	July 2, 1867.
66, 933	Same..... Automatic life-preserving boat.....	July 16, 1867.
63, 210	Carter, C. L., Union, Ind. Washing machine.....	Mar. 26, 1867.
68, 043	Same..... Attachment for clothes wringers.....	Aug. 27, 1867.
	Carter, Charles W., and John S. Howell. (See Howell & Carter.)	
63, 702	Carter, Enoch, Newburg, N. Y. Purifying and preparing glass ore.....	Apr. 9, 1867.
65, 344	Carter, E. P., Arcade, N. Y. Trunk.....	June 4, 1867.
68, 952	Carter, Henry, Taunton, Mass. Composition for imitation wood.....	Sept. 17, 1867.
	Carter, Henry, deceased, by James Rees and Robert Crichton, executors, and James Rees, Potstown, Pa. Nut machine. (Extension).....	May 20, 1867.
71, 977	Carter, John T., and John Park, Lowell, Mass. Spice case.....	Dec. 10, 1867.
71, 978	Carter, Jonathan, Winchendon, Mass. Apparatus for painting or graining pails, &c.....	Dec. 10, 1867.
65, 057	Carter, John W., New York, N. Y. Chalk-line marker.....	May 28, 1867.
67, 495	Carter, Joseph D., Thomaston, Conn. Apparatus for straightening sheet metal.....	Aug. 6, 1867.
62, 112	Carter, L. F. and W. W., Bristol, Conn. Clock.....	Feb. 19, 1867.
71, 979	Carter, Thomas, Louisville, Ky. Sawyers' rule.....	Dec. 10, 1867.
	Carton, John. (See Stuber, John, assignor.) (Reissue.)	
71, 696	Carver, George E., Roxbury, Mass. Egg beater.....	Dec. 3, 1867.
64, 629	Carver, J. E., Bridgewater, Mass. Cotton picker.....	May 14, 1867.
65, 345	Cary, Alanson, New York, N. Y. Steam and water heating apparatus.....	June 4, 1867.
63, 991	Cary, James B., assignor to Cary & Young, Millersburg, Iowa. Tinners' fire pot.....	Apr. 23, 1867.
64, 487	Caryl, A. H. Groton, Mass. Atmospheric railroad.....	May 7, 1867.
63, 609	Caryl, James B., Candor, N. Y. Journal box and bearing.....	Apr. 9, 1867.
	Cascaden, James. (See Bailey, John T., assignor.) (Design.)	
63, 469	Case, Charles E., Xenia, Ohio. Steam generator.....	Apr. 2, 1867.
64, 072	Same..... Valve for steam engines.....	Apr. 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 851	Case, Charles E., Xenia, Ohio. Steam generator. (Antedated Dec. 6, 1867).....	Dec. 10, 1867.
62, 003	Case, G. P., New York, N. Y. Drill	Feb. 12, 1867.
	Case, O. F. (See Greenleaf, Joseph H., assignor.)	
	Case, Oliver F. (See Wilkinson, Levi, assignor.)	
	Case, Rufus D. (See Barclay, John, assignor.)	
69, 965	Case, Rufus D., New York, N. Y., and John Barclay, Attleborough Falls, Mass. Carriage knob	Oct. 22, 1867.
	Case, W. A. (See Swartz, Abram S., assignor.)	
62, 250	Cash, Elijah, Brooklyn, N. Y. Pipe tongs.....	Feb. 19, 1867.
67, 412	Cash, Henry, Newport, Ky. Sash pulley.....	Aug. 6, 1867.
70, 955	Cash, John and Joseph, jr., England. Towel	Nov. 19, 1867.
70, 801	Cashman, M. M., Boston, Mass. Creeping robe for infants	Nov. 12, 1867.
70, 956	Cashwell, David, Fayetteville, N. C. Apparatus for distilling spirits of turpentine	Nov. 19, 1867.
68, 841	Cassady, Robert and Joseph L., Hardingsville, N. J. Corn planter.....	Sept. 17, 1867.
62, 606	Cassidey, F. A. L., Newnansville, Fla. Comb	Mar. 5, 1867.
64, 630	Same.....Cotton press.....	May 14, 1867.
68, 487	Cassidey, Jesse J., Wilmington, N. C. Adjustable ship builders' mold	Sept. 3, 1867.
71, 697	Castaline, Ziba, Baconsburg, Ohio. Portable fence	Dec. 3, 1867.
63, 211	Castle, Orlando L., Upper Alton, Ill. Broom head.....	Mar. 26, 1867.
	Castro & Company. (See Davis, Levis H., assignor.)	
	Caswell, Albert, and Noah W. King. (See Van Houten, James H., assignor.)	
63, 016	Caswell, Henry W., Yarmouth, Maine. Post auger.....	Mar. 19, 1867.
65, 723	Caswell, R. B., Palmer, Mass. Blank for calks of horse shoes.....	June 11, 1867.
69, 313	Catchpole, D., Geneva, and J. Havens, Auburn, N. Y. Wood-bending machine.....	Oct. 1, 1867.
69, 314	Cates, Nathan A., Thorndike, Maine. Cultivator.....	Oct. 1, 1867.
66, 127	Cathu, Frederick, Watertown, Conn. Funnel.....	June 25, 1867.
68, 287	Catlin, William E., Wayne Township, Pa. Musical scale	Aug. 27, 1867.
62, 393	Caton, G. W., Canandaigua, N. Y. Water-proof cement	Feb. 26, 1867.
	Catrow, Silas B., and John Seeman. (See Seeman & Catrow.)	
67, 265	Caughy, S. Hamilton, Baltimore, Md. Deflectors for hot-air registers.....	July 30, 1867.
72, 365	Caughy, N. W., Baltimore, Md. Knife	Dec. 17, 1867.
	Caul, G., and L. Griswold. (See Griswold & Caul.)	
71, 580	Caum, Edward L., Patterson, Pa. Buffer and draw-bar for railroad cars.....	Dec. 3, 1867.
63, 610	Cautelou, Rainsford, Montgomery, Ala. Plow.....	Apr. 9, 1867.
71, 454	Cavalier, P., Plainview, Minn. Adjustable scaffold.....	Nov. 26, 1867.
2, 714	Caven, Wm., ass'ort to Redway & Burton, Cincinnati, Ohio. Cannon stove... (Design)	Aug. 6, 1867.
2, 804	Caven, William, and Chas. Stenler, assignors to Redway & Burton, Cincinnati, Ohio. Parlor cook stove	Oct. 22, 1867.
60, 689	Caviler, A., Wm. McCuddy, and P. N. Woliston, Springfield, Ohio. Ice-cream freezer.....	Jan. 1, 1867.
67, 845	Cayce, John M., Franklin, Tenn. Portable forge.....	Aug. 20, 1867.
67, 846	Same.....Sporting and life boat.....	Aug. 20, 1867.
68, 953	Same.....Invalid spittoon.....	Sept. 17, 1867.
70, 074	Same.....Watch-makers' tool	Oct. 22, 1867.
62, 113	Cazalat, Antoine Galy, assignor of one-half interest to Jules Despercher, France. Furnaces for converting iron into steel.....	Feb. 19, 1867.
63, 703	Cellerier, Michel, Philadelphia, Pa. Machine for stretching and winding silk thread.....	Apr. 9, 1867.
71, 363	Cerf, L. F., New York, N. Y. Caster for furniture.....	Nov. 26, 1867.
64, 839	Chace, Elisha A., Rosemond, Ill. Wheel plow.....	May 21, 1867.
	Chadbourne, Benjamin H. (See Williams, Henry A., assignor.)	
	Chadwick, Henry A. (See Clemens, G. H., assignor.)	
69, 966	Chadwick, Joseph, Wheaton, Ill. Weather strip for doors.....	Oct. 22, 1867.
	Chadwick, Joseph H. (See Chubbuck, S. E., assignor.)	
	Same.....same.....	
69, 404	Chaffee, Wescot M., Xenia, Ill. Wagons.....	Oct. 1, 1867.
61, 712	Chaffee, Edwin M., Providence, R. I. Elliptic spring for carriages.....	Feb. 5, 1867.
68, 954	Chaffee, Edwin M., assignor to George L. Porter, Providence, R. I. Bed pan.....	Sept. 7, 1867.
	Chaiser, Andrew and John P. (See Tonsley, Miron G., assignor.)	
67, 266	Chalfant, C. J., Unionville, Pa. Churn	July 30, 1867.
	Chamberlain & Company. (See Crowley, John B., assignor.)	
	Same.....same.....	
	Same.....same.....	
2, 662	Chamberlain, A. E., and John B. Crowley, assignors to Chamberlain & Co., Cincinnati, Ohio. Cook's stove..... (Design)	June 4, 1867.
71, 698	Same.....Fireplace.....	Dec. 3, 1867.
61, 396	Chamberlain, Dexter H., West Roxbury, Mass. Hand stamp	Jan. 22, 1867.
63, 611	Same.....Method of casting type in printing wheels.....	Apr. 9, 1867.
66, 569	Same.....Hand stamp.....	July 9, 1867.
2, 509	Chamberlain, D. H., assignor, through mesne assignments, to Wilmon W. Blackmar, Boston, Mass. Lamp..... (Reissue)	Mar. 19, 1867.
66, 561	Chamberlain, Dexter H., assignor to Nathaniel L. Chamberlain, West Roxbury, Mass. Hand stamp..... (Reissue)	July 9, 1867.
2, 734	Same.....Boston, Mass. Hand stamp..... (Reissue)	Aug. 13, 1867.
69, 073	Chamberlain, Hiram, Calais, Maine. Machine for chopping meat.....	Sept. 24, 1867.
	Chamberlain, J. W. (See McBeth, James E., assignor.)	
63, 017	Chamberlain, N. L., West Roxbury, Mass. Hand stamp.....	Mar. 19, 1867.
63, 562	Same.....Boston, Mass. Dies for raising letters on type wheels.....	July 9, 1867.
61, 515	Chamberlain, William C., Dubuque, Iowa. Churn	Jan. 29, 1867.
	Chamberlin, E. (See Sampson, Elnathan, assignor.)	
	Same.....same.....	
72, 602	Chamberlin, Edwin, Lansingburg, N. Y. Carriage seat.....	Dec. 24, 1867.
65, 724	Chamberlin, George, Olean, N. Y. Stum extractor.....	June 11, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
60, 630	Chamberlin, G. L., Marietta, Ohio. Combined square and level	Jan. 1, 1867.
62, 814	Chamberlin, Melvin C., Plainview, Minn. Whiffletree	Mar. 12, 1867.
63, 998	Chamberlin, M. J. and H. M., Springfield, Mass. Breech-loading fire-arm	Jan. 8, 1867.
70, 958	Chamberlin, Stephen, Boston, Mass. Tip wagon	Nov. 19, 1867.
72, 366	Chambers, George, Ithaca, N. Y. Finishing wood	Dec. 17, 1867.
66, 128	Chambers, George W., and Isham Washam, Talladega, Ga. Cotton Cultivator	June 25, 1867.
63, 018	Chambers, James, Greensburg, Ind. Seed drill	Mar. 19, 1867.
72, 453	Chambers, James, Boston, Mass. Basin faucets	Dec. 24, 1867.
70, 409	Chambers, J. L., Brooklyn, N. Y. Register padlock	Nov. 5, 1867.
61, 049	Chambers, Robert, Detroit, Mich. Center board for vessels	Jan. 8, 1867.
61, 158	Chambers, Robert, Cincinnati, Ohio. Railroad rail	Jan. 15, 1867.
72, 165	Chambers, Thomas, St. Louis, Mo. Hydraulic elevator	Dec. 17, 1867.
71, 699	Chambers, Thomas P., Newtown, Pa. Hitching strap	Dec. 3, 1867.
70, 523	Champion, J. P., Phelps, N. Y. Apparatus for raising and securing the legs of horses to shoe them	Nov. 5, 1867.
68, 842	Champlin, Robert H., Colchester, Conn. Truss	Sept. 17, 1867.
63, 612	Chandler, Albert F., Winthrop, Maine. Machine for digging potatoes	Apr. 9, 1867.
	Chandler, Charles, et al. (See Rowe, Abram, assignor.)	
	Chandler, G. S., and Conrad Ling. (See Ling & Chandler.)	
71, 852	Chandler, George W., assignor to self and L. F. Thompson, Fitchburg, Mass. Loom for weaving palm leaf, &c.	Dec. 10, 1867.
70, 524	Chandler, Henry C., Indianapolis, Ind. Cylinder printing press	Nov. 5, 1867.
70, 410	Chandler, James, Syracuse, N. Y. Telegraph clock	Nov. 5, 1867.
62, 181	Chandler, Moses, Corinth, and John B. Nickels, Kenduskeag, Me., assignors to V. S. Palmer and J. B. Nickels. Horse hoe	Feb. 19, 1867.
2, 808	Chandler, Moses, assignor, through mesne assignments, to R. B. Dunn and John C. Flint, East Corinth, Maine. Horse hoe	Dec. 3, 1867.
	(Reissue.)	
66, 129	Chandler, Peter, Olney, Ill. Portable fence	June 25, 1867.
68, 166	Same	Aug. 27, 1867.
70, 165	Chandler, R. D., Fairhaven, N. J. Clothes dryer	Oct. 29, 1867.
	Chandler, William M., et al. (See Tyler, Chandler & Standish.)	
66, 794	Changeur, M. L., France. Corset	July 16, 1867.
61, 397	Chanute, Octave, Chicago, Ill. Railroad rail	Jan. 22, 1867.
68, 488	Chapell, E. S., Milton, Mass. Boring car for boring and screw cutting	Sept. 3, 1867.
68, 412	Chapin, A. P., Chicopee Falls, Mass. Feed and straw cutter	Sept. 3, 1867.
71, 700	Chapin, D. G., Galena, Ill. Bed bottom	Dec. 3, 1867.
68, 603	Chapin, Samuel, and Augustus Stauley, New Britain, Conn. Adjustable spirit level	Sept. 10, 1867.
69, 405	Chapman, Charles H., Shirley, Mass. Tag, or label	Oct. 1, 1867.
63, 138	Chapman, Edgar T., Middleburg, Ohio. Manufacture of stoneware	Mar. 26, 1867.
70, 802	Chapman, Edwin, Rochester, Minn. Rotary engine	Nov. 12, 1867.
72, 798	Chapman, E. H., and T. M. Hammett, Philadelphia, Pa. Bath boiler	Dec. 31, 1867.
63, 992	Chapman, John C., Cambridgeport, Mass. Boring tool	Apr. 23, 1867.
	Same. (See Murray, George, assignor.)	
63, 212	Chapman, John H., Utica, N. Y. Mode of elevating hay forks	Mar. 26, 1867.
70, 525	Chapman, Matthew, Greenfield Mass. Table Cutlery	Nov. 5, 1867.
62, 472	Chapman, Matthew T., Galesburg, Ill. Knife and scissors sharpener	Feb. 26, 1867.
61, 050	Chapman, Nathan, Hopedale, Mass. Roller temple for looms	Jan. 8, 1867.
61, 159	Chapman, Nathan, Milford, Mass. Cotton and hay press	Jan. 15, 1867.
62, 182	Chapman, O. O., Seneca, Wis. Wheelwrights' machine	Apr. 16, 1867.
63, 857	Chapman, Oliver S., Canton, Mass. Excavator	Feb. 26, 1867.
62, 473	Chapman, Rockwell, Buchanan, Mich. Water wheel	Dec. 24, 1867.
72, 451	Same	Dec. 24, 1867.
63, 044	Chapman, Samuel, Newark, N. J. Kiln for drying and preparing peat	Aug. 27, 1867.
62, 251	Chapman, Samuel A., Waterbury, Conn. Machine for burnishing plated ware	Feb. 19, 1867.
	Chapman, Sumner, and Abijah S. Clark. (See Ball, Thomas C., assignor.)	
69, 074	Chapman, W. B., Waukau, Wis. Neck yoke	Sept. 24, 1867.
	Chapman, W. B., and M. F. Mitchell. (See Mitchell & Chapman.)	
70, 803	Chapman, William Z. W., New York, N. Y.; H. C. Goodspeed, Plainfield, N. J., and Edwin Reed, Bath, Maine. Motor for operating sewing machines	Nov. 12, 1867.
63, 019	Chappell, Isaac H., Lawrence, Kansas. Combined planter and cultivator	Mar. 19, 1867.
71, 134	Same	Nov. 19, 1867.
63, 858	Chappell, Isaac H., assignor to self and James B. Milson, Decatur, Ill. Combined planter and cultivator	Apr. 16, 1867.
67, 413	Chappell, Nathan L., assignor to the Chappell Patent Steam Valveless Pump and Bilge Ejector Manufacturing and Furnishing Company, New York, N. Y. Steam ejector	Aug. 6, 1867.
71, 581	Chappell, Norman, assignor to Henry E. Chappell, Lima, N. Y. Cultivator teeth	Dec. 3, 1867.
67, 720	Charles, J. S., Omaha, Neb. Fountain pen	Aug. 13, 1867.
67, 023	Charlet, Victor, Hoboken, N. J. Stud and button fastening	July 23, 1867.
67, 267	Same	July 30, 1867.
64, 073	Charlier, Pierre, France. Shoeing horses	Apr. 23, 1867.
	Charlton, John and Henry, and John Osborne Christian. (See Christian & Osborne.)	
	Chase, Allen B., and George Baldwin. (See Baldwin & Chase.)	
69, 767	Chase, A. J., Boston, Mass. Rope or line holder	Oct. 15, 1867.
72, 367	Chase, C. Thurston, Albany, N. Y. School desk and seat	Dec. 17, 1867.
	Chase, George H., and Henry L. Lansing. (See Ohlenslager, A., assignor.)	
65, 346	Chase, Hiram L., Bath, Maine. Press or cover for tubs and barrels	June 4, 1867.
	Chase, Ira J., and Stewart Miller. (See Miller & Chase.)	
63, 213	Chase, James, Rochester, N. Y. Wood turning lathe	Mar. 26, 1867.
69, 178	Chase, Joseph, Worcester, Mass. Machine for making clouded yarn	Sept. 24, 1867.
69, 967	Same	Oct. 23, 1867.
	Clouded yarn	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 626	Chase, Jotham G., Springfield, Mass. Reversible railway ticket safe.....	Oct. 1, 1867.
64, 488	Chase, Lewis S., New York, N. Y. Picture frame.....	May 7, 1867.
69, 768	Chase, Lucius C., Boston, Mass. Blanket fastener.....	Oct. 15, 1867.
	Chase, N. B., et al. (See Numan, Wilkinson & Cook, assignors.)	
70, 411	Chase, S. A., Boston, Mass. Elastic sash elevator.....	Nov. 5, 1867.
70, 796	Chase, S. A., assignor to self and Stephen Smith, Boston, Mass. Car truck.....	Nov. 12, 1867.
63, 214	Chase, S. L., New York, N. Y. Door lock.....	Mar. 26, 1867.
60, 832	Chassepot, A. Alphonse, France. Needle gun.....	Jan. 1, 1867.
70, 412	Chatfield, Henry, Wolcottville, Conn. Hoisting apparatus.....	Nov. 5, 1867.
71, 980	Chatillon, John, New York, N. Y. Cast metal cases for spring balances.....	Dec. 10, 1867.
62, 723	Chatterton, R. D., England. Propeller.....	Mar. 5, 1867.
67, 496	Chatterton, Thomas, Cleveland, Ohio. Steam engine oil cup.....	Aug. 6, 1867.
65, 643	Chaufourier, Jules Alfred, France. Cotton gin.....	June 11, 1867.
71, 135	Chavantre, Edward A., assignor to Alfred Chavantre, Newark, N. J. Blind fastening.....	Nov. 19, 1867.
66, 217	Cheek, E. C., Placerville, Cal. Miter boxes.....	July 2, 1867.
62, 815	Cheek, Moses D., Clarendon, Ark. Baling presses.....	Mar. 12, 1867.
68, 167	Same..... Cotton tie bale.....	Aug. 27, 1867.
65, 644	Cheekeni, Dominico, Brooklyn, N. Y. Toy rope dancer. (Antedated June 5, 1867).....	June 11, 1867.
67, 414	Cheever, Aaron W., Lynn, Mass. Last.....	Aug. 6, 1867.
69, 627	Cheever, Simon G., and James Forgie, Boston, Mass. Horse collar.....	Oct. 8, 1867.
	Cheever, Simon G., and John Holt. (See Holt & Cheever.)	
66, 298	Cheney, Henry, Little Falls, N. Y. Construction of hammers.....	July 2, 1867.
62, 474	Chenoweth, George E., Baltimore, Md. Feed water regulator.....	Feb. 26, 1867.
69, 628	Chenoweth, Joseph, and John McLain, Auglaize county, Ohio. Belt clasp.....	Oct. 8, 1867.
63, 859	Chesney, E. E., Abingdon, Ill. Seed planter.....	Apr. 16, 1867.
	Chesnut, Robert, and William A. Bickel. (See Bickel & Chesnut.)	
71, 701	Chester, Charles T., New York, N. Y. Electro automatic signal box.....	Dec. 3, 1867.
63, 613	Chester, Stephen, New York, N. Y. Connecting telegraph stations.....	Apr. 9, 1867.
69, 769	Chevalier, Jacob L., Newark, N. J. Composition for sausages.....	Oct. 1, 1867.
64, 193	Cheyney, Waldron J., Wallingford, Pa. Manufacture of porcelain. (Antedated March 23, 1867).....	Apr. 30, 1867.
69, 315	Cheyney, Waldron J., Wallingford, Pa., and E. F. Dieterichs, Philadelphia, Pa. Architectural porcelain. (Antedated September 20, 1867).....	Oct. 1, 1867.
69, 316	Same.....Plate porcelain. (Antedated September 20, 1867).....	Oct. 1, 1867.
69, 317	Same.....Manufacture for dress trimmings.....	Oct. 1, 1867.
69, 318	Same.....Enamel to be applied to metals, earthenware, artificial stone, and other materials. (Antedated September 19, 1867).....	Oct. 1, 1867.
65, 793	Chichester, Lewis S., assignor to self, C. W. Mills, and G. H. Nichols, Brooklyn, N. Y. Grain dryer.....	June 18, 1867.
66, 218	Chilcott, John, Brooklyn, N. Y. Manufacture of soap. (Antedated June 15, 1867).....	July 2, 1867.
72, 603	Child, Pascal P., assignor to S. R. Fox Manufacturing Company, St. Louis, Mo. Hinge for window shutters.....	Dec. 24, 1867.
68, 045	Child, S., jr., and R. A. Copeland, assignors to Samuel Child, jr., Baltimore, Md. Vapor burner for heating.....	Aug. 27, 1867.
62, 004	Children, Edwin, Lancaster, Wis. Cultivator.....	Feb. 12, 1867.
62, 607	Childs, Jonathan, West Troy, N. Y. Carriage axle adjuster.....	Mar. 5, 1867.
66, 948	Childs, Josiah Ward, Cincinnati, Ohio. Sash fastening.....	July 23, 1867.
	Childs, R. H. and W. H., et al. (See Love, John C., assignor.)	
67, 165	Chiles, J. R., Richmond, Va. Car seat.....	July 30, 1867.
66, 675	Chinn, Richard H., Washington, D. C. Nutmeg grater.....	July 16, 1867.
	Chipman, George W. (See Raddin, John, assignor.) (Reissue.)	
	Same.....(See Harrington, John R., assignor.)	
	Chipman, George W., and John Raddin. (See Coombs, Joseph M., assignor.)	
	Chipman, N. P., et al. (See Brown, J. Warren, assignor.)	
70, 958	Chittenden, Albert A., Boston, Mass. Ironing table.....	Nov. 19, 1867.
70, 166	Chollar, B. E., Leavenworth, Kansas. Method of removing carbon from gas retorts.....	Oct. 29, 1867.
72, 455	Same.....Tray for gas purifiers.....	Dec. 24, 1867.
64, 407	Chollet, Pierre Eugene, New York, N. Y. Piano-forte.....	May 7, 1867.
68, 955	Christian, John Osborne, John and Henry Charlton, England. Manufacture of magnesium. (Antedated September 15, 1866).....	Sept. 17, 1867.
67, 268	Christianson, Erasmus, St. Joseph, Mo. Hemp break.....	July 30, 1867.
	Christianson, E., and James M. Gordon. (See Gordon & Christianson.)	
2, 575	Christie, Hugh, assignor to Edward C. Sampson, Morrisania, N. Y. Floor oil-cloth..... (Design).....	Feb. 12, 1867.
72, 368	Christie, James J., Baltimore, Md. Glass bottle mould.....	Dec. 17, 1867.
64, 489	Christie, William H., Albany, N. Y. Shoe lacer.....	May 7, 1867.
71, 455	Christie, William H., assignor to self and William H. Burton, Albany, N. Y. Cutter-head for planing machines.....	Nov. 26, 1867.
64, 490	Christley, John, Slippery Rock, Pa. Churn power.....	May 7, 1867.
62, 816	Christoffel, John B., New York, N. Y. Boiler tube cleaner.....	Mar. 12, 1867.
62, 168	Christopher, Theodore D., Madison, Ind. Wrench.....	Aug. 27, 1867.
61, 713	Christy, James, Philadelphia, Pa. Bolster for railroad cars.....	Feb. 5, 1867.
61, 160	Chritton, James M., Joliet, Ill. Churn.....	Jan. 15, 1867.
61, 947	Chubb, Thomas J., Brooklyn, E. D., N. Y. Apparatus for accumulating and reclaiming heat.....	May 21, 1867.
65, 473	Same.....Making steel direct from ore.....	June 4, 1867.
67, 497	Same.....Furnace for oxidizing ores.....	Aug. 6, 1867.
67, 498	Same.....Amalgamator.....	Aug. 6, 1867.
65, 173	Chubbuck, S. E., assignor to Joseph H. Chadwick, Roxbury, Mass. Machine for cutting sheet lead.....	May 28, 1867.
67, 721	Same.....Apparatus for molding plates of lead.....	Aug. 13, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
73, 369	Church, B. O., and Hervey Smith, Brattleboro', Vt. Organ, &c.	Dec. 17, 1867.
61, 161	Church, S. O., assignor to self and S. S. Wilcox, West Meriden, Conn. Can opener.	Jan. 15, 1867.
60, 858	Churchill, Benjamin, Wareham, Mass. Weighing apparatus.	Jan. 1, 1867.
72, 799	Churchill, Castle, New Hartford, Iowa. Combined cultivator and seeding machine.	Dec. 31, 1867.
71, 364	Churchill, J. W., Pittston, Pa. Animal trap.	Nov. 26, 1867.
62, 527	Chuse, Joseph F., Litchfield, Ill. Metallic stuffing box packing.	Mar. 5, 1867.
66, 219	Clabaugh, Norman B., Frederick, Md. Churn.	July 2, 1867.
2, 671	Clamer, Francis J., Philadelphia, Pa. Napkin ring (Design).	June 11, 1867.
68, 843	Clancy, Michael A., et al. (See Beardsley, Boyle, Lewis, and Clancy.)	
69, 770	Clancy, Patrick G., Augusta, Me. Shifting rail for carriage tops.	Sept. 17, 1867.
66, 676	Clapp, Cyrus C., assignor to self and R. M. Burdick, Hartford, Conn. Device for turning the leaves of books.	Oct. 15, 1867.
69, 968	Clapp, John C., Homer, N. Y. Apparatus for the manufacture of gas.	July 16, 1867.
61, 162	Clapp, Martillow R., assignor to self and E. P. Jones, New York, N. Y. Steam generator.	Oct. 22, 1867.
61, 804	Clapsaddle, G. D., et al. (See Killgore, Clapsaddle & Smart.)	Jan. 15, 1867.
66, 677	Clark, A. B., Auburn, Mass. Edge plane for boots and shoes.	Feb. 5, 1867.
60, 833	Clark, A. H., Fond-du-Lac, Wis. Car coupling.	July 16, 1867.
65, 645	Clark, Abijah S., and Sumner Chapman. (See Ball, Thomas C., assignor.)	
60, 833	Clark, Albert R. (See Edmondson, George D., assignor.)	
65, 645	Clark, Alvin B., Richmond, Ind. Apparatus for turning the leaves of music.	Jan. 1, 1867.
67, 722	Clark, Charles B., Buffalo, N. Y. Sash lock.	June 11, 1867.
64, 491	Clark, C. B., assignor to self and Edwin L. Ferguson, Buffalo, N. Y. Mop head.	Aug. 13, 1867.
69, 541	Clark, Charles Frederick. (See Hurdman, George, assignor.)	
60, 541	Clark, C. H., Wilmington, Del. Piston packing.	May 7, 1867.
60, 526	Clark, Charles P., and Lewis Delent, Beaver Dam, Wis. Machine for shearing sheep.	Oct. 8, 1867.
69, 542	Clark, Cyrus R., Cobalt, Conn. Sleigh bell.	Nov. 5, 1867.
64, 074	Clark, D. N., et al. (See Forest, David, assignor.)	
63, 139	Clark, Edward B., Josiah S., and William S., Philadelphia, Pa. Steam heater.	Oct. 8, 1867.
71, 276	Clark, Edwin, Lancaster, Pa. Window sash frame.	April 23, 1867.
71, 277	Clark, Fayette, Marcellus, N. Y. Grain shovel handler.	Mar. 26, 1867.
71, 277	Clark, F. B. (See Fenn, Samuel F., assignor.)	
71, 277	Clark, Francis O., assignor to self and John E. Reininghaus, Bentonsport, Iowa. Stave machine.	Nov. 26, 1867.
71, 981	Clark, Franklin D., and Joel G. Garretson. (See Garretson & Clark.)	Nov. 26, 1867.
62, 732	Clark, G., jr., and R. Lapham. (See Lapham & Clark.)	
69, 075	Clark, George, Buffalo, N. Y. Vacuum grain dryer.	Dec. 10, 1867.
69, 406	Clark, George M. (See Jeffery, Edwin A., assignor.)	
71, 853	Clark, George R., Livonia, N. Y. Fence.	Mar. 12, 1867.
69, 407	Clark, George W., Frankfort, Ohio. Device for ringing hogs.	Sept. 24, 1867.
63, 407	Clark, Henry C., and Robert B. Little, Providence, R. I. Coal elevator and distributor.	Oct. 1, 1867.
63, 993	Clark, Henry F., Poughkeepsie, N. Y. Dentist's vulcanizing flask.	Dec. 10, 1867.
66, 130	Clark, Hezekiah M., assignor to self and E. A. Kelsey, West Meriden, Conn. Bed bottom.	April 2, 1867.
67, 024	Clark, James B., Plantsville, Conn. Manufacture of blanks for carriage thill shackles.	April 23, 1867.
62, 817	Clark, James M., Lancaster, Pa. Portable fence.	July 23, 1867.
71, 278	Clark, J. H., et al. (See Clay, Robert J., assignor.)	
71, 459	Clark, J. K., Mt. Pleasant, Iowa. Window sash lock.	Mar. 12, 1867.
62, 528	Clark, James Madison, Chester, Conn. Twine cutter.	Nov. 26, 1867.
2, 517	Clark, John G., Middletown, Ohio. Machine for planting (Reissue).	Nov. 26, 1867.
66, 678	Clark, John J., and Thomas, Elgin, Ill. Machine for tenoning blind slats.	Mar. 5, 1867.
65, 725	Clark, John M., Somerville, Ohio. Corn plow.	Mar. 19, 1867.
61, 051	Clark, J. S., Auburn, Mass. Butter tongs.	July 16, 1867.
62, 005	Clark, John S., Philadelphia, Pa. Grates.	June 11, 1867.
71, 458	Clark, Joseph and William H., Philadelphia, Pa. Electrical car starters.	Jan. 8, 1867.
65, 347	Clark, J. W., Jola, Kansas. Guard for circular saws.	Feb. 12, 1867.
62, 006	Clark, J. Warren, Iowa City, Iowa. Apparatus for distributing liquid manure.	Nov. 26, 1867.
69, 771	Clark, Lucas C., Plantsville, Conn. Trace fastening.	June 4, 1867.
68, 844	Clark, Lyman C., Davenport, Iowa. Thill coupling.	Feb. 12, 1867.
64, 075	Clark, M. (See Wage, W. P., assignor.)	Oct. 15, 1867.
68, 604	Clark, Nelson W., and W. D. Nichols. (See Nichols & Clark.)	Sept. 17, 1867.
67, 103	Clark, P. J., and Joseph Kintz, assignors to Sam'l S. Clark, Meriden, Conn. Lantern.	Sept. 10, 1867.
71, 702	Clark, Samuel F., Middletown, Conn. Safety stirrup.	July 23, 1867.
66, 461	Clark, Samuel J., Detroit, Mich. Lifting jack.	Dec. 3, 1867.
64, 197	Clark, S. M., Washington, D. C. Mode of numbering corners.	July 9, 1867.
62, 007	Clark, Spencer M., assignor to John Q. Larman, Washington, D. C. Machine for punching paper.	Apr. 30, 1867.
61, 805	Clark, Thomas H., Indianapolis, Ind. Steam boiler furnace.	Feb. 12, 1867.
61, 805	Clark, W. F., Hagaman's Mills, N. Y. Cultivator.	Feb. 5, 1867.
66, 795	Clark, W. H. (See Root, Samuel, assignor.)	
66, 795	Clark, W. J., H. H., and C. H. (See Swathel, Wilber, assignor.)	
66, 795	Clark, William L., Cambria, Wis. Flood or waste gate.	July 16, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 413	Clarke, William N., assignor through mesne assignments to self, James B. Clark, and Henry Pember, Chester, Conn. Means for hanging rudders.....	Sept. 3, 1867.
68, 697	Clark, W. R., Indianola, Ill. Ditching plow.....	Sept. 10, 1867.
61, 163	Clark, William W., <i>et al.</i> (See Smith, Clark & Starbuck)..... (Design.)	
	Clarke, Arthur, and Thomas Reece, Philadelphia, Pa. Cracker crusher.....	Jan. 15, 1867.
	Same. (See Reece & Clark.)	
	Same. (See Coates, William B., assignor.)	
67, 104	Clarke, Charles E., G. Hadley, and John C. Clifford, Buffalo, N. Y. Mode of preserv- ing wood.....	July 23, 1867.
72, 720	Clarke, George H., Brooklyn, N. Y. Steam generator.....	Dec. 31, 1867.
69, 408	Clarke, George P., New York, N. Y. Terrestrial globe.....	Oct. 1, 1867.
62, 608	Clarke, George R., New York, N. Y. Metallic blind slat clasp and pivot.....	Mar. 5, 1867.
68, 046	Clarke, Greville E., Racine, Wis. Animal trap.....	Aug. 27, 1867.
71, 703	Clarke, John C., Jersey City, N. J. Temporary binder for music, &c.....	Dec. 3, 1867.
61, 516	Clarke, Orlando, assignor to self and Isaac Utter, Rockford, Ill. Sugar-cane mill. (Antedated January 18, 1867).....	Jan. 29, 1867.
63, 215	Clarke, William H., St. Anthony's Falls, Minn. Apparatus for carbureting, air, &c.....	Mar. 26, 1867.
64, 076	Clarridge, John, Pancoastburg, Ohio. Corn planter.....	Apr. 23, 1867.
	Clarridge, John, and Thomas Scott. (See Scott & Clarridge.)	
65, 543	Clay, Cyrus, Scranton, Pa. Bootjack.....	June 11, 1867.
69, 543	Clay, Henry T., assignor to self and G. R. Blakiston, Philadelphia, Pa. Wood lathe. (Antedated October 2, 1867).....	Oct. 8, 1867.
	Clay, Moses, and G. H. Doney. (See Doney & Clay.)	
60, 859	Clay, Robert J., assignor to J. H. Clark, E. Walsh, J. Donaldson, and T. H. Walsh, Williamsburg, N. Y. Machine for cleaning cotton, &c.....	Jan. 1, 1867.
63, 471	Clay, Robert J., assignor to self, James T. Husted, Etenzer J. Burling, and Cornelius Corson, Greenpoint, N. Y. Machine for burring wool, ginning cotton, &c.....	Apr. 2, 1867.
67, 394	Clay, Robert J., assignor to self, J. T. Husted, E. G. Burling, and Cornelius Corson, Greenpoint, N. Y. Machine for burring wool, &c.....	July 30, 1867.
62, 008	Clayton, Barnes, Philadelphia, Pa. Sleeve button and stud. (Antedated February 2, 1867).....	Feb. 12, 1867.
68, 605	Clegg, Daniel Webster, San Francisco, Cal. Counting-house ruler.....	Sept. 10, 1867.
	Cleeman, Thomas M., <i>et al.</i> (See Tyler, Samuel W., assignor.)	
61, 714	Clem, D. R., Front Royal, Va. Grinding mill.....	Feb. 5, 1867.
71, 136	Clemence, Henry M., Worcester, Mass. Garment supporter.....	Nov. 19, 1867.
	Clemens, Gilbert H., and Daniel G. Coppin. (See Coppin & Clemens.)	
	Same.....same.	
70, 697	Clemens, G. H., assignor to self and Henry A. Chadwick, Baltimore, Md. Journal box for cars.....	Nov. 12, 1867.
63, 614	Clemens, Gilbert H., assignor to self and John C. Crane, Cincinnati, Ohio. Head block for saw mills.....	Apr. 9, 1867.
69, 969	Clement, Augustus H., Sunbury, Pa. Washing machine.....	Oct. 22, 1867.
62, 938	Clement, Nathan S., New Britain, Conn. Awl handle.....	Mar. 19, 1867.
68, 414	Clement, William T., and Edward V. Foster, Northampton, Mass. Machinery for manufacturing hoes.....	Sept. 3, 1867.
72, 166	Clements, Charles J., New York, N. Y. Padlock.....	Dec. 17, 1867.
64, 340	Clemons, George F., Springfield, Mass. Cloth guide for sewing machines.....	May 21, 1867.
68, 845	Clemons, Henry H., Oshkosh, Wis. Snow plow for railroads.....	Sept. 17, 1867.
69, 629	Cleveland, C. H., Selma, Ala. Suspenders.....	Oct. 8, 1867.
	Cleveland, Edwin C. (See Alden, John Brown, assignor.)	
67, 953	Cleveland, E. C., Worcester, Mass. Centrifugal machine or hydro-extractor.....	Aug. 20, 1867.
	Cleveland Gas Machine Company. (See Thompson, William, assignor.)	
67, 954	Cleveland, James B., Hackensack, N. J. Device for preparing plates for springs.....	Aug. 20, 1867.
	Cleveland, Judson A. (See Wells, George H., assignor.)	
69, 970	Cleveland, William A., Waterville, N. Y. Medica compound for the cure of ring- bone, spavin, splint, &c., in horses.....	Oct. 22, 1867.
61, 398	Cleves, W. B., Binghamton, N. Y. Measuring funnel.....	Jan. 22, 1867.
68, 169	Click, Jacob, Springfield, Ohio. Harrows.....	Aug. 27, 1867.
63, 994	Clifford, Carleton, assignor to self, A. W. Lake, and T. P. Saunders, Adams, N. Y. Brewing ale.....	Apr. 23, 1867.
68, 415	Clifford, Charles J., New Hampton, N. J. Apparatus for turning crank pins on loco- motive driving wheels.....	Sept. 3, 1867.
62, 183	Clifford, H. M., Philadelphia, Pa. Stove-pipe joint.....	Feb. 19, 1867.
	Clifford, John G., <i>et al.</i> (See Clarke, Hadley & Clifford.)	
64, 841	Clifford, Neil, and A. N. Bell, Brooklyn, N. Y. Deodorizer for privy seats.....	May 21, 1867.
	Clifford, Neil, and Charles W. Russell. (See Russell & Clifford.)	
65, 726	Clifford, Patrick, Holyoke, Mass. Combined level and plumb.....	June 11, 1867.
71, 279	Clifford, Patrick, assignor to self and James Doyle, Holyoke, Mass. Adjustable spirit level.....	Nov. 26, 1867.
64, 631	Clifford, Thomas G., Derby, Conn. Wagon-wheel lock.....	May 14, 1867.
60, 691	Clifton, Charles, Jersey City, N. J. Paint mill.....	Jan. 1, 1867.
62, 394	Clifton, John G., Middletown, Ohio. Mortising machine.....	Feb. 26, 1867.
69, 179	Clime, J. C., Philadelphia, Pa. Mode of teaching music. (Antedated Sept. 11, 1867).....	Sept. 24, 1867.
60, 003	Clinton, C. M., and L. Mood, Ithaca, N. Y. Calendar clock.....	June 25, 1867.
67, 166	Clinton, C. M., and L. Mood, Ithaca, N. Y. Calendar clock.....	July 30, 1867.
67, 955	Clinton, E. H., W. Prather, and H. O. Hutchinson, Iowa City, Iowa. Corn and cause harvester.....	Aug. 20, 1867.
61, 806	Clinton, George H., and D. H. Harris, New Haven, Conn. Pruning shears.....	Feb. 5, 1867.
	Clinton Wire Cloth Company. (See Speidel, Reinhard, assignor.)	
63, 472	Clipp, Hamilton, Orange, Ind. Beehive.....	Apr. 2, 1867.
64, 077	Clissold, William, England. Feeding mechanism for carding machines.....	Apr. 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 266	Clock, D. H., Monroeville, Ohio. Trace clamp.....	Dec. 17, 1867.
65, 874	Clogston, Thomas S., Boston, Mass. Steam generator.....	June 18, 1867.
62, 009	Close, Charles T., Brooklyn, N. Y. Lifting jack.....	Feb. 12, 1867.
61, 715	Close, John W., Buffalo, N. Y. Pipe wrench.....	Feb. 5, 1867.
61, 716	Clough, De Witt, Auburn, N. Y. Churn.....	Feb. 5, 1867.
71, 280	Clough, Obadiah A., et al. (See Martin, Henry, assignor.)	
71, 281	Clough, Theodore, Dobbs' Ferry, N. Y. Lamp.....	Nov. 26, 1867.
72, 267	Clouse, Noah, Buffalo Village, Pa. Sorghum evaporator.....	Nov. 26, 1867.
68, 352	Clow, Abram, assignor to self and Charles Clow, Port Byron, N. Y. Grain fork.....	Dec. 17, 1867.
66, 796	Clow, Alexander, assignor to self and John Hendry, Erie, Pa. Instrument for laying out stair railings.....	Sept. 3, 1867.
2, 758	Clow, Charles, Abram, and Charles N., assignors to Abram and Charles Clow, Port Byron, N. Y. Agricultural fork..... (Reissue)	July 16, 1867.
66, 076	Clute, Nicholas, Schenectady, N. Y. Dumping wagon.....	Sept. 3, 1867.
69, 076	Clute, Nicholas, Schenectady, N. Y., and Oliver W. Marshall, Columbus, Ohio. Seed planter.....	June 25, 1867.
62, 609	Clyde, John J., Williamsburg, N. Y. Life preserving berth.....	Sept. 24, 1867.
71, 982	Clymer, Francis, Galien, Ohio. Door latch.....	Aug. 27, 1867.
63, 216	Clymer, Joseph C., Galien, Ohio. Churn.....	Dec. 10, 1867.
64, 842	Coale, Joseph M., Baltimore, Md. Locomotive engine.....	Mar. 26, 1867.
68, 170	Coale, J. M., and Henry Taylor. (See Taylor & Coale.)	
71, 137	Coar, Robert B., Jersey City, N. J. Filter faucet.....	May 21, 1867.
68, 288	Coates, Abraham, Watertown, N. Y. Horse hay fork.....	Aug. 27, 1867.
67, 956	Coates, A. W., Alliance, Ohio. Horse rake.....	Nov. 19, 1867.
61, 399	Coates, Francis J., Cincinnati, Ohio. Chair.....	Aug. 27, 1867.
64, 283	Coates, William B., Philadelphia, Pa. Car coupling.....	Jan. 22, 1867.
62, 395	Coates, William B., assignor to Thomas Reece and Arthur Clarke, Philadelphia, Pa. Bag for preserving ice.....	Apr. 30, 1867.
70, 167	Coats, H. A., Wellsville, N. Y. Bed bottom.....	Feb. 26, 1867.
60, 834	Coats, John, Camden, Ohio. Beehive.....	Oct. 29, 1867.
68, 956	Cobanks, William, H., et al. (See Bouden, James, assignor.)	
65, 794	Cobb, Amasa, Pittsburg, Pa. Photographic bath. (Antedated Dec. 19, 1866.).....	Apr. 30, 1867.
66, 797	Cobb, Cyrus and Darius, et al. (See Stackpole, Greenleaf, assignor.)	
66, 797	Cobb, D. B., Jersey City, N. J. Attaching door knobs.....	Jan. 1, 1867.
69, 630	Cobb, John W., Melrose, Mass. Machine for filling cylindrical molds for rubber goods.....	Sept. 17, 1867.
2, 565	Cobb, William A., Orange, Mass. Propeller.....	June 18, 1867.
64, 632	Cobb, William M., et al. (See Richardson, George B., assignor.)	
63, 217	Coburn, James F., and George V. Sheffield. (See Sheffield & Coburn.)	
64, 633	Coburn, John F., Newark, N. J. Hide-stretching machine.....	July 16, 1867.
65, 875	Coburn, John W., assignor, through mesne assignments, to the Water-proof Sole Company, New Haven, Conn. Water-proof sole..... (Reissue)	Oct. 8, 1867.
64, 632	Cochlmeier, Frederick, Keck's Centre, N. Y. Sleigh brake.....	Apr. 16, 1867.
63, 217	Cochran, B. C., T. W., and J. M., Pana, Ill. Cultivator.....	May 14, 1867.
63, 217	Cochran, George G., Brooklyn, N. Y. Bedstead.....	June 18, 1867.
62, 316	Cochran, J. W., New York, N. Y. Breech-loading fire-arm.....	May 14, 1867.
63, 264	Cochran, W., and T. M. Gile. (See Gile & Cochran.)	
64, 843	Cochrane, James C., Rochester, N. Y. Grate.....	Mar. 26, 1867.
60, 692	Cochrane, John, Wall Township, N. J. Machine for making screws. (Antedated March 24, 1867.).....	Feb. 26, 1867.
60, 693	Cochrane, William F., Springfield, Ohio. Harvester.....	Apr. 2, 1867.
60, 860	Cock, Henry F. (See Everett, Mahlon, assignor.)	
68, 846	Cocke, William H., Richmond, Ind. Harness buckle.....	May 21, 1867.
63, 020	Codding, R. O., and G. W. Pringle, Coddingville, Ohio. Wagon brake.....	Jan. 1, 1867.
72, 370	Codwise, Beverly R., Montrose, Md. Wagon brake.....	Jan. 1, 1867.
2, 487	Coe, Chas. W., Pontonville, Mich. Drilling and bolt tapping machine..... (Reissue)	Sept. 17, 1867.
71, 983	Coe, George H., and George H. Snow, New Haven, Conn. Clamp.....	Mar. 19, 1867.
62, 184	Coe, Wesley A., Greensboro', N. C. Apple parer, corer, and cutter.....	Dec. 17, 1867.
61, 634	Coester, Charles, jr., and W. L. Dewey, Bridgeport, Conn. Tipping attachment for pots and kettles.....	Feb. 19, 1867.
68, 698	Coester, Charles, and A. B. Lawther, Bridgeport, Conn. Machine for grinding lathe arbors.....	Jan. 29, 1867.
69, 900	Coffin, Charles Henry, San Francisco, Cal. Hat ventilator.....	Sept. 10, 1867.
2, 558	Coffin, D. N. B., jr., assignor to self and Irah D. Spaulding, Boston, Mass. Power capstan..... (Division 1. Reissue)	Oct. 15, 1867.
66, 299	Coffin, D. N. B., jr., assignor to self and Irah D. Spaulding, Boston, Mass. Power capstan..... (Division 2. Reissue)	Apr. 16, 1867.
72, 800	Coffin, Eben M., Woburn, Mass. Swift.....	Apr. 16, 1867.
61, 052	Coffin, Eben S., Boston, Mass. Steering apparatus.....	July 2, 1867.
72, 371	Coffin, Eleazer, Flicksville, Pa. Machine for rounding corners of slate frames.....	Dec. 31, 1867.
67, 269	Coffin, F. J., Newburyport, Mass. Slide for rules, scales, and tables.....	Jan. 8, 1867.
67, 499	Coffin, James B., Ashland, Ohio. Washing machine.....	Dec. 17, 1867.
70, 527	Coffin, Mark, Milton, Ky. Horse hay fork.....	July 30, 1867.
64, 198	Coffin, Z. Erastus, Boston, Mass. Stop cock.....	Aug. 6, 1867.
64, 199	Coffin, Z. Erastus, Boston, Mass. Stop cock.....	Nov. 5, 1867.
65, 174	Coffman, Henry C., Washington, Ohio. Fluid for disinfecting and embalming.....	Apr. 30, 1867.
		Apr. 30, 1867.
		May 28, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 801	Coffman, John S., Greenville, Ind. Rotary crane.	Dec. 31, 1867.
71, 704	Cogan, Michael J., and M. E. Russell, Mobile, Ala. Track clearer.	Dec. 3, 1867.
62, 010	Cogshall, W. W., and W. N. Zimmer. (See Russ, J. Scott, assignor.)	
61, 984	Cogshall, James H., Lexington, Mich. Nursing couch.	Feb. 12, 1867.
69, 180	Cohen, D. L., Pensacola, Fla. Boat detaching tackle.	Dec. 10, 1867.
68, 957	Cohen, Phillip, St. Joseph, Mo. Coat.	Sept. 24, 1867.
61, 517	Coin, S., Cazenovia, N. Y. Horse power.	Sept. 17, 1867.
69, 772	Colahan, Charles, assignor to self and John Fertig, Alton, Ill. Baling cotton.	Jan. 29, 1867.
68, 473	Colbath, James, Worcester, Mass. Valve for steam engines. (Antedated September 28, 1867).	Oct. 15, 1867.
72, 167	Colburn, Allen, and Benjamin W. Minor. (See Minor and Colburn.)	
63, 473	Colburn, Alvin, Lynn, Mass., and E. G. Stanley, Fitchburg, Mass., assignors to Alvin Colburn and John Raddin. Mechanism for connecting a horse with a carriage.	Dec. 17, 1867.
66, 563	Colburn, Daniel W., Loami, Ill. Sulky plow.	Apr. 2, 1867.
68, 439	Same.....Axle.	July 9, 1867.
60, 694	Same.....Combined plow and hoe.	Sept. 3, 1867.
70, 538	Colburn, Elisha T., Boston, Mass. Railway carriage window.	Jan. 1, 1867.
67, 025	Same.....Method of stopping and starting cars.	Nov. 5, 1867.
67, 026	Colburn, G. F. J., Newark, N. J. Composition for dental plates.	July 23, 1867.
65, 646	Same.....Base for artificial teeth.	July 23, 1867.
64, 814	Colburn, Richard, Norwich, Conn. Steam trap.	June 11, 1867.
65, 727	Colburn, S. M., assignor to self and Sylvester Colburn, Ansonia, Conn. Steam generator.	May 21, 1867.
68, 171	Colburn, William S., Loami, Ill. Cant hook.	June 11, 1867.
70, 959	Colby, Charles, assignor to self and Michael O'Neil, San Francisco, Cal. Churn.	Aug. 27, 1867.
66, 564	Colby, Daniel C., Washington, D. C. Coffee can and crusher.	Nov. 19, 1867.
2, 582	Same.....Bed bottom.	June 4, 1867.
2, 583	Colby, D. S., and R. Scorer, Troy, N. Y. Plates of a stove. (Design.)	July 9, 1867.
2, 723	Same.....same.	June 25, 1867.
2, 539	Same.....Plates of a parlor stove. (Design.)	Aug. 6, 1867.
64, 748	Colby, D. S., and R. Scorer, ass'rs to Cox, Church & Company, Troy, N. Y. Plates of a cook's stove. (Design.)	Feb. 26, 1867.
61, 807	Colby Skirt Company. (See Wilmot, Samuel R., assignor.)	
64, 492	Colcord, O. B., Greenville, Ill. Field roller.	May 14, 1867.
61, 400	Cole, A. H., assignor to M. T. Cole, Sylvania, Ohio. Trundle neck yoke.	Feb. 5, 1867.
67, 957	Cole, Calvin, Ithaca, N. Y. Sash stop.	May 7, 1867.
69, 181	Cole, Charles C., Northfield, Vt. Filtering tube for wells.	Jan. 22, 1867.
69, 182	Cole, Edward R., Pawtucket, R. I. Crank connection.	Aug. 20, 1867.
63, 218	Cole, Erskine A. (See Johnson, Leonard J., assignor.)	
69, 183	Cole, Ezra, Fairfield, Mich. Buckle.	Sept. 24, 1867.
2, 566	Same.....same.	Sept. 24, 1867.
70, 698	Same.....same. (Reissue).	Dec. 31, 1867.
72, 604	Cole, Gilbert M., Folsom City, Cal. Mode of operating railroad switches.	Mar. 26, 1867.
71, 985	Same.....Pumps.	Sept. 24, 1867.
72, 604	Cole, Gilbert M., assignor to Samuel Morse, San Francisco, Cal. Method of operating railroad pump. (Reissue).	Apr. 16, 1867.
71, 985	Cole, Harrison, Cincinnati, Ohio. Chair.	Nov. 12, 1867.
71, 985	Cole, James, Brooklyn, N. Y. Breast pump.	Dec. 24, 1867.
71, 985	Cole, James R., Kenton Station, Tenn. Apparatus for elevating water.	Dec. 10, 1867.
67, 958	Cole, J. Wendell, et al. (See Maunton, Jabez, assignor.)	
69, 184	Same.....same.	
69, 184	Same.....same.	
68, 699	Cole, Otis. (See Wheat, James E., assignor.)	
62, 610	Cole, William T., assignor to Jacob F. Hunter and Peter P. Keller, New York, N. Y. Die for cutting threads on tubes.	Aug. 20, 1867.
67, 634	Cole, William T., assignor to self, Jacob F. Hunter, and Peter P. Keller, New York, N. Y. Chuck.	Sept. 24, 1867.
68, 699	Colegrove, Veeder. (See Bishop, G. W., assignor.)	
62, 610	Coleman, Ambrose B., Lyndonville, N. Y. Draught neck yoke.	Sept. 10, 1867.
67, 634	Coleman, Barry, Louisville, Ky. Cotton-bale tie.	Mar. 5, 1867.
67, 634	Coleman, L., assignor to Willis P. Coleman, New Orleans, La. Harrow.	Aug. 13, 1867.
67, 634	Coleman, M. J. (See Haslam, James, assignor.)	
67, 634	Coleman, T. C. (See Knight, J., assignor.)	
67, 634	Coleman, William and Stephen B., Providence, R. I. Supporting the topping lift and peak halyard of sail vessels. (Extension.)	Mar. 13, 1867.
67, 634	Colgan, M., et al. (See Beckwith, L. H., assignor.)	
67, 634	Collar, Martin S., Marquette, Wis. Railway water elevator.	Oct. 8, 1867.
67, 634	Collen, John B., Philadelphia, Pa. Machine for pressing fuel into blocks or bricks.	Jan. 22, 1867.
67, 634	Collender, H. W., New York, N. Y. Billiard cushion.	Nov. 26, 1867.
2, 510	Collender, Hugh W., New York, N. Y. Billiard table cushion. (Reissue).	Mar. 19, 1867.
2, 511	Same.....Cushions for billiard tables. (Reissue).	Mar. 19, 1867.
2, 512	Collender, Hugh W., assignor to self and Michael Phelan, New York, N. Y. Cushion for billiard tables. (Reissue).	Mar. 19, 1867.
67, 027	Collett, Joseph, assignor to self and I. Smith, New York, N. Y. Steam-engine lubricator. (Antedated July 15, 1867).	July 23, 1867.
63, 615	Collier, B. W., Oxford, Miss. Hand sewing machine.	Apr. 9, 1867.
70, 529	Same.....Combined tool.	Nov. 5, 1867.
63, 784	Collier, Charles, Charlestown, Mass. Machine for making drain-water pipes.	Apr. 16, 1867.
67, 723	Collier, Thomas, Springfield, Ohio. Farm gate.	Aug. 13, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 462	Colligon, Frank, Buffalo, N. Y. Steam-engine lubricator.	July 9, 1867.
66, 798	Collins, Charles E., San Francisco, Cal. Combined instrument for watchmaker's use	July 16, 1867.
61, 401	Collins, Edward S., United States navy. Furnace shield	Jan. 22, 1867.
	Collins, H. A. (See Russell, James, assignor.)	
62, 252	Collins, James, Guelph, Canada. Harvester	Feb. 19, 1867.
72, 168	Collins, J. B., assignor to self and R. E. Ricker, Altoona, Pa. Lubricating cup	Dec. 17, 1867.
71, 705	Collins, James P., Troy, N. Y. Thill coupling	Dec. 3, 1867.
60, 835	Collins, John F., New York, N. Y. Manufacture of alcohol and other pure distillates	Jan. 1, 1867.
63, 021	Collins, Joseph G., Boston, Mass. Washer for socket bolts in steam boilers.	Mar. 19, 1867.
70, 166	Collins, J. L., and H. C. Bergie, Chicago, Ill. Stove drum	Oct. 29, 1867.
68, 416	Collins, M. H., Chelsea, Mass. Forming glass chimneys for lamps.	Sept. 3, 1867.
64, 284	Collins, Owen, New York, N. Y. Fire-place heater or furnace	Apr. 30, 1867.
64, 285	Collins, P. H., ass'r to Harry Bitter and A. Merritt Assay, Philadelphia, Pa. Clamp for closing ruptures in fire hose	Apr. 30, 1867.
69, 319	Collins, Richard, Chicopee, Mass. Picker staff for looms. (Antedated September 14, 1867)	Oct. 1, 1867.
72, 802	Collins, Richard, assignor to Aaron G. Lord, Chicopee, Mass. Breast pad	Dec. 31, 1867.
	Collins, William A. (See Flora, Orlando V., assignor.)	
70, 413	Collinson, Samuel, Troy, N. Y. Tong	Nov. 5, 1867.
65, 544	Collyer, George, Philadelphia, Pa. Turning curves of railroads.	June 11, 1867.
	Colman, M. J., and T. W. Shapleigh. (See Shapleigh & Colman.)	
66, 463	Coloney, M., and S. B. Fairchild, St. Louis, Mo. Ribbon map	July 9, 1867.
69, 971	Colton, E. S., Boston, Mass. Ice cream refrigerator	Oct. 22, 1867.
70, 169	Colton, George, Adrian, Mich., and Albert D. Angell, Coldwater, Mich. Device for truss springs	Oct. 29, 1867.
60, 695	Colton, George A., Adrian, Mich. Burglar alarm	Jan. 1, 1867.
69, 185	Colton, Henry E., assignor to self and C. T. Reynolds & Company, New York, N. Y. Metallic paint	Sept. 24, 1867.
62, 611	Colton, Isaac, Buffalo, N. Y., and Albert M. Hastings, Rochester, N. Y. Method of treating hides and skins for tanning	Mar. 5, 1867.
62, 612	Same. Method of bleaching and dyeing yarns, cloths, and other textile fabrics	Mar. 5, 1867.
71, 706	Colton, Joseph, New Orleans, La. Safety pocket	Dec. 3, 1867.
	Colton, Wesley H. (See Will, Reuben B., assignor.)	
	Colt's Patent Fire-arms Company. (See Root, E. K., assignor.)	
64, 634	Columbia, D. L., D. V. Stocking, and C. W. Woodruff, Morrison, Ill. Spring for vehicles	May 14, 1867.
61, 164	Colvin, Orson, Belvidere, Ill. Beehive	Jan. 15, 1867.
62, 818	Colvin, Robert J., Lancaster, Pa. Combined rake and seeder	Mar. 12, 1867.
66, 565	Colvin, Verplanck, Albany, N. Y. Device for stretching and drying skins	July 9, 1867.
60, 999	Colwell, W. S., and F. Veazie, Pittsburg, Pa. Stave machine	Jan. 8, 1867.
68, 329	Combs, A. J., Olney, Ill. Corn cover, (planter)	Aug. 27, 1867.
70, 320	Combs, G. W. R., Alliance, Ohio. Strap-holding device	Oct. 29, 1867.
71, 854	Comeaux, Ernest, Bayou Goula, La. Machine for making levees	Dec. 10, 1867.
2, 522	Comfort, jr., Samuel, assignor to Adam R. Reese, Phillipsburg, N. J. Harvester (Reissue)	Mar. 19, 1867.
	Comins, George T. (See Patterson, Wm., assignor.)	
68, 700	Comins, jr., Thomas B., Lowell, Mass. Car brake	Sept. 10, 1867.
68, 701	Same. same	Sept. 10, 1867.
70, 530	Compton, Charles W., Newark, N. J. Corpse preserver	Nov. 5, 1867.
61, 808	Comstock, Charles C., Grand Rapids, Mich. Lumber rack for wagons	Feb. 5, 1867.
61, 931	Comstock, H., Seneca Falls, N. Y. Pump	Jan. 22, 1867.
70, 531	Comstock, H. W., Lafayette, Ind. Weights for scales	Nov. 5, 1867.
	Comstock, Richard W., and Charles H. Perkins. (See Perkins & Comstock.)	
	Same. same	
70, 960	Conarroe, Robert, assignor to self and Howard Young, Camden, Ohio. Ditching machine	Nov. 19, 1867.
65, 876	Conderman, Caleb, Hornellsville, N. Y. Carriage	June 18, 1867.
62, 253	Conderman, Hiram, Haskinville, N. Y. Coupling for carriages	Feb. 19, 1867.
	Condict, jr., Nathan W. (See Jones, Christopher R., assignor.) (Reissue.)	
	Condie, J., and B. J. Harrison. (See Harrison & Condie.)	
	Same. same	
61, 000	Condit, Alice A., Muncie, Ind. Feathered cloth	Jan. 8, 1867.
67, 500	Cone, Ezra G., East Hampton, Conn. Cast iron bell	Aug. 6, 1867.
62, 317	Cone, M. D., Port Gibson, N. Y., and A. N. Douglass, Avon, N. Y. Garden or hand cultivators	Feb. 26, 1867.
63, 854	Same. Hand seeding machine	Apr. 16, 1867.
63, 660	Conger, Enoch, Lexington, Ohio. Shingle machine	Apr. 16, 1867.
66, 566	Conklin, Heli, Kirkwood, N. Y. Boot-crimping machine	July 9, 1867.
69, 632	Conklin, H. M., Syracuse, N. Y. Bed bottom. (Antedated October 2, 1867)	Oct. 8, 1867.
71, 986	Conklin, T. A., New Britain, Conn. Manufacture of tack hammers.	Dec. 10, 1867.
	Conklin, Thomas A. (See Wiard, John, assignor.)	
62, 011	Conkling, C., Ashland, Ohio. Letter envelope	Feb. 12, 1867.
68, 040	Conkling, Eleazer M., Palmer, N. Y. Weeding hoe	Aug. 27, 1867.
65, 795	Council, J. M., and John, jr., Newark, Ohio. Skate frame	June 18, 1867.
67, 959	Connell, Isaac N., Spencer's Station, Ohio. Animal trap	Aug. 20, 1867.
63, 704	Connolly, H. S., Clymer, N. Y. Combined roller and seeder	Apr. 9, 1867.
69, 633	Connolly, J. F., and W. B. Hughes, Newark, N. J. Machine for stretching leather.	Oct. 8, 1867.
64, 485	Connolly, Joseph H., Wheeling, West Va. Manufacture of gas	May 21, 1867.
62, 183	Connely, J. W., Charleston, Ill. Cultivator	Feb. 19, 1867.
69, 186	Same. same	Sept. 24, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
67, 028	Conner, Ezra F., Greensburg, Ind. Wagon bed	July 23, 1867.
72, 169	Conner, Gilbert M., Cohoes, N. Y. Water wheel	Dec. 17, 1867.
69, 272	Conner, T. F., Odin, Ill. Car coupling	Oct. 22, 1867.
71, 987	Conner, William, and Charles W. Mitchell, Wilmington, Del. Floor clamp	Dec. 10, 1867.
63, 022	Conner, Williston, Rensselaerville, N. Y. Back sight for fire-arms	Mar. 19, 1867.
69, 634	Conner, W. W., Nobleville, Ind. Smut machine	Oct. 8, 1867.
68, 048	Connett, Matthew F., Ladoga, Ind. Cutter heads for planing machine	Aug. 27, 1867.
60, 696	Connolly, James, Boston, Mass. Journal box	Jan. 1, 1867.
63, 474	Connolly, James, Newburg, N. Y. Tool for upsetting flanges	Apr. 2, 1867.
60, 697	Connolly, Thomas, New York, N. Y. Saw set	Jan. 1, 1867.
61, 165	Connor, David, Fulton, Ill. Milking stool	Jan. 15, 1867.
60, 836	Connor, Edward O., and Philip Keenan. (See Keenan & Connor)	(Reissue.)
	Connor, E. P., Jeffersonville, Ohio. Device for detaching runaway horses	Jan. 1, 1867.
	Conor, James E. (See Warner, Augustus J., assignor.)	
63, 475	Conover, S. B., New York, N. Y. Potato digger	Apr. 2, 1867.
63, 476	Same.....Combined cultivator and planter	Apr. 2, 1867.
	Conover, S. B., and J. F. Kohler. (See Kohler & Conover.)	
72, 721	Conrad, Christopher F., Adrian, Mich. Windworms for blacksmiths' bellows.....	Dec. 31, 1867.
72, 803	Conroy, Loughlin, assignor to self and Tristram Dodge Vanderveer, New York, N. Y. Breech-loading fire-arms.....	Dec. 31, 1867.
65, 545	Constant, S., Peekskill, N. Y., and John Smith, Brooklyn, N. Y. Seasoning and preserving wood. (Antedated March 17, 1867)	June 11, 1867.
62, 820	Constantine, Alfred A., New Providence, N. J. Manufacture of soap	Mar. 12, 1867.
	Constantine, Joseph, and Thomas Whitaker. (See Whitaker & Constantine.)	
70, 961	Conver, Jesse, Philadelphia, Pa. Stove-pipe drum	Nov. 19, 1867.
72, 804	Conver, Peter and Samuel, Yates City, Ill. Fruit picker	Dec. 31, 1867.
62, 254	Converse, Charles C., Brooklyn, N. Y. Heating cars and other vehicles	Feb. 19, 1867.
65, 058	Converse, Marvia, Jordan, N. Y. Curtain fixture	May 28, 1867.
64, 493	Conversa, M., and A. C. Torrey, Jordan, N. Y. Roofing composition	May 7, 1867.
63, 477	Conway, J. W., Madison, Ind. Cotton and hay press. (Antedated March 21, 1867)	Apr. 2, 1867.
62, 396	Conway, Rodolphus, Volga, Ill. Gate	Feb. 26, 1867.
72, 805	Conwell, G. E., Knoxville, Iowa. Beehive	Dec. 31, 1867.
62, 819	Cook, Anson G., Burlington, Vt. Manufacture of iron.....	Mar. 12, 1867.
70, 962	Cook, A. J., Guilford, Conn. Horse hay fork	Nov. 19, 1867.
70, 804	Cook, Benjamin F., Oleena, Cal. Levelling attachment to agricultural implements mounted on wheels	Nov. 12, 1867.
67, 724	Cook, Emory B., North Bellingham, Mass. Shingle machine	Aug. 13, 1867.
	Cook, E. L., et al. (See Milfer, Charles H., assignor.)	
	Cook, E. W., et al. (See Nunan, Wilkinson & Cook.)	
68, 702	Cook, Frederic, New York, N. Y. Apparatus for vaporizing and burning liquid hydrocarbons	Sept. 10, 1867.
68, 703	Same.....Vaporizing and burning liquid hydrocarbons.....	Sept. 10, 1867.
68, 704	Same.....Apparatus for burning petroleum and fluids made therefrom.....	Sept. 10, 1867.
68, 705	Same.....Method of using liquid hydrocarbons as fuel	Sept. 10, 1867.
68, 706	Same.....Apparatus for burning petroleum as fuel	Sept. 10, 1867.
68, 707	Same.....Method of burning hydrocarbon oil as fuel	Sept. 10, 1867.
68, 708	Cook, Frederic, New York, N. Y., and John A. Basset, Salem, Mass. Process of vaporizing and decomposing hydrocarbon liquids in the presence of steam.....	Sept. 10, 1867.
65, 059	Cook, F. E., Seville, Ohio. Harvester rake	May 28, 1867.
70, 805	Cook, George, Paris, Ill. Roofing	Nov. 12, 1867.
61, 402	Cook, Henry S., Boston, Mass. Wheel and axle connection	Jan. 22, 1867.
72, 605	Cook, Homer, and Charles E. Simmons, Waukegan, Ill. Bed bottom	Dec. 24, 1867.
	Same.....(See Simmons & Cook.)	
2, 697	Cook, Isaac, St. Louis, Mo. Trademark	July 9, 1867.
63, 958	Cook, Isaac, Haynesville, Mo. Combined hoe and rake	Sept. 17, 1867.
62, 733	Cook, Isaac, assignor to self and M. Randolph & Co., St. Louis, Mo. Bran duster	Mar. 12, 1867.
71, 582	Cook, Isaac, Philadelphia, Pa. Cow milking machine	Dec. 3, 1867.
	Cook, J., and J. Richard. (See Richard & Cook.)	
61, 320	Cook, John G., Lewiston, Maine. Dentifrice	Jan. 22, 1867.
69, 409	Cook, Joseph P., assignor to self and John T. Campbell, Rockville, Ind. Hand reaper and mower	Oct. 1, 1867.
	Cook, Lyman A., et al. (See Brayton, George B., assignor.)	
66, 949	Cook, L. M., Owatonna, Minn. Churn	July 23, 1867.
2, 513	Cook, Ransom, Saratoga Springs, N. Y. Auger	Mar. 19, 1867.
63, 140	Cook, Robert, Franklin, Ohio. Fender for corn ploughs	Mar. 26, 1867.
	Cook, Robert, and James K. Ely. (See Ely & Cook.)	
70, 414	Cook, Theodore R., assignor to Henry Lawrence, Saratoga Springs, N. Y. Mode of lining barrels with sheet metal	Nov. 5, 1867.
70, 415	Cook, Thomas, assignor to Charles Pomeroy Button, England. Fire-proof safe	Nov. 5, 1867.
72, 806	Cook, Thomas V., Lanesboro', Pa. Truck for transporting stone	Dec. 31, 1867.
62, 475	Cook, William, Belvidere, Ill. Car coupling	Feb. 26, 1867.
70, 416	Cooke, Charles Frederick, and John Standfield, Great Britain. Differential gearing wheel	Nov. 5, 1867.
71, 988	Cooke, George, Winchester, Mass. Button. (Antedated December 6, 1867)	Dec. 10, 1867.
66, 567	Cooke, Henry A., Charlestown, Mass. Bed bottom	July 9, 1867.
	Cooke, James C., Middletown, Conn. Machine for forming button backs and connecting the eyes thereto.....(Extension)	July 29, 1867.
72, 722	Cooke, Robert F., assignor to self and Peyton B. W. Cooke, Newark, N. J. Harvester	Dec. 31, 1867.
71, 767	Cool, George W., Portland, Oregon. Dental substitute.....	Dec. 3, 1867.
	Cooley, A. B. (See Gardner, George H., assignor.)	
61, 809	Cooley, William, Bunker Hill, Wis. Plow	Feb. 5, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 963	Cooley, William, Yafton, Wis. Gate	Nov. 19, 1867.
63, 141	Coombs, J. M., Boston, Mass. Combined name plate and letter slide	Mar. 26, 1867.
63, 705	Coombs, Joseph M., assignor through mesne assignments to George W. Chipman and John Raddin, Boston, Mass. Carriage wheel	Apr. 9, 1867.
72, 456	Coonrod, Philip, Keithsburg, Ill. Double cultivator plow	Dec. 24, 1867.
67, 270	Coons, Israel A., Middletown, Ohio. Clothes dryer	July 30, 1867.
63, 478	Cooper, Edward A., assignor to self and J. A. Johnson, Lancaster, N. Y. Harness snap	Apr. 2, 1867.
64, 494	Cooper, E. W. H., Hartford, Conn. Tool holder	May 7, 1867.
64, 635	Cooper Fire-arms Manufactory. (See Hendricks, Wm. W., assignor.)	
65, 728	Cooper, George B. F., New Albany, Ind. Lock for ear doors, &c	May 14, 1867.
65, 877	Cooper, George W., assignor to self and James V. Jones, Ogeechee, Ga. Horse hoe. Same..... Rice cultivator	June 11, 1867. June 18, 1867.
70, 964	Cooper, Henry L., and Alfred Murden. (See Murden & Cooper.)	
67, 725	Cooper, H. M., Ludley, Mo. Loom	Nov. 19, 1867.
62, 821	Cooper, James, and Robert Maekenzie. (See Mackenzie & Cooper.)	
62, 939	Cooper, John, Dublin, Ind. Washing machine	Aug. 13, 1867.
62, 939	Cooper, John George, and Edwin W. H., Hartford, Conn. Caloric regulator for boiler furnaces	Mar. 12, 1867.
70, 965	Cooper, John H., assignor to E. J. Spangler, W. E. and E. D. Lockwood, Philadelphia, Pa. Envelope machine	Mar. 19, 1867.
71, 456	Cooper, John M., Pittsburg, Pa. Molds for making cores for casting globe valves	Nov. 19, 1867.
71, 457	Cooper, N. B., Liberty, Ind. Clothes pin	Nov. 26, 1867.
72, 807	Cooper, R. H., St. Louis, Mo. Window sash stop	Dec. 31, 1867.
68, 606	Cooper, Samuel B., assignor to self and Richard Tattershall, Beloit, Wis. Farm gate	Apr. 16, 1867.
69, 410	Cooper, Samuel M., Fairfax Co., Va. Apparatus for stopping runaway horses	Sept. 10, 1867.
2, 724	Cooper, William, Hancock, Md. Water wheel	Oct. 1, 1867.
72, 606	Cooper, W. II. (See Gregory & Morse, assignors.)	
64, 495	Cooper, William H., and George R. Cady. (See Cady & Cooper.)	
62, 397	Cooper, W. S. (See Laubach, W. H., assignor.)	
64, 495	Coots, Charles, Rochester, N. Y. Post and fence	Aug. 6, 1867.
62, 397	Copeutt, F. W., New York, N. Y. Labelling bottle corks	Dec. 24, 1867.
62, 397	Cope, E., and J. R. Maxwell, Cincinnati, Ohio. Screw swedging machine	May 7, 1867.
61, 126	Copeland, George M., Brooklyn, N. Y. Combination of air and steam jets to promote combustion	Feb. 26, 1867.
61, 126	Copeland, G. N., and C. H. Parker. (See Parker & Copeland.)	
61, 987	Copeland, J. S., Bridgeport, Conn. Screw gauge	Feb. 12, 1867.
61, 403	Copeland, L. D., Chenango Forks, N. Y. Hay raker and loader	Sept. 24, 1867.
68, 709	Copeland, R. A., and S. Child, jr. (See Child & Copeland.)	
69, 077	Copleston, Edwin, Wrentham, Mass. Covering for the head	Jan. 22, 1867.
71, 989	Copley, jr., Josiah, Allegheny, Pa. Machine for making chains. (Antedated August 12, 1867)	Sept. 10, 1867.
65, 546	Copley, jr., Josiah, assignor to Josiah Copley, sr., Allegheny, Pa. Balanced "heave up" for iron. (Antedated August 17, 1867)	Sept. 24, 1867.
62, 476	Coppage, Francis C., Terre Haute, Ind. Harvester	Dec. 10, 1867.
62, 477	Copess, Hiram A., Greenville, Ohio. Machine for draining sugar	June 11, 1867.
61, 283	Coppin, Daniel G., and Gilbert H. Clemens, Cincinnati, Ohio. Lock-up safety valve. Same..... same	Feb. 26, 1867. Feb. 26, 1867.
61, 810	Corbett, Henry V., assignor to self and Edgar S. Everts, Buffalo, N. Y. Winch for centre boards	Nov. 26, 1867.
63, 219	Corbett, Joseph, Salt Lake, U. T. Permutation lock	Feb. 5, 1867.
64, 200	Corbin, P. and F., Joint Stock Corporation. (See Arnold, Stephen D., ass'or.) (Design.)	
64, 200	Corbin, P. J. (See Seymour, Josiah, assignor)	(Reissue.)
64, 200	Corbitt, A. M., Bethlehem, Iowa. Corn planter	Mar. 26, 1867.
64, 200	Corey, A. (See Harper, John M., assignor.)	
66, 799	Corey, A., and J. M. Harper, Philadelphia, Pa. Type-setting machine	Apr. 30, 1867.
66, 799	Corey, Charles B., and Charles M. Turner, Cleveland, Ohio. Brick kiln	July 9, 1867.
66, 799	Corey, G. W., Port Jervis, N. Y. Bridge	July 16, 1867.
68, 289	Corey, Thomas, and S. J. Shaw. (See Reed, Timothy K., assignor.)	
62, 012	Corlett, Charles J., Warren D. Sherman, Nicholas A. Wolfe and Charles Huston, Clarkston, Mich. Sheep-shearing table	Aug. 27, 1867.
62, 545	Cormier, Francis C. (See Dumery, Constant J., assignor.)	
64, 948	Cornelius, Maxwell, Cheviot, Ohio. Claw bar for railroads	Feb. 12, 1867.
61, 717	Cornelius, Robert, Philadelphia, Pa. Pump for deep wells	Apr. 9, 1867.
66, 800	Cornell, Adrian, Newtown, Pa. Combined grain thresher and cleaner	May 21, 1867.
61, 718	Cornell, Frederick F., jr., New York, N. Y. Baling Press	Feb. 5, 1867.
61, 719	Cornell, Frederick F., jr., assignor to self and Edwin M. Wright, New York, N. Y. Baling press	July 16, 1867.
61, 719	Cornell, Frederick F., jr., and Edwin M. Wright, New York, N. Y. Press for compressing bales already formed	Feb. 5, 1867.
69, 411	Cornell, Leffert R., Flatbush, N. Y. Steam superheater	Oct. 1, 1867.
70, 806	Corning, Edward, and J. W. Dominick. (See Hubbard, Alonzo, assignor.) (Design.)	
71, 930	Cornish, Aaron, and Bacchus Perry. (See Perry & Cornish.)	
64, 201	Cornwell, Jacob, Kalamazoo, Mich. Silent bolt feeder	Nov. 12, 1867.
71, 365	Corpe, A. C., Stafford, Conn. Machine for stretching cloth	Dec. 10, 1867.
71, 708	Corr, C. W., Carlinville, Ill. Wheelwrights' machine	Apr. 30, 1867.
71, 708	Corroja, John, Brooklyn, N. Y. Sash cord fastener	Nov. 26, 1867.
71, 708	Same..... Fire frame for chimneys	Dec. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Corson, Cornelius, <i>et al.</i> (See Clay, Robert J., assignor.)	
	Same.....same.	
70, 699	Corthell, Washington I., and Philip Richards, Boston, Mass. Door and window fastener. Cory, Christopher, and James A. Webb. (See Webb & Cory.) Cory, William H. (See Wright, Thomas, assignor).....(Reissue.)	Nov. 12, 1867.
70, 807	Cosfeldt, Clemoire F., jr., Philadelphia, Pa. Low-water detector.....	Nov. 12, 1867.
63, 479	Cosgro, Martin, Peoria, Ill. Grinding mill.....	Apr. 2, 1867.
71, 709	Cosgro, Martin, assignor to self and George H. Reynolds, Peoria, Ill. Flour bolt.....	Dec. 3, 1867.
67, 726	Costello, J. S., St. Louis, Mo. Stencil brush.....	Aug. 13, 1867.
64, 078	Cotton, Benjamin R., Lewiston, Me. Rolls for yarn-dressing machines.....	Apr. 23, 1867.
71, 991	Same.....Rollers for dressing.....	Dec. 10, 1867.
	Cotton, B. R., and J. C. Poland. (See Poland & Cotton.)	
68, 607	Cotton, Charles W., and Edmon L. Staples, Cincinnati, Ohio. Corn-dropping attachment to hoes.....	Sept. 10, 1867.
67, 727	Cotton, William, assignor through mesne assignments to the Dudley Hosiery Company, England. Knitting machine.....	Aug. 13, 1867.
61, 518	Cottrell, Jesse D., Milford, Mass. Spindle bolsters of spinning frames.....	Jan. 29, 1867.
69, 320	Cottrell, Jesse D., and George Draper, Milford, Mass. Loom.....	Oct. 1, 1867.
63, 365	Coult, Joseph C., San Francisco, Cal. Apparatus for concentrating and condensing volatile metallic substances.....	Apr. 2, 1867.
70, 321	Same.....Apparatus for reducing quicksilver ores.....	Oct. 29, 1867.
	Coulter, W., and W. B. Lane. (See Lane & Coulter.)	
62, 940	Countiss, Edmond L., Philadelphia, Pa. Car-brake shoe.....	Mar. 19, 1867.
71, 992	Counts, James A., Indianapolis, Ind. Wagon lock.....	Dec. 10, 1867.
64, 749	Counts, J. C., Cross Roads, Ohio. Fruit gatherer.....	May 14, 1867.
62, 013	Courcier, Julien L., France. Lubricator.....	Feb. 12, 1867.
70, 170	Courseur, Thomas Burlington, Iowa. Washing machine.....	Oct. 29, 1867.
72, 806	Courtney, William, Richview, Ill. Beehive.....	Dec. 31, 1867.
	Courtois, C., <i>et al.</i> (See Labiaux, John L., assignor.)	
62, 398	Couse, Charles, Belleville, N. J. Rope and other machines.....	Feb. 26, 1867.
70, 808	Covell, E. Hall, New York, N. Y. Clothes wringer.....	Nov. 12, 1867.
67, 501	Covell, Allen T., San Leandro, Cal. Gang plow.....	Aug. 6, 1867.
63, 230	Covell, Edward T., Brooklyn, N. Y. Soldering metal cans.....	Mar. 26, 1867.
66, 801	Covell, Silas S., Troy, N. Y. Construction of bell pulls and trips.....	July 16, 1867.
65, 878	Cover, G. A., Macon, Ill. Meat mangle.....	June 11, 1867.
61, 053	Cover, William, Jenner's Cross Roads, Pa. Paint brush.....	Jan. 8, 1867.
66, 950	Coverdale, R. T., Circleville, Ohio. Gas apparatus.....	July 23, 1867.
	Covert, D. S., and J. W. Russell. (See St. John, R. H., assignor.)	
68, 710	Covert, Enoch, Farmer Village, N. Y. Snap hook.....	Sept. 10, 1867.
62, 529	Covert, H. C., Fayette, N. Y. Washing machine. (Antedated Feb. 23, 1867).....	Mar. 5, 1867.
69, 331	Covert, H. W., Rochester, N. Y. Step and extension ladder.....	Oct. 1, 1867.
62, 255	Covert, Jacob, New York, N. Y. Propeller.....	Feb. 19, 1867.
69, 412	Covert, James C., Townsendville, N. Y. Hold-back.....	Oct. 1, 1867.
71, 993	Same.....Hame tug.....	Dec. 10, 1867.
64, 079	Covert, Lewis B., Chicago, Ill. Paper file.....	Apr. 23, 1867.
67, 271	Coville, Le Roy, and William Keeler, Oxford, N. Y. Washing machine.....	July 30, 1867.
66, 461	Cowen, Andrew, and Robert H. Starr, New Haven, Conn. Cnpola and other furnaces.	July 9, 1867.
61, 054	Cowan, B. F., assignor to self, J. D. Shewell, and J. Sumner, New York, N. Y. Coal scuttle.....	Jan. 8, 1867.
69, 773	Cowdery, J. E., Wheatland, Iowa. Sash frame.....	Oct. 15, 1867.
70, 966	Cowdery, J. E., assignor to self and A. S. Benson, Wheatland, Iowa. Try square.....	Nov. 19, 1867.
62, 613	Cowell, R. A., Cleveland, Ohio. Car coupling.....	Mar. 5, 1867.
62, 115	Cowing, John P., Seneca Falls, N. Y. Composition for roofing.....	Feb. 19, 1867.
2, 524	Same.....same.....(Reissue).....	Mar. 26, 1867.
71, 710	Cowles, Harley D., assignor to Bridgeport Horseshoe Nail Company, Bridgeport, Conn. Manufacture of horseshoe nails.....	Dec. 3, 1867.
	Cowles, James, and C. A. Buttes. (See Buttes & Cowles.)	
	Cowles, O. L., and G. W. Peabody. (See Peabody & Cowles.)	
2, 534	Cowles, R. P., assignor to C. Cowles & Co., New Haven, Conn. Coach lamp. (Design).....	Jan. 1, 1867.
66, 300	Cox, Albert W., Indianapolis, Ind. Farm gate.....	July 2, 1867.
66, 310	Cox, Alvord M., Elizabeth, N. J. Medical compound.....	July 2, 1867.
2, 567	Cox, Arthur W., Malden, Mass. Knife-edged fork.....(Design) Cox, Church & Company. (See Colby & Scorer, assignors).....(Design)	Feb. 5, 1867.
61, 720	Cox, David, Cincinnati, Ohio. Cradle.....	Feb. 5, 1867.
66, 680	Cox, Edwin, Monroe, Wis. Beehive.....	July 16, 1867.
67, 415	Cox, Edwin, and A. W. Potter, Monroe, Wis. Stove-pipe damper.....	Aug. 6, 1867.
2, 525	Cox, Frederick W., assignor through mesne assignments to Lawrence A. Heely, New York, N. Y. Pen and pencil case.....(Reissue).....	Mar. 26, 1867.
61, 519	Cox, George, assignor to F. Willcox and G. L. Jenkins, Reading, Pa. Wadding-waste machine.....	Jan. 29, 1867.
67, 272	Cox, H. J., and Wallace Hill, Long Eddy, N. Y. Mode of applying window shades to windows.....	July 30, 1867.
65, 647	Cox, J. A., Humboldt, Tenn. Cotton-seed planter.....	June 11, 1867.
67, 273	Cox, John C., Greenville, N. C. Horse power.....	July 30, 1867.
67, 847	Cox, S. B., Buffalo, N. Y. Lid for kettles, pails, &c.....	Aug. 20, 1867.
68, 608	Same.....Dinner pail.....	Sept. 10, 1867.
69, 774	Cox, S. W., New Haven, Conn. Scale.....	Oct. 15, 1867.
70, 967	Cox, William W., Carbondale, Ill. Washing machine.....	Nov. 19, 1867.
	Cox, Whiteman & Cox. (See Rose & Caley, assignors).....(Design.)	
69, 544	Coy, F. W., Boston, Mass. Turning lathe.....	Oct. 8, 1867.
	Coyle, Daniel. (See Battle, Bernard, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 809	Cozzens, William F., and J. H. Jones, assignors to selves and Leopold Bouvier, St. Louis, Mo. Apparatus for carbureting air	Nov. 12, 1867.
	Craig, A. M., and S. J. Bridge. (See Bridge & Craig.)	
	Craig, John, et al. (See Short, Allen & Craig.)	
65, 648	Craig, S. F., Eddyville, Iowa. Well tube	June 11, 1867.
61, 607	Craig, William, Newark, N. J. Pipe coupling	Jan. 29, 1867.
62, 186	Craige, E. H., Brooklyn, N. Y. Work supporting plate of sewing machines	Feb. 19, 1867.
67, 635	Same.....Cloth plate for sewing machines	Aug. 13, 1867.
61, 811	Craigie, Hugh H., New York, N. Y. Water closet	Feb. 5, 1867.
62, 734	Same.....Basin	Mar. 12, 1867.
66, 220	Same.....Sink	July 3, 1867.
72, 809	Same.....Supply valve for water closets	Dec. 31, 1867.
72, 810	Same.....Water supply for water closets	Dec. 31, 1867.
68, 490	Crain, Elisha P., New York, N. Y. Scale beam	Sept. 3, 1867.
	Cram, A. (See Mets, E., assignor.)	
66, 681	Cram, John, assignor to self and James B. Thomas, Chicago, Ill. Churn	July 16, 1867.
63, 995	Cram, Lucian B., Weathersfield, Vt. Liniment	Apr. 23, 1867.
67, 417	Cramblitt, F. A., assignor to self and Joseph R. Dickey, Petroleum Centre, Pa. Pump piston	Aug. 6, 1867.
68, 959	Cramer, A. W., assignor to self and William D. Brooks, Bethany, Pa. Adjustable track for conveying loads by gravity only	Sept. 17, 1867.
62, 478	Cramer, George R., Cincinnati, Ohio. Dumping wagon	Feb. 26, 1867.
70, 417	Crampton, Jesse P., deceased, by Joseph Sigler, administrator, Madison county, Ind. Manufacture of butter. (Antedated Oct. 29, 1867)	Nov. 5, 1867.
71, 583	Crantage, William, Cleveland, Ohio. Roof tile	Dec. 3, 1867.
69, 078	Crandal, E. M., assignor to Loretta M. Crandal and E. T. Hollister, Alton, Ill. Self-acting vent for cans	Sept. 24, 1867.
71, 171	Crandall, George L., Pitcher, N. Y. Shuttle	Oct. 29, 1867.
61, 721	Crandall, Charles M., Montrose Pa. Children's building blocks	Feb. 5, 1867.
72, 811	Crandall, Cyprian U., Galesburg, Ill. Corn harvester	Dec. 31, 1867.
66, 466	Crandall, Frank, Erie, Pa. Clothes dryer	July 9, 1867.
63, 785	Crandell, Germond, Washington, D. C. Paper file	Apr. 16, 1867.
67, 960	Crandell, Guernsey, Rhinebeck, N. Y. Churning machine	Aug. 20, 1867.
	Crane, Breed & Company. (See Zeuner, Charles, assignor.)	(Design.)
	Same.....	(Design.)
	Same.....	(Design.)
	Same.....	(Design.)
	Same.....(See Howden, Robert, assignor.)	
	Same.....	
65, 060	Crane, Charles T., Lowell, Mass. Bench hook or dog. (Antedated May 19, 1867)	May 28, 1867.
	Crane, Ebenezer, and William Potter. (See Potter & Crane.)	
70, 810	Crane, E. J., La Porte, Ind. Cheese press	Nov. 12, 1867.
	Crane, Hosen. (See Mackinnon, Gilbert, assignor.)	
	Crane, Isaac A., and Charles A. Harper. (See Harper & Crane.)	
62, 318	Crane, James B., Dalton, Mass. Covering for bottles, steam pipes, &c	Feb. 26, 1867.
65, 879	Same.....Manufacture of belting	June 18, 1867.
	Crane, John C. (See Clemens, Gilbert M., assignor.)	
64, 636	Crane, John H., Charlestown, Mass. Method of transporting cars through tunnels	May 14, 1867.
	Crane, Joseph M., and Charles H. Van Houghten. (See Van Houghten & Crane.)	
64, 408	Crane, L. L., assignor to Leavett, Crane & Co., Cleveland, Ohio. Forging machine	May 7, 1867.
61, 321	Crane, L. M., Ballston, N. Y. Safety paper	Jan. 22, 1867.
66, 302	Same.....Ballston Spa, N. Y. Water-proof paper fabric	July 2, 1867.
2, 552	Crane, Martin H., as'sr to Crano, Booth & Co., Cincinnati, O. Burial case. (Design)	Jan. 15, 1867.
64, 496	Same.....Metallic burial case	May 7, 1867.
70, 811	Same.....Construction of sheet metal boxes	Nov. 12, 1867.
67, 502	Crane, Richard T., Chicago, Ill. Patterns for casting steam pipe supports	Aug. 6, 1867.
67, 503	Same.....Steam heater	Aug. 6, 1867.
67, 504	Same.....	Aug. 6, 1867.
67, 505	Same.....Steam generator for heating purposes	Aug. 6, 1867.
67, 506	Same.....Low water alarm for steam generators	Aug. 6, 1867.
61, 608	Crane, Thomas, Fort Atkinson, Wis. Take-up mechanism for knitting machines	Jan. 29, 1867.
69, 775	Same.....Knitting machine	Oct. 15, 1867.
69, 776	Same.....	Oct. 15, 1867.
65, 348	Crane, Wellsly W., Auburn, N. Y. Self-lubricating hanger and box for shafting	June 4, 1867.
65, 349	Same.....Constructing self-lubricating pulleys	June 4, 1867.
70, 968	Crane, Zenas M., Dalton, Mass. Tool supporter or rack	Nov. 19, 1867.
68, 711	Cranell, John W., Yorkville, Mich. Water elevator	Sept. 10, 1867.
69, 973	Same.....Tuyere	Oct. 23, 1867.
68, 960	Cranston, James F., Springfield, Mass. Metallic priming cartridges	Sept. 17, 1867.
67, 728	Crary, J. W., Pensacola, Fla. Brick machine	Aug. 13, 1867.
66, 802	Cravath, M. A. and I. M., Bloomington, Ill. Revolving plow	July 16, 1867.
67, 729	Craw, John W., Norwalk, Conn., and Abel S. Randolph, Plainfield, N. J., assignors to selves and E. R. Pope. Mosquito and fly net	Aug. 13, 1867.
	Crawford, G. H., and Ben D. Atwell. (See Atwell & Crawford.)	
66, 221	Crawford, John M., Philadelphia, Pa. Bridle bit	July 2, 1867.
71, 138	Crawford, John M., and Horace L. Hervey, Philadelphia, Pa. Toy hoop	Nov. 19, 1867.
71, 139	Crawford, Norman B., Bennington, Vt. Building scaffold	Nov. 19, 1867.
71, 140	Same.....Scaffold for roofs	Nov. 19, 1867.
63, 862	Crawford, William M., Ashland, Ohio. Farm gates	Apr. 16, 1867.
62, 116	Cremer, Jacob, Jeffersonville, Ohio. Mole plow	Feb. 19, 1867.
	Cremer, W. G. (See Bowles, Stephen B., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 812	Creamer, William G., Brooklyn, N. Y. Ventilating device for railroad cars	Nov. 12, 1867.
62, 290	Creek, Charles C., Liberty, Ind. Cultivator	Aug. 27, 1867.
	Creote, Joseph. (See Parish, James, assignor.)	
63, 996	Creuzbaun, Robert, New York, N. Y. Connecting links and hooks	Apr. 23, 1867.
64, 546	Same..... Means for steering vessels	May 21, 1867.
66, 303	Same..... Newark, N. J. Connecting link	July 2, 1867.
70, 172	Same..... New York, N. Y. Connecting link	Oct. 29, 1867.
72, 170	Same..... Boat lowering apparatus	Dec. 17, 1867.
72, 171	Same..... same	Dec. 17, 1867.
72, 172	Same..... Boat detaching apparatus	Dec. 17, 1867.
61, 922	Creighton, W. and F. W., England. Machine for preparing cotton, &c	Jan. 22, 1867.
65, 547	Creighton, William, William Wills, and Louis Rastetter, Fort Wayne, Ind. Feed water heater	June 11, 1867.
63, 480	Crihfield, A. R., Lincoln, Ill. Lantern	Apr. 2, 1867.
64, 202	Crisp, Joseph E., Charlestown, Mass. Rivet machine	Apr. 30, 1867.
71, 584	Crispin, James J., Providence, R. I. Eye glass	Dec. 3, 1867.
60, 698	Crispin, Silas, New York, N. Y. Breech loading fire-arm	Jan. 1, 1867.
61, 722	Same..... same	Feb. 5, 1867.
	Crispin, Silas, and Thomas Poultney. (See Poultney & Crispin.)	
	Criswell, John, et al. (See Hickman, G. G., assignor.)	
	Critchlow, A. P. (See Tunnickiff & Cabill, assignors.)	
70, 969	Crittenden, E. W., Pittsburg, Pa. Manufacturing bricks. (Antedated Nov. 9, 1867.)	Nov. 19, 1867.
66, 467	Crittenden, Lyman B., Pittsburg, Pa. Railroad cars	July 9, 1867.
66, 468	Same..... Brick machine	July 9, 1867.
	Crocker, E. N., et al. (See Hoadley, Robert, assignor.)	
64, 286	Crocker, L. O., Braintree, Mass., and G. F. Fields, Weymouth, Mass. Ticket cutter	Apr. 30, 1867.
64, 750	Crockett, Jacob G., assignor to self, John J. Flanders, and John W. Hayes, Portsmouth, N. H. Balance valve for steam engine	May 14, 1867.
68, 609	Crockett, James M., Newbern, Va. Graduating accelerating cartridges for ordnance, &c. (Antedated Sept. 1, 1867.)	Sept. 10, 1867.
71, 711	Same..... Draft and ventilating device for open grates, &c.	Dec. 3, 1867.
64, 080	Croco, John, Holmesville, Ohio. Potato drills	Apr. 23, 1867.
64, 637	Crofoot, Horace, assignor to self and T. W. V. P. Mersereau, Oak Park, Ill. Pressing bricks	May 14, 1867.
66, 518	Croft, Edward, Waterbury, Conn. Machine for making screws	July 9, 1867.
70, 468	Crohn, Moritz, assignor to self, H. W. Volkers, and Guido D'Oench, St. Louis, Mo. Veterinary narcotic injector	Nov. 5, 1867.
62, 616	Croley, Charles, Dayton, Ohio. Window frame	Apr. 9, 1867.
65, 061	Same..... Bed bottom	May 28, 1867.
67, 636	Croley, Charles, assignor to the American Ladder Company, Dayton, Ohio. Ladder	Aug. 13, 1867.
65, 175	Croll, Alexander Angus, England. Treatment of sulphate of alumina	May 28, 1867.
65, 889	Same..... Purification of coal gas	June 18, 1867.
69, 974	Crompton, George, Worcester, Mass. Weft stop-motion for looms	Oct. 22, 1867.
72, 457	Same..... Shuttle	Dec. 24, 1867.
66, 682	Same..... Loom	July 16, 1867.
	Same..... (See Greenbalgh, James, assignor.) (Reissue.)	
	Same..... (See Hamilton, John Y., assignor.)	
	Crompton, John C., and Eliza Sibbet. (See Witsil, George L., assignor.)	
63, 706	Crompton, Joseph, Little Falls, N. J. Bolt and bolt heads	Apr. 9, 1867.
66, 569	Cromwell, J. E., Jackson, Mich. Machine for forming wagon axles	July 9, 1867.
67, 507	Cronk, Andrew J., Peoria, Ill. Tree pad	Aug. 6, 1867.
67, 508	Same..... Horse collar	Aug. 6, 1867.
63, 481	Cronk, James E., Poughkeepsie, N. Y. Wrench	Apr. 2, 1867.
69, 635	Same..... Pump valve	Oct. 8, 1867.
68, 417	Cronk, Manson C., Auburn, N. Y. Bung for casks and barrels	Sept. 3, 1867.
71, 284	Same..... Steamer for cooking	Nov. 26, 1867.
63, 712	Crook, Charles, Yonkers, N. Y. Expandible hose nozzles. (Antedated Sept. 4, 1867.)	Sept. 10, 1867.
	Crook, J., et al. (See Wallace, James B., assignor.)	
67, 509	Crook, Oliver, Dayton, Ohio. Bridle bit	Aug. 6, 1867.
62, 479	Crooke, John J., New York, N. Y. Machine for finishing butt hinges	Feb. 26, 1867.
	Same..... (See Hines, Dauphin S., assignor.)	
	Same..... same	
66, 304	Crookes, Joseph, St. Louis, Mo. Swages for upsetting saw teeth	July 2, 1867.
66, 305	Crookes, Joseph, assignor to self and Joseph W. Branch, St. Louis, Mo. Hardening pans for circular saws, &c	July 2, 1867.
	Crookes, Jos., and Jos. W. Branch. (See Milligan, John F., assignor.) (Reissue.)	
64, 287	Crooks, John C. K., Birmingham, Mich. Attachment for artificial teeth	Apr. 30, 1867.
62, 530	Cropper, Cyrus, Cincinnati, Ohio. Paper cutter	Mar. 5, 1867.
62, 450	Crosby, C. O., New Haven, Conn. Leather soles	Feb. 26, 1867.
63, 863	Same..... Corset clasp	Apr. 16, 1867.
62, 941	Crosby, C. O., assignor to self and H. Kellogg, New Haven, Conn. Soldering iron	Mar. 19, 1867.
	Crosby, Daniel G., and J. E. Wiggan. (See Wiggan & Crosby.)	
63, 221	Crosby, Francis W., New York, N. Y. Amalgamator. (Antedated March 19, 1867.)	Mar. 26, 1867.
61, 609	Crosby, Edmund D., Scott, N. Y. Washing machine	Jan. 29, 1867.
70, 813	Crosman, A. F., United States Navy. Boat hoisting apparatus	Nov. 12, 1867.
71, 268	Same..... Boat lowering apparatus	Dec. 17, 1867.
62, 421	Crosman, Charles C., Portland, Maine. Fishing net gear	Feb. 26, 1867.
62, 256	Crosman, J. C., Boston, Mass. Process of coating sheets of paper and other materials with solutions	Feb. 19, 1867.
	Cross, Dane & Westlake. (See Westlake, William, assignor.)	
61, 001	Cross, Edward S., Lime Rock, Conn. Bed bottom and seat	Jan. 8, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 497	Cross, George H., Montpelier, Vt. Steam confection pan.....	May 7, 1867.
65, 649	Same..... Rotary dough dresser.....	June 11, 1867.
67, 510	Cross, James E., Chicago, Ill. Lantern.....	Aug. 6, 1867.
2, 637	Cross, John R., and Alfred J., Chicago, Ill. Apparatus for graining pails. (Reissue).	June 4, 1867.
72, 458	Crossley, Alfred, Brooklyn, N. Y. Steam engine globe valve.....	Dec. 24, 1867.
64, 498	Crossley, J. W., Bridgeport, Conn. Machine for cutting tobacco.....	May 7, 1867.
61, 520	Crossley, Thomas, Bridgeport, Conn. Process for finishing felted and other goods and fabrics.....	Jan. 29, 1867.
	Same..... Printed carpets..... (Extension).....	Aug. 15, 1867.
71, 460	Same..... Cane and lamp combined.....	Nov. 26, 1867.
70, 814	Crossman, Alonzo G., Huntingtor, N. Y. Method of starting and stopping cars.....	Nov. 12, 1867.
69, 188	Crossman, Horace, ass't to self and Albert Briggs, Providence, R. I. Self-acting mule.....	Sept. 24, 1867.
69, 322	Crossman, M., Marengo, and P. A. Spicer, Marshak, Mich. Harvester rake.....	Oct. 1, 1867.
70, 352	Crouch, L., Baraboo, Wis. Attaching wheels to vehicles.....	Nov. 5, 1867.
63, 142	Crow, Charles, Onarga, Ill. Scaffold.....	Mar. 26, 1867.
64, 949	Same..... Lifting jack.....	May 21, 1867.
62, 822	Crowe, H. R., Carondelet, Mo. Field roller.....	Mar. 12, 1867.
65, 650	Crowell, J. E., Chelsea, Mass. Spinning frame.....	June 11, 1867.
2, 576	Crowell, John H., Providence, R. I. Edges of books..... (Design).....	Feb. 12, 1867.
65, 176	Crowell, Luther C., West Dennis, Mass. Mode of constructing paper bags, &c.....	May 23, 1867.
62, 319	Crowl, Peter, assignor to self and H. H. Finley, Brownsville, Pa. Vise.....	Feb. 26, 1867.
69, 951	Crowley, John B., ass't to Chamberlain & Co., Cincinnati, Ohio. Top plate of cook-stoves.....	Oct. 15, 1867.
2, 837	Same..... Cook stove..... (Design).....	Nov. 26, 1867.
70, 815	Crowley, John B., assignor to self and Chamberlain & Co., Cincinnati, Ohio. Faucet for stove reservoirs.....	Nov. 12, 1867.
	Crowley, John B., & A. E. Chamberlain. (See Chamberlain & Crowley.) (Design).....	
	Same..... same..... (Design).....	
	Crown, G. W., and S. G. Ladd. (See Ladd & Crown.).....	
72, 269	Crowner, Alonzo, Wellsville, N. Y. Stump extractor.....	Dec. 17, 1867.
61, 723	Crowther, George, Philadelphia, Pa. Spinning mule.....	Feb. 5, 1867.
71, 461	Crozier, Archibald H., Oswego, N. Y. Water wheel.....	Nov. 26, 1867.
64, 638	Cruikshank, Francis, Great Britain. Coating for iron ships and other structures.....	May 14, 1867.
72, 723	Crum, C. J., and Wesley Irwin, assignors to C. J. Crum and James Harsha, Circleville, Ohio. Burglar alarm.....	Dec. 31, 1867.
62, 014	Crum, Isaac T., Chicago, Ill. Device for forming horse collars.....	Feb. 12, 1867.
65, 891	Crumb, J. H., and L. Sears, De Ruyter, N. Y. Cheese vat.....	June 18, 1867.
2, 725	Crump, James B., Portland, Mo. Trade mark..... (Design).....	Aug. 6, 1867.
71, 994	Crump, James S., Williamsburg, Mo. Harvester rake.....	Dec. 10, 1867.
62, 823	Crutchett, James, England. Manufacture of gas.....	Mar. 12, 1867.
67, 105	Cryer, John E. Green Point, N. Y. Churn.....	July 23, 1867.
70, 322	Cuddick, Samuel, Pembroke, Maine. Puddling and heating furnaces.....	Oct. 29, 1867.
	Culbertson, W. B., executor of John M. Higgins, deceased. (See Higgins, John M.).....	
65, 350	Cullom, Francis P., Dowagiac, Mich. Plaster sower.....	June 4, 1867.
2, 602	Culp, George W. D., Allensville, and William J. Keeney, Florence, Ind. Harvester cutter bar connection..... (Division A, reissue.).....	May 14, 1867.
2, 603	Same..... same..... (Division B, reissue.).....	May 14, 1867.
2, 604	Same..... same..... (Division C, reissue.).....	May 14, 1867.
70, 816	Culp, John H., Quincy, Ohio. Corn harvester.....	Nov. 12, 1867.
66, 803	Culver, Austin B., assignor to Alfred S. Patterson, Westfield, N. Y. Fanning mill.....	July 16, 1867.
62, 117	Culver, A. M., Bedford, Ohio. Lifting jack.....	Feb. 19, 1867.
63, 222	Same..... Sheep holder and wool tyer, combined.....	Mar. 26, 1867.
65, 177	Culver, Ephraim, Shelburne Falls, Mass. Cutter, grater, and sharpener.....	May 28, 1867.
	Culver, Fred., Elkland, Pa. Horse hay fork.....	Dec. 17, 1867.
64, 203	Culver, James Henry, assignor to self and Cornelius Leonard, San Francisco, California. Calipers.....	Apr. 30, 1867.
70, 700	Culver, James S., Springport, N. Y. Horse hay fork.....	Nov. 12, 1867.
65, 882	Cuming, George E., Lafayette, Ind. Car coupling.....	June 13, 1867.
	Cummer, J., et al. (See Andrews, Cummer, Ganweiler & Stengel.).....	
63, 707	Cumming, Jr., David, assignor to self and Stephen William Smith, New York, N. Y. Cutter head for wood molding machines.....	Apr. 9, 1867.
68, 049	Cumming, Jacob J., Independence, Mo. Churn dasher.....	Aug. 27, 1867.
60, 699	Cumming, W. C., Peekskill, N. Y. Manner of hanging mirrors.....	Jan. 1, 1867.
	Cummings, A. P., et al. (See Maunton, Jabez, assignor.).....	
	Same..... same.....	
	Same..... same.....	
67, 167	Cummings, George N., Providence, R. I. Eye glass.....	July 30, 1867.
67, 106	Cummings, J., and H. Harrington, Woodstock, Canada. Threshing machine.....	July 23, 1867.
67, 961	Cummings, James G., Columbus, Miss. Cotton press.....	Aug. 20, 1867.
2, 523	Cummings, John H., Boston, Mass. Monogram..... (Design).....	Feb. 19, 1867.
70, 173	Cummings, J. M., and M. L., Philadelphia, Pa. Shuttle bowing bolt. (Antedated October 15, 1867).....	Oct. 29, 1867.
67, 511	Cummings, Marcellus V., Wintthrop, Maine. Oscillating engine.....	Aug. 6, 1867.
	Cummings, Nathaniel. (See Bean & Mumler, assignors.).....	
72, 271	Cummings, Percy D., Portland, Maine. Needle case.....	Dec. 17, 1867.
65, 178	Cummings, William H., and Isaiah Babcock, Boonsboro', Iowa. Gauge for holding clapboards.....	May 28, 1867.
66, 222	Cunningham, Albert, and Alonzo Sharp, Salem, Ohio. Power hammer.....	July 2, 1867.
72, 459	Cunningham, Benjamin F., and Jefferson F., Flora, Ill. Burglar alarm.....	Dec. 24, 1867.
62, 824	Cunningham, John, Philadelphia, Pa. Curtain fixture.....	Mar. 12, 1867.
	Cunningham, Joshua C., Oglethorpe, Ga. Mill gearing.....	Nov. 19, 1867.
70, 970	Cunningham, R. W., et al. (See Hartsuff, John H., assignor.).....	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 970	Cunningham, Wm. R., and George E. West. (See West & Cunningham.)	
61, 404	Cupper, René, New York, N. Y. Extracting iodine from sea water.....	Jan. 22, 1867.
72, 607	Cuppers, Gustavus, New York, N. Y. Automatically operating sewing machine.....	Dec. 24, 1867.
60, 837	Cupps, John, Chicago, Ill., and Amos R. Harper, Granville, Mich. Converting reciprocating into rotary motion.....	Jan. 1, 1867.
67, 730	Curdts, Louis, New York, N. Y. Mechanism for applying power to machinery.....	Aug. 13, 1867.
68, 847	Curl, Pearce K., Elkridge Landing, Md. Water elevator.....	Sept. 17, 1867.
69, 413	Curran, J. M., and J. C. Baxter, Washington, D. C. Metallic hame tug.....	Oct. 1, 1867.
72, 608	Curry, Caleb M., Pontiac, Mich. Mechanical movement.....	Dec. 24, 1867.
	Currie, J., et al. (See Martino, Beesley & Currie.)	
	Same.....saufe.....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
68, 610	Currier, H. L., Oregon, Ill. Land roller.....	Sept. 10, 1867.
71, 285	Currier, John W., assignor to self and J. B. Gardiner, Holyoke, Mass. Trace attachment for whiffletrees.....	Nov. 26, 1867.
72, 609	Currier, Joseph, Portland, Maine. Blin catch.....	Dec. 24, 1867.
61, 166	Currier, T. J., and A. M. Black, Worcester, Mass. Tool rest for lathes.....	Jan. 15, 1867.
65, 548	Curry, A. P., Chagrin Falls, Ohio. Milk can.....	June 11, 1867.
63, 864	Curry, John, Stamford, Ky. Saddle.....	Apr. 16, 1867.
68, 713	Curry, Wayne, Springfield, Mass. Steam engine slide valve.....	Sept. 10, 1867.
	Curry, W. B. (See Hill, Philip, assignor.)	
61, 927	Curtice, Ebenezer, Yonkers, N. Y. Hymn and tune book.....	Feb. 12, 1867.
70, 533	Curtice, Ezra N., Spring Water, N. Y. Wagon brake.....	Nov. 5, 1867.
71, 366	Same.....Hay rakers and loaders.....	Nov. 26, 1867.
69, 545	Curtis, Amasa, assignor to self, Nathaniel Boothby and John D. Platt, Warren, Ill. Grain separator.....	Oct. 8, 1867.
62, 942	Curtis, Francis, assignor of one-half interest to Wm. Russell & Son, Auburndale, Mass. Screen plate for paper machinery.....	Mar. 19, 1867.
70, 534	Curtis, Francis, Newtown, Mass. Manufacture of suction boxes for paper making.....	Nov. 5, 1867.
65, 549	Curtis, George S., assignor to self and Ellis G. L. Faxon, Chicago, Ill. Attaching draft to vehicles.....	June 11, 1867.
70, 075	Curtis, H. M., and A. Worden, Ypsilanti, Mich. Self-adjusting whip holder.....	Oct. 22, 1867.
67, 418	Curtis, Henry M., Ypsilanti, Mich. Buggy top joints and fastenings.....	Aug. 6, 1867.
71, 585	Curtis, Hiram, assignor to Edward P. Curtis and Stephen D. Law, New York, N. Y. Manufacture of paint. (Antedated Nov. 15, 1867.).....	Dec. 3, 1867.
	Curtis, Hiram, and L. A. Densmore. (See Densmore, Jay, assignor.)	
63, 223	Curtis, John, Cincinnati, Ohio. Carriage.....	Mar. 26, 1867.
69, 777	Curtis, John, St. Charles, Minn. Animal trap.....	Oct. 15, 1867.
	Curtis, Joseph, et al. (See Lighter, Harding & Curtis.)	
65, 351	Curtis, J. B., Hillsdale, Mich. Brick machine.....	June 4, 1867.
69, 778	Curtis, Moseley S., New York, N. Y. Hose coupling.....	Oct. 15, 1867.
66, 204	Curtis, M. S., and W. D. Tewksbury, New York, N. Y. Hose and other couplings.....	July 16, 1867.
72, 372	Curtis, Moseley C., and George W. Harris, New York, N. Y. Nozzle for hose.....	Dec. 17, 1867.
	Curtis, S., et al. (See Brayton, Curtis & June.)	
	Curtis, Samuel, and Robert Brayton. (See Brayton & Curtis.)	
62, 015	Curtis, Timothy A., Brookfield, Mass. Sole-cutting machine.....	Feb. 12, 1867.
62, 825	Curtiss, Edw. P., Madison, Wis. Connecting piston rods for steam and other powers.....	Mar. 12, 1867.
62, 735	Curtiss, George G., Rochester, N. Y. Gate.....	Mar. 12, 1867.
71, 586	Curtiss, Jonas P., New Britain, Conn. Device for grinding cutlery.....	Dec. 3, 1867.
69, 323	Curtiss, Marshall S., Bradford, Ill. Method of coupling plows to wheeled carriages.....	Oct. 1, 1867.
71, 995	Curtiss, S. W., Sugar Grove, Pa. Washing machine.....	Dec. 10, 1867.
	Cushing, Andre. (See Rich, E. B., assignor.)	
69, 636	Cushing, Chas. J. B. F. Walls, and Wm. A. Wood, Hancock county, Ky. Tanning.....	Oct. 8, 1867.
68, 611	Cushing, Emory B., assignor to self and Albers R. Cushing, Boston, Mass. Machine for burnishing the edges of the soles of boots and shoes.....	Sept. 10, 1867.
	Cushing, Volney. (See Hooker, Wm. D., assignor.)	
	Cushman, Charles H., and James E. Jewett. (See Bini, Joseph E., assignor.)	
72, 812	Custer, C., Philadelphia, Pa. Millstone bush.....	Dec. 31, 1867.
62, 016	Custer, Geo., assr to self and Chas. Toll, Monroe, Mich. Toe calks for horseshoes.....	Feb. 12, 1867.
66, 951	Custer, George, assignor to self and E. B. Frick, Morristown, Pa. Apple corer and slicer.....	July 23, 1867.
63, 224	Custer, John, Corsica, Ohio. Roller for pulverizing soil and clods.....	Mar. 26, 1867.
70, 817	Custer, J. Warren, Trappe, Pa. Ash sifter.....	Nov. 12, 1867.
66, 805	Custer, Samuel, Salem, Va. Mariner's compass. (Antedated July 12, 1867.).....	July 16, 1867.
65, 806	Same.....Magnetizing compass needles. (Antedated July 12, 1867.).....	July 16, 1867.
	Cutler, S. H. (See Reynolds, J. W., assignor.)	
70, 818	Cutter, Amos, East Boston, Mass. Sash supporter and fastener.....	Nov. 12, 1867.
60, 700	Cutter, C. N., Worcester, Mass. Buttonhole cutter.....	Jan. 1, 1867.
	Cutter, N. C., et al. (See Hoar, John S., assignor.)	
61, 610	Cutter, Richard H., Cleveland, Ohio. Bed lounge.....	Jan. 29, 1867.
68, 612	Same.....Bed bottom.....	Sept. 10, 1867.
71, 141	Cutting, Lewis, San Francisco, Cal. Furnace for soldering.....	Nov. 19, 1867.
71, 855	Cutts, M. de K., Richmond, Va. Construction of roofs.....	Dec. 10, 1867.
63, 482	Dabb, Alphonso, Elizabethport, N. J. Pickets for fences and walls.....	Apr. 2, 1867.
71, 142	Da Camara, jr., J. B., Newark, N. J. Tooth-powder bottle.....	Nov. 19, 1867.
64, 847	Da Cunha, George W., New York, N. Y. Keeper for door locks.....	May 21, 1867.
	Dadmun, Joseph A., and Albert Strong. (See Strong & Dadmun.)	
	Dailey, John. (See Lanagan, Michael A., assignor.)	
	Same.....same.....	
67, 731	Daily, Rolan, Canal Township, Pa. Washing machine.....	Aug. 13, 1867.
	Dalbey, Reuben M., et al. (See Little & Dalbey.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 399	Dale, Henry, Boston, Mass. Device for regulating the revolution of propellers of steam vessels	Feb. 26, 1867.
	Daley, James. (See Sweetland, Anthony B., assignor.)	
61, 812	Dallmeyer, John Henry, England. Lens for photographic purposes	Feb. 5, 1867.
65, 729	Same..... Compound lens for photographic portraiture	June 11, 1867.
	Dalton, George T. (See Young, Albert A., assignor.)	
68, 714	Dalton, P. W., Jersey City, N. J. Chain clasp for handling hogs in slaughtering	Sept. 3, 1867.
	Dalton, W. D., et al. (See Bevis, Henry, assignor.)	
61, 813	Daizel, David, South Egremont, Mass. Attaching carriage thills	Feb. 5, 1867.
71, 587	Damerel, William, Brooklyn, N. Y. Building	Dec. 3, 1867.
2, 526	Damon, Alexander M., Lowell, Mass. Warp dressing frames (Reissue)	Mar. 26, 1867.
70, 535	Dan, Isaac, Deposit, N. Y. Sleigh knee	Nov. 5, 1867.
70, 536	Dan, Isaac, Sanford, N. Y. Sleigh knee	Nov. 5, 1867.
	Dane, James F., and William Westlake. (See Gersten, Conrad, assignor.) (Reissue.)	
	Same..... same (Reissue.)	
61, 405	Daniel Charles, Lamonte, Mo. Washing machine	Jan. 22, 1867.
69, 414	Daniel, T. M., Athens, Ga. Ague medicine	Oct. 1, 1867.
	Daniels, A., et al. (See Rich, John, assignor.)	
72, 460	Daniels, A. M., assignor to self and Benjamin Bennet, Hartford, Conn. Artificial fuel	Dec. 24, 1867.
63, 366	Daniels, Charles, Birmingham, Conn. Hoop skirt	Apr. 2, 1867.
62, 257	Daniels, Commodore, Frémont, Ohio. Harness	Feb. 19, 1867.
70, 419	Same..... Floating water power	Nov. 5, 1867.
	Daniels, Edward. (See Nohl, Eugene William, assignor.)	
	Daniels, R. W., et al. (See Westbrook, A. D., assignor.)	
72, 373	Daniels, William, Brooklyn, N. Y. Binding books	Dec. 17, 1867.
68, 715	Danks, Samuel, Cincinnati, Ohio. Lining or "fix" for puddling or boiling furnaces	Sept. 3, 1867.
70, 323	Dann, Isaac N., assignor to the New Haven Folding Chair Company, New Haven, Conn. Folding chair	Oct. 29, 1867.
63, 997	Dann, John A., assignor to self and William F. Dann, New Haven, Conn. Wood-bending machine	Apr. 23, 1867.
63, 998	Danner, John and Samuel, Canton, Ohio. Bed bottom	Apr. 23, 1867.
64, 950	Danzenbaker, Francis, Bridgeton, N. J. Churn and pump power	May 21, 1867.
63, 367	Darby, Joseph, assignor to self, Stephen Brewer, and William W. Winter, Cortlandville, N. Y. Roofing cement	Apr. 2, 1867.
70, 971	D'Arcy, John, San Francisco, Cal. Loaf bread machine	Nov. 19, 1867.
71, 143	Dare, George and Diana, Auburn, N. Y. Paper bag	Nov. 19, 1867.
71, 286	Darling, Alonzo M., Davenport, Iowa. Bag holder and filler	Nov. 26, 1867.
	Darling, E. (See Jordan, R. J., assignor.)	
63, 483	Darling, George S., Bridgeport, and Elias Howe, jr., Fairfield, Conn. Sewing machine	Apr. 2, 1867.
66, 223	Darling, Jeremiah, Cincinnati, Ohio. Boiler feeder	July 2, 1867.
66, 570	Same..... Rotary steam engine	July 9, 1867.
66, 683	Same..... Steam generator	July 16, 1867.
68, 418	Darling, John, North Britain. Reservoir pen holder	Sept. 3, 1867.
66, 807	Darling, Martin, Blodgett's Mills, N. Y. Fruit gatherer	July 16, 1867.
	Darling, Sam'l, Bangor, Me. Apparatus for grinding and shaping metals. (Extension.)	Aug. 15, 1867.
68, 353	Same..... Window ventilator	Sept. 3, 1867.
68, 588	Same..... Inkstand	Sept. 3, 1867.
	Darmon, William, et al. (See Witsil, George L., assignor.)	
63, 484	Darnell, Enoch, Fox, Ill. Salting and preserving meat and other materials	Apr. 2, 1867.
2, 674	Darrow, George P., assignor to James L. Haven & Co., Cincinnati, Ohio. Plow clevis (Design)	June 18, 1867.
66, 952	Darrow, McD., Rochester, N. Y. Apparatus for heating tires	July 23, 1867.
68, 172	Darrow, McDowell, assignor to self and C. H. Hart, Gates, N. Y. Check rein holder	Aug. 27, 1867.
72, 610	Dart, Alfred, Carbondale, Pa. Coal stoves	Dec. 24, 1867.
61, 167	Datchy, J. P. F., assignor to self and John H. Boon, West Hoboken, N. J. Jet condenser	Jan. 15, 1867.
64, 499	Daubert, L., Louisville, Ky. Apparatus for extracting oil from herbs, and for other purposes	May 7, 1867.
69, 779	Daugherty, W. F., Mount Pleasant, Iowa. Bed bottom	Oct. 15, 1867.
64, 639	Daunoy, Felix Manuel, New Orleans, La. Guard for railway cars	May 14, 1867.
72, 813	Dauth, John P., Reading, Pa. Eaves trough	Dec. 31, 1867.
63, 023	Davelin, James J., Philadelphia, Pa. Churn	Mar. 19, 1867.
67, 849	Davenport, David, assignor to Henry C. Wilkins, Albany, N. Y. Corn candy cutter	Aug. 20, 1867.
72, 611	Davenport, Joseph, Massillon, Ohio. Bridge girder	Dec. 24, 1867.
60, 861	Davenport, Stephen F., Hallowell, Maine. Steam engine	Jan. 1, 1867.
69, 189	David, Jacob, New York, N. Y. Curtain fixture	Sept. 24, 1867.
63, 368	Davidson, F. W., Cleveland, Ohio. Steam engine valve	Apr. 2, 1867.
	Davidson, John B. (See Orvis, Charles B., assignor.)	
60, 838	Davidson, Jonathan, North Britain. Apparatus for reefing sails	Jan. 1, 1867.
67, 029	Davidson, Solomon, New York, N. Y. Tongues for breast pins, &c	July 23, 1867.
71, 712	Davidson, William, assignor to self and William J. Rannie, Binghamton, N. Y. Medical compound	Dec. 3, 1867.
65, 883	Davies, A. W., Cleveland, Ohio. Computing machine	June 18, 1867.
71, 465	Davies, Edward, and R. H., Taunton, England. Tool for drilling metals	Nov. 26, 1867.
68, 848	Davies, Elliot, jr., Carthage, Ill. Cultivator	Sept. 17, 1867.
65, 651	Davies, George C., assignor to the Davies Screw Co., Dayton, Ohio. Wood screw	June 11, 1867.
66, 469	Davies, James, Mazomania, Wis. Churn	July 9, 1867.
	Davis & Furber. (See Stone, Joseph M., assignor.)	
67, 274	Davis, A. B., Philadelphia, Pa. Scale beam	July 30, 1867.
71, 367	Davis, Abbot R., Cambridge, Mass. Covering for plastered walls	Nov. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 537	Davis, Alfred K., Carey, Ohio. Gate latch	Nov. 5, 1867.
69, 637	Davis, Asahel, Lowell, Mass. Device for advertising	Oct. 8, 1867.
70, 420	Davis, Benjamin A., Petersburg, Va. Curing tobacco	Nov. 5, 1867.
71, 462	Same. Spur	Nov. 26, 1867.
2, 800	Davis, Charles F., Auburn, N. Y. Harvester rake (Reissue)	Nov. 19, 1867.
	Davis, Daniel L., et al. (See Richardson, John W., assignor.)	
71, 713	Davis, David P., New York, N. Y. Belt-lacing device	Dec. 3, 1867.
66, 307	Davis, David P., Jersey City, N. J. Registering steam gauge	July 2, 1867.
	Davis, Elijah D., and J. Johnson. (See Johnson & Davis.)	
67, 732	Davis, G. B., assignor to M. A. Thayer and W. H. Boomer, Chicago, Ill. Hot air furnace	Aug. 13, 1867.
68, 849	Davis, George M., Chicago, Ill. Steam gauge	Sept. 17, 1867.
62, 017	Davis, George W., Milford Center, Ohio. Boot heel	Feb. 12, 1867.
64, 500	Davis, G. W., and G. A. Rollins, Nashua, N. H. Steam engine governor	May 7, 1867.
61, 521	Davis, Henry, Abingdon, Ill. Self-adjusting trestle	Jan. 29, 1867.
61, 168	Davis, Herbert, Troy, N. Y. Fagot for railroad rails	Jan. 15, 1867.
68, 050	Davis, H. V., assignor to Benjaming Whiting, Amherst, N. H. Seed drill	Aug. 27, 1867.
68, 173	Davis, Hermon V., assignor to Charles Richardson, Amherst, N. H. Check rein holder	Aug. 27, 1867.
67, 168	Davis, Hermon V., Amherst, and George E. Smith, assignors to George E. Smith, Blakesville, N. H. Seeding machine	July 30, 1867.
	Davis, jr., James, et al. (See Stout & Richardson, assignors.)	
60, 701	Davis, J., and J. McKelvey, Pawtucket, R. I. Tanning	Jan. 1, 1867.
63, 225	Davis, J., and S. W. Foster, Lowell, Mass. Spinning bobbin	Mar. 26, 1867.
70, 174	Davis, James P., Stiles, Wis. Bunk for logging sleigh	Oct. 29, 1867.
61, 724	Davis, James Warren, Washington, D. C. Bed bottom	Feb. 5, 1867.
69, 638	Davis, Jesse, New York, N. Y. Apparatus for oiling propeller cranks	Oct. 8, 1867.
65, 062	Davis, Job A., Watertown, N. Y. Shuttlers for sewing machines (See Booth & Davis.)	May 28, 1867.
	Davis, Job A., and Ezekiel Booth. (See Booth & Davis.)	
67, 962	Davis, John, Allegheny, Pa. Car brake	Aug. 20, 1867.
72, 612	Same. Planetarium	Dec. 24, 1867.
	Davis, John, 3d. (See Harriman, C. C., assignor.)	
70, 421	Davis, John T., Jersey City, N. J., and William C. Selden, Brooklyn, N. Y. Composition for packing journal boxes, joints, &c	Nov. 5, 1867.
72, 814	Davis, Johnson C., Montgomery, Ala. Tester frame for bedsteads	Dec. 31, 1867.
70, 972	Davis, Jonathan R., McKay, Ohio. Plow	Nov. 19, 1867.
63, 999	Davis, jr., Joseph, Templeton, Mass. Lamp. (Antedated October 23, 1866)	Apr. 23, 1867.
	Davis, Joseph G. and Anthony G., et al. (See Beecher, Davis, Frost & Davis.)	
	Davis, Joseph P., and R. W. Whitney. (See Whitney & Davis.)	
69, 901	Davis, Julius, McLean, N. Y. Fountain brush. (Antedated October 8, 1867)	Oct. 15, 1867.
	Davis, Lawrence & Co. (See Goolman, W. P., assignor.)	
72, 374	Davis, Levis II., assignor to Castro & Co., Newark, Del. Grain and straw separator	Dec. 17, 1867.
68, 961	Davis, L. L. Springfield, Mass. Adjustable spirit level	Sept. 17, 1867.
	Same. (See Miller, John S., assignor.)	
	Davis, O. (See Bonney, N. W., assignor.)	
	Davis, Person, and Charles C. Beers. (See Tufts, Timothy, assignor.)	
63, 226	Davis, R. W. and D., Long Island City, N. Y. Steam generator	Mar. 26, 1867.
63, 884	Davis, Samuel, New York, N. Y. Mode of condensing noxious vapors from lard rendering, &c	June 18, 1867.
66, 224	Davis, Samuel, Kansas, Mo. Washing machine	July 2, 1867.
71, 856	Davis, Shadrach, Dartmouth, Mass. Car brake	Dec. 10, 1867.
	Davis, Thomas C., and Enoch E. Stubbs. (See Stubbs & Davis.)	
65, 885	Davis, Thomas S., Jersey City, N. J. Steam engine governors	June 18, 1867.
69, 902	Davis, W. C., Cincinnati, Ohio. Cooking stove	Oct. 15, 1867.
62, 614	Davis, Washington F., Boston, Mass. Center board for sailing vessels	Mar. 5, 1867.
72, 461	Davis, W. H., assignor to Joseph Harlan, Lexington, Ind. Animal trap	Dec. 24, 1867.
65, 475	Davis, William, Portland, Maine. Beverage	June 4, 1867.
69, 324	Davis, William, Arrow Rock, Mo. Churn	Oct. 1, 1867.
	Davis, William C. (See McKenzie, Alexander, assignor.)	
68, 962	Davis, W. H., and R. H. Wager, Dowagiac, Mich. Sheet metal pan former	Sept. 17, 1867.
65, 352	Davis, William Morris, Philadelphia, Pa. Drying loaves of sugar	June 4, 1867.
65, 063	Davis, William M., assignor to self and William L. Beckwith, Cleveland, Ohio. Compound for refining cider, ale, &c	May 28, 1867.
70, 973	Davison, H. B., San Francisco, Cal. Bottle washer	Nov. 19, 1867.
66, 306	Davison, Jonathan, Plymouth, Mich. Churn	July 2, 1867.
72, 462	Davison, William F., Oliver A. Bates, Samuel M. Wilson, and Alva P. Russell, Rock county, Wis. Harness snap	Dec. 24, 1867.
60, 702	Davock, John, New York, N. Y. Wood-splitting machine	Jan. 1, 1867.
61, 655	Davy, John J., Newark, N. J. Bristle boot for horses	Jan. 29, 1867.
70, 175	Dawes, Alfred, Hudson, Mass. Leather-splitting machine	Oct. 29, 1867.
72, 815	Same. Adjusting knobs to spindles	Dec. 31, 1867.
72, 724	Dawes, F. S., Hudson, Mass. Heel shave for boots and shoes	Dec. 31, 1867.
69, 079	Dawson, Edward S., Syracuse, N. Y. Driving bit	Sept. 24, 1867.
68, 963	Dawson, Ephraim and Zedeckiah, and Brice Hilton, Brunersburg, Ohio. Balancing mill stones	Sept. 17, 1867.
	Dawson, E. S., and P. Shaw. (See Shaw & Dawson.)	
	Same. same.	
66, 131	Dawson, Ichabod W., Newark, N. J. Frame for stretching wet leather	June 25, 1867.
70, 176	Same. Manufacture of enamelled and japanned leather	Oct. 29, 1867.
2, 790	Same. Mechanism for stretching leather. (Division A. reissue)	Oct. 29, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
2, 791	Dawson, Ichabod W., Newark, N. J. Mode of stretching and preparing leather and hides. (Division B, reissue).....	Oct. 29, 1867.
63, 708	Dawson, John F., Frostburg, Md. Churn.....	Apr. 9, 1867.
65, 886	Day, Alfred B., Oak Creek, Wis. Insulators for telegraph wires.....	June 18, 1867.
71, 714	Day, Benjamin, assignor to self and A. L. Smith, Bangor, Maine. Shingle machine.....	Dec. 3, 1867.
65, 730	Day, George W., Charlestown, Mass. Articles of paper wearing apparel.....	June 11, 1867.
62, 736	Day, Horace H., New York, N. Y. Canals and navigation thereof.....	Mar. 12, 1867.
69, 639	Same..... Canal lock.....	Oct. 8, 1867.
2, 495	Day, Justus, Murray, N. Y. Clasp for making brooms..... (Reissue).....	Feb. 26, 1867.
69, 780	Same..... Holly, N. Y. Broom clamp.....	Oct. 15, 1867.
	Day, Justus, and L. A. Densmore. (See Densmore, J., assignor.)	
	Day, N. B., et al. (See Labiaux, John L., assignor.)	
65, 179	Day, Oscar A., and George W. Bishop, Saratoga Springs, N. Y. Composition for coating roofing, &c.....	May 23, 1867.
	Day, Samuel E. (See Heron, George H., assignor.)	
63, 865	Day, Theodore D., New York, N. Y. Clasp for skeleton skirts.....	Apr. 16, 1867.
63, 866	Same..... same.....	Apr. 16, 1867.
	Same. (See Delkeskamp, Adolph, assignor.)	
65, 353	Daykin, James, Cleveland, Ohio. Water drawer.....	June 4, 1867.
72, 725	Same..... same.....	Dec. 31, 1867.
62, 187	Dayton, Henry G., Maysville, Ky. Refrigerator and water-cooler.....	Feb. 19, 1867.
72, 816	Same..... Alcohol and spirit still.....	Dec. 31, 1867.
65, 180	Dayton, Joseph A., assignor to self and Joseph Starr, New London, Conn. Hoisting apparatus.....	May 28, 1867.
66, 953	Deal, John H., Hornellsville, N. Y. Combined clip and brace for carriage springs.....	July 23, 1867.
66, 954	Same..... Steps for wagon springs.....	July 23, 1867.
67, 169	Dean, Chester F., assignor to self and John S. Parker, St. Johnsbury, Vt. Knife cleaner.....	July 20, 1867.
66, 470	Dean, Hiram, Clyde, Ohio. Tuyere.....	July 9, 1867.
68, 051	Dean, Jeremiah, Freeport, Ill. Medicine.....	Aug. 27, 1867.
70, 076	Dean, Jeremiah, West Roxbury, Mass. Metallic pavement.....	Oct. 22, 1867.
	Dean, John W., et al. (See Dunham, John G., assignor.)..... (Reissue).....	
69, 415	Dean, Otis, assignor to Robert W. Young, Richmond, Va. Mucilage pot.....	Oct. 1, 1867.
72, 463	Same..... Screw driver.....	Dec. 24, 1867.
66, 808	Dean, O. A., Champaign, Ill. Stitehing horse.....	July 16, 1867.
71, 144	Dean, T. J., St. Louis, Mo. Well tube.....	Nov. 19, 1867.
69, 781	Deane, Gaius S., Grand Rapids, Mich. Arch bars and supports for constructing furnaces for evaporating pans.....	Oct. 15, 1867.
72, 613	Deane, John, Conneaut, Ohio. Process of fumigating hop vines and other plants, for destroying insects.....	Dec. 24, 1867.
66, 955	Deane, Royal E., New York, N. Y. Cooking range.....	July 23, 1867.
61, 611	Dearborn, G. K., South Boston, Mass. Window frame.....	Jan. 29, 1867.
64, 204	Dearborn, Jonathan, Seabrook, N. H. Mechanical telegraph.....	Apr. 30, 1867.
64, 951	Same..... Machine for applying animal power.....	May 21, 1867.
68, 052	Dearborn, Wymau, Boston, Mass. Construction of rubber rollers for cotton gins.....	Aug. 27, 1867.
	Dearborn, Wymau, and John B. Brackett. (See Brackett and Dearborn.)	
	Same..... same.....	
66, 004	Deavs, Charles, New York, N. Y. Gas apparatus.....	June 25, 1867.
	Deavs, Charles, and Norman L. Archer. (See Archer and Deavs.)	
	DeBare, R. B., and P. Werni. (See Werni and DeBare.)	
61, 323	DeBeauregard, Felix A. T., France. Blast for iron and other furnaces.....	Jan. 22, 1867.
67, 733	DeBrion, H. E. F., England. Compound for coating iron, wood, and other materials. Patented in England February 8, 1866.....	Aug. 13, 1867.
63, 786	DeCamp, Michael, South Bend, Ind. Mill-stone feed.....	Apr. 16, 1867.
71, 857	Same..... Feeder for grain mills.....	Dec. 10, 1867.
71, 858	Dechause, Paul, New York, N. Y. Painter's easel. (Antedated Nov. 23, 1867).....	Dec. 10, 1867.
64, 751	Deck, John B., Martinsburg, West Va. Method of repairing railroad rails.....	May 14, 1867.
62, 320	Decker, Henry, Lebanon, Ohio. Churn.....	Feb. 26, 1867.
62, 531	Decker, John, assignor to self and Charles W. Wardwell, Sparta, N. J. Clock alarm. (Antedated March 1, 1867).....	Mar. 5, 1867.
	Same..... Door fastening. (Antedated Feb. 20, 1867).....	Mar. 5, 1867.
62, 532	Decker, J. J., and David, New York, N. Y. Piano-forte.....	Jan. 29, 1867.
61, 055	Decker, Lewis P., Williamsburg, N. Y. Lock.....	Jan. 1, 1867.
63, 485	Deckman, George, Malvern, Ohio. Churn.....	Apr. 2, 1867.
70, 974	De Coursey, John G., Philadelphia, Pa. Trundling hoop.....	Nov. 19, 1867.
66, 956	Deeble, John, Plantsville, Conn. Fifth wheel for carriages.....	July 23, 1867.
63, 143	Deen, J. M., B. W. Bolding, and H. Perry, assignors to selves and E. G. Whetstine, Dayton, Iowa. Hand power loom.....	Mar. 26, 1867.
	Deere & Company. (See Moore, Gilpin, assignor.)	
	Same..... same.....	
63, 369	Deere, John, assignor to Deere & Company, Moline, Ill. Method of making plows.....	Apr. 2, 1867.
	Deere, John, and C. H. et al. (See Moore, Gilpin, assignor.)	
	Deering, Granderson, T. (See Beckelslymer, Lemuel, assignor.)	
68, 613	Deering, William, Louisville, Ky. Compress. (Antedated August 26).....	Sept. 10, 1867.
	DeForest, Charles T. (See Barwick and Tindall, assignors.)	
69, 546	DeForest, David W., Brooklyn, N. Y. Trace fastening.....	Oct. 8, 1867.
64, 952	DeForest, L., Birmingham, Conn. Hoops for skirts.....	May 21, 1867.
69, 169	Same..... Hoop skirt.....	Jan. 15, 1867.
61, 170	Same..... same.....	Jan. 15, 1867.
61, 171	Same..... Binding for skirts.....	Jan. 15, 1867.
61, 172	Same..... same.....	Jan. 15, 1867.
62, 533	Same..... Buckle.....	Mar. 5, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 144	DeForest, L., Birmingham, Conn. Hoops for skirt.....	Mar. 26, 1867.
65, 145	Same..... Hoop skirt.....	Mar. 26, 1867.
69, 080	Same..... Forging apparatus.....	Sept. 24, 1867.
	Defrees, John D., and Rollin. (See Percival, Thomas, assignor.)	
61, 613	DeGarmo, Daniel, Rochester, N. Y. Stove-pipe damper.....	Jan. 29, 1867.
71, 996	Degen, Francis, Newark, N. J. Machine for forming hat bodies.....	Dec. 10, 1867.
63, 146	Degive, Peter, New York, N. Y. Apparatus for hatching eggs.....	Mar. 26, 1867.
68, 174	De Golia, L., Bachelleville, N. Y. Wash-board.....	Aug. 27, 1867.
64, 640	De Huff, J. Q. A., Summitville, Iowa. Car truck.....	May 14, 1867.
64, 205	Deitz, William A., Albany, N. Y. Shoe.....	Apr. 30, 1867.
64, 848	DeLacee, Leopold, Springfield, Ill. Hay-loader.....	May 21, 1867.
	De Lacy, Joseph M., and Peter M. Kafer. (See Kafer and DeLacy.)	
67, 170	De la Granja, E., assignor to self and Herman Susmann, Boston, Mass. Embalming and preserving dead bodies.....	July 30, 1867.
68, 850	Same..... Mode of preserving meats, &c.....	Sept. 17, 1867.
72, 272	De la Granja, Edward, Boston, Mass. Deodorizing India-rubber, gutta percha, &c.....	Dec. 17, 1867.
62, 018	De la Mar, Joseph, assignor to self and Abraham Emanuel, Brooklyn, N. Y. Machine for pressing hats.....	Feb. 12, 1867.
62, 321	De la Mar, Joseph, assignor to Griswold & Sheldon, Brooklyn, Mass. Hat blocking machine.....	Feb. 26, 1867.
	Deland, George, and Joel P. Stillwell. (See McLean, George, assignor.)	
	DeLange, L. H., and D. K. Albright. (See Albright and DeLange.)	
	Delany, J. C. (See Ackerson & Harrah, assignors.)	
67, 265	Delavigne, John C., New Orleans, La. Saw mill.....	July 30, 1867.
	Delent, Lewis, and Charles P. Clark. (See Clark & Delent.)	
61, 324	Delery, Jules, St. Bernard parish, La. Steam generator.....	Jan. 22, 1867.
67, 030	Delevan, Marcus and Job Dyson, New Britain, Conn. Door-bell.....	July 23, 1867.
63, 867	Delkescamp, Adolph, assignor to Theodore D. Day, Brooklyn, N. Y. Clasp for hoop skirts.....	Apr. 16, 1867.
65, 652	Delkescamp, Adolph, assignor to John A. Newbould, Brooklyn, N. Y. Machine for making clasps for hoop skirts.....	June 11, 1867.
71, 588	Dell, John C., Philadelphia, Pa. Scales.....	Dec. 3, 1867.
	Dellman, Wm. P., et al. (See Sangster, Wm., assignor.)	
63, 227	Demarest, Henry O., New York, N. Y. Automatic boiler feeder.....	Mar. 26, 1867.
68, 964	Same..... Boiler feeder.....	Sept. 17, 1867.
68, 559	Deming, Ernest, Middletown, Conn. Check hook.....	Sept. 3, 1867.
60, 703	Deming, Levi S., Newington, Conn. Device for closing doors, gates, &c.....	Jan. 1, 1867.
69, 862	Demling, Charles A., New York, N. Y. Target for air-guns.....	Jan. 1, 1867.
61, 325	DeMorat, A. J. B., Philadelphia, Pa. Telegraphic cable.....	Jan. 22, 1867.
69, 975	Demorest, W. Jennings, New York, N. Y. Movable treadle for small lathes, sewing machines, &c. (Antedated Oct. 12, 1867.)	Oct. 22, 1867.
	De Murguiondo, P., et al. (See Stayman, A. F., assignor.)	
	Dengler, Isaac S. (See Miller, Charles H., assignor.)	
66, 132	Denhard, John, Reading, Pa. Method of transferring cars from one track to another.....	June 25, 1867.
71, 715	Denise, S. T., Red Bank, N. J. Plow.....	Dec. 3, 1867.
68, 851	Denison, Albert, Stillwater, N. Y. Washing machine.....	Sept. 17, 1867.
72, 173	Denison, Daniel A., Troy, Mich. Corn popper.....	Dec. 17, 1867.
63, 370	Denison, Daniel E., Troy, Mich. Gate.....	Apr. 2, 1867.
71, 716	Denison, George M., New London, Conn. Washing machine.....	Dec. 3, 1867.
	Denison, R. A., et al. (See Young, Solomon W., assignor.)	
	Same..... same.....	
71, 997	Denison, S., Portlandville, N. Y. Mail-bag fastener.....	Dec. 10, 1867.
63, 617	Denius, Joseph G., Camden, Ohio. Dough tray.....	Apr. 9, 1867.
66, 005	Dennett, Roscoe G., Saco, and Liberty B. Dennett, Portland, Me. Window screen.....	June 25, 1867.
2, 759	Denney, Samuel L., Christiana, Pa. Sugar cane mill..... (Reissue.)	Sept. 3, 1867.
71, 287	Dennisson, J. N., and Roscoe J. Gould, Newark, N. J. Pump for fire-engines.....	Nov. 26, 1867.
69, 640	Denniston, S. M., Hudson, N. Y. Gate.....	Oct. 8, 1867.
	Denniston, William H. (See Smith, John R., assignor.)	
66, 684	Densmore, Jay, assignor to L. A. Densmore and Justus Day, Holly, N. Y. Reciprocating barrow.....	July 16, 1867.
71, 589	Densmore, Jay, assignor to L. A. Densmore, and Hiram Curtis, Holly, N. Y. Rotary cultivator tooth.....	Dec. 3, 1867.
66, 308	Dentler, Solomon G., Orangeville, Ill. Corn planter.....	July 2, 1867.
63, 371	Denton, Drake W., Ithaca, N. Y. Roofing.....	Apr. 2, 1867.
68, 965	Denzler, Frederick, and Jacob Miller, Brooklyn, N. Y. Manger.....	Sept. 17, 1867.
66, 571	Depeu, James, Peckskill, N. Y. Car-coupling.....	July 9, 1867.
66, 309	Depeu, James, and J. Darrah Hall, Peckskill, N. Y. Car-coupling.....	July 2, 1867.
62, 836	Dupuy, Alexander T., New York, N. Y. Stereotype-plate holder.....	Mar. 12, 1867.
69, 190	Derby, Lyman, New York, N. Y. Thill-coupling.....	Sept. 24, 1867.
71, 590	DeRoode, Rudolf, Lexington, Ky. Conductors' ticket book.....	Dec. 3, 1867.
68, 852	Derrick, William E., assignor to self and Aaron Peck, Jordan, N. Y. Pump-piston.....	Sept. 17, 1867.
62, 943	Derwent, jr., William, Rockford, Ill. Flour bolt.....	Mar. 19, 1867.
67, 031	DesCorats, Gilbert Auguste Fournier, France. Method of loading and unloading vessels.....	July 23, 1867.
	Despallees, J., M. O. Camin, et al. (See Archereau, H. A., assignor.)	
	Despecher, Jules. (See Cazalat, Antoine Galy, assignor.)	
	Desso, John, and George P. Smith. (See Smith and Desso.)	
	De Susini, Joseph, et al. (See Archereau, H. A., assignor.)	
	De Tavalva, Henry. (See Plumb, W. H., assignor.)	
66, 809	Devereaux, C. P., North Newbury, Mich. Plow-cleaner.....	July 16, 1867.
	Devereaux, C. P. (See Huntington, Wm. S., assignor.)	
63, 228	Devereux, Robert, Buffalo, N. Y. Hammer.....	Mar. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 701	Devereux, Robert, assignor to self and Bernard H. Muelhe, Buffalo, N. Y. Bracket for lamps	Nov. 19, 1867.
69, 641	Devilliard, P., and A. Postweiler, France. Carriage door	Oct. 8, 1867.
63, 618	Deviney, Martin, and John Murphy. (See Black, Robert, assignor.)	
66, 471	Devlan, P. S., Jersey City, N. J. Coating wood. (Antedated March 24, 1867.)	Apr. 9, 1867.
66, 472	Same.....Journal and axle-box	July 9, 1867.
65, 181	Same.....Lining for journals and axle-boxes	July 9, 1867.
65, 476	Devoe, Frederick W., New York, N. Y. Metal can and box for paints and other materials	May 28, 1867.
66, 077	Same.....Can and box for paint, &c	June 4, 1867.
	Same.....Can and pail for holding paint	June 25, 1867.
65, 889	Devol, Nool B., Marshall, Ill. Treadle for sewing machines, and other purposes	June 18, 1867.
61, 406	Devon, William A., Port Richmond, N. Y. Boat-detaching tackle	Jan. 22, 1867.
66, 006	Same.....Boat-detaching apparatus. (Antedated June 11, 1867.)	June 25, 1867.
67, 419	Same.....Richmond, N. Y. Apparatus for raising and lowering ships' boats. (Antedated July 23, 1867)	Aug. 6, 1867.
71, 145	Same.....Port Richmond, N. Y. Self-lubricating gib.	Nov. 19, 1867.
	Devos, Peter M. (See Boize, Charles, assignor.)	
2, 556	DeVoursney, A. P. (See Boudren, Thomas, assignor) (Design.)	
70, 422	DeVoursney, Marcus, Newark, N. J. Carriage lamp (Design)	May 21, 1867.
70, 975	Same.....Fastening for coach lamps	Nov. 5, 1867.
64, 288	DeVries, Peter, Adrian, Mich. Boot-tree	Nov. 19, 1867.
70, 077	Dewey, George, Blooming Valley, Pa. Window sash	Apr. 30, 1867.
65, 653	Same.....Water backs and grates for cooking and heating stoves	Oct. 22, 1867.
63, 229	Dewey, S., and S. W. Patterson. (See Patterson and Dewey.)	
64, 501	Dewey, William L., Bridgeport, Conn. Napkin-holder	June 11, 1867.
68, 966	Dewey, W. L., and Charles Coester, jr. (See Coester and Dewey.)	
67, 032	DeWitt, Henry C., St. Louis, Mo. Burning oil	Mar. 26, 1867.
63, 868	DeWitt, Thomas, Detroit, Mich. Carriage-spring and coupling	May 7, 1867.
69, 782	Same.....Carriage spring	Sept. 17, 1867.
	Dexter, Albert M., assignor to Isaac Townsend, Philadelphia, Pa. Bread cutter	July 23, 1867.
	Dexter, John A., deceased, by William M. Dexter, administrator, assignor to William A. Newton, Augusta, Ill. Stalk cutter	Apr. 16, 1867.
	Dexter, Thomas B., Lynn, Mass. Steam gauge cock	Oct. 15, 1867.
	Deyermant, William, et al. (See Tyler, Samuel W., assignor.)	
	Deyo, James K., and J. Warren Hitchcock. (See Hitchcock and Deyo.)	
70, 671	DeZavala, Henry. (See Plumb, W. H., assignor.)	
69, 081	DeZeng, William S., Geneva, N. Y. Preparation of fertilizers	Nov. 5, 1867.
65, 712	Dhart, E. F., Swan Creek, Ill. Cultivator	Sept. 24, 1867.
	D'Heureuse, R., San Francisco, Cal. Mode of fermenting liquids for distillation and other purposes	Aug. 6, 1867.
67, 107	Diamond, Matthew. (See Welch, Wm., assignor.)	
64, 081	Dibble, F. J., assignor to self and Marshall E. Hunter, Chicago, Ill. Folding seat and arm	July 23, 1867.
63, 709	Dibble, John L., New York, N. Y. Exercising club	Apr. 23, 1867.
68, 491	Dibble, Wm. H., assignor to Samuel S. White, Bordentown, N. J. Dental apparatus	Apr. 9, 1867.
64, 082	Dibblee, John et al. (See Hildroth & Smith, assignors.)	
63, 619	Diblin, Tertullus S., New York, N. Y. Fire escape	Sept. 10, 1867.
72, 273	Dick, Alexander, Buffalo, N. Y. Carriage for children	Apr. 23, 1867.
64, 502	Dick, David, Meadville, Pa. Air and gas engine	Apr. 9, 1867.
61, 725	Dick, David, Corning, N. Y. Wood-turning lathe	Dec. 17, 1867.
65, 354	Dick, Robert, Buffalo, N. Y. Addressing machine	May 7, 1867.
64, 752	Dickson, John, Vevay, Ind. Farm gate	Feb. 5, 1867.
68, 853	Same.....Gate	June 4, 1867.
	Dickenson, Henry L., East Berlin, Conn. Measure and funnel, combined	May 14, 1867.
	Dickerson, Edward N., New York, N. Y. Steam engine	Sept. 17, 1867.
	Dickey, Joseph R. (See Cramblitt, F. A., assignor.)	
64, 206	Dickinson, D. A., Baltimore, Md. Machine for husking corn	Apr. 30, 1867.
	Dickinson, E. M., & Company. (See Kendall, George F., assignor.)	
67, 171	Dickinson, Frederick, Geneva, Ohio. Field fence	May 14, 1867.
65, 355	Dickinson, Henry, Jersey City, N. J. Mold for casting ingots	July 30, 1867.
68, 492	Dickinson, John H., Chicopee Falls, Mass. Hay and straw cutter	June 4, 1867.
66, 225	Dickinson, J. L., Dubuque, Iowa. Variable cut-off valve gear	Sept. 10, 1867.
72, 464	Dickson, W. P., D. S. Witman, and G. W. Robold, Reading, Pa. Hydrant	July 2, 1867.
	Dickson, George A., Woodcock Township, Pa. Tool for opening cans	Dec. 24, 1867.
	Dickson, Myron. (See Stith, Henry T., assignor.)	
63, 230	Dickson, Theodore I. (See Eddy, Charles H., assignor.)	
68, 854	Dickson, Walter, Albany, N. Y. Lock	Mar. 26, 1867.
	Diedrichs, Menno Albertus, and Johann Henrious, Baltimore, Md. Grinding and polishing metals	Sept. 17, 1867.
	Diehl, F. and H. (See Gilliam, Algernon, assignor.)	
	Same.....same.	
	Diessel, C. F., and Leopold Wegmann. (See Wegmann & Diessel.)	
66, 473	Dieterich, Nicholas, Sandwich, Ill. Check hook	July 9, 1867.
	Dieterichs, E. F., and Waldron J. Cheyney. (See Cheyney & Dieterichs.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
	Dieterichs, W. F., and L. R. Norman. (See Norman & Dieterichs., Same.....same.	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Dietsch, M., and J. E. Bendix. (See Bendix & Dietsch.)	
65, 182	Dietz, George F., Burlington, N. Y. Attaching thills to vehicles.....	May 28, 1867.
66, 226	Dietz, Henry, New York, N. Y. Stove for carpenters' use.....	July 2, 1867.
67, 172	Diffenderfer, George, Lewisburg, Pa. Portable oven for drying fruit.....	July 30, 1867.
	Dighton Furnace Company. * (See Fidler, Robert, assignor.)	
70, 324	Dike, Solon, New York, N. Y. Truss and supporter.....	Oct. 29, 1867.
72, 817	Dilks, Jas. H., assignor to C. T. Reynolds & Co., New York, N. Y. Process of making soluble bluing, for use in laundries and in bleaching.....	Dec. 31, 1867.
72, 818	Same..... Lump blue, for use in laundries and in bleaching.....	Dec. 31, 1867.
71, 998	Dill, Henry J., Cummington, Mass. Saw buck.....	Dec. 10, 1867.
69, 325	Dillaway, Hiram, Sandwich, Mass. Glassware press.....	Oct. 1, 1867.
68, 855	Dilley, Martin A., Mendon, Mich. Hay loader.....	Sept. 17, 1867.
71, 859	Dillingham, Hiram P., Norwalk, Ohio. Guide for saws in saw mills.....	Dec. 10, 1867.
70, 976	Dillman, William P., Joliet, Ill. Harvester rake.....	Nov. 19, 1867.
67, 637	Dillon, James M., Wheeling, West Va. Steam generator.....	Aug. 13, 1867.
62, 400	Dillon, Robert, New York, N. Y. Bale hoop fastening.....	Feb. 26, 1867.
68, 419	Dilly, J. W., Roseville, Ill. Roller, stalk cutter and marker, combined.....	Sept. 3, 1867.
62, 615	Dils, O. P., Palmouth, Ky. Sulky plow.....	Mar. 5, 1867.
68, 710	Dimclow, John, assignor to self and T. P. and J. Stuard, Philadelphia, Pa. Kiln for burning clay pipes.....	Sept. 10, 1867.
64, 409	Dimock, S. F., Spencer, Ohio. Car brake.....	May 7, 1867.
68, 967	Dimond, George H., Bridgeport, Conn. Spring for fastening blind slats.....	Sept. 17, 1867.
64, 503	Dinc, Andrew J., Xenia, Ind. Earth auger.....	May 7, 1867.
	Dinsmore, Emmett, and Charles M. Plumb. (See Andrews, Solomon, assignor.)	
64, 642	Dinsmore, John V., assignor to self and Moses Harris, Milford, Mass. Car wheel.....	May 14, 1867.
69, 642	Disbrow, C. R., Bath, N. Y. Transplanter.....	Oct. 8, 1867.
65, 356	Disman, George W., Upper Sandusky, Ohio. Application of soft metal bearings for wagon and carriage boxes.....	June 4, 1867.
69, 783	Same..... Chesterville, Ohio. Alloy for journal boxes and other purposes.....	Oct. 15, 1867.
71, 717	Disney, Mordecai, San Francisco, Cal. Car coupling.....	Dec. 3, 1867.
68, 717	Disser, Caspar, West Union, Ohio. Shifting rails for buggy seat.....	Sept. 10, 1867.
63, 024	Disston, Charles, Philadelphia, Pa. Saw.....	Mar. 19, 1867.
63, 486	Same..... Saw.....	Apr. 2, 1867.
64, 953	Same..... Saw.....	May 21, 1867.
63, 025	Disston, Henry, Philadelphia, Pa. Buck saw frame.....	Mar. 19, 1867.
63, 487	Same..... Mode of manufacturing saw blades.....	Apr. 2, 1867.
64, 954	Same..... Process of treating steel blades.....	May 21, 1867.
67, 734	Same..... Hardening and straightening steel blades.....	Aug. 13, 1867.
70, 423	Same..... Device for setting saw teeth.....	Nov. 5, 1867.
70, 424	Same..... Device for sharpening saw teeth.....	Nov. 5, 1867.
	Disston, Henry, and James E. Atwood. (See Newton, Jonah, assignor.) (Reissue.)	
2, 726	Dithridge, Edward, Pittsburg, Pa. Lamp chimney..... (Design)	Aug. 6, 1867.
2, 727	Same..... Reflector..... (Design)	Aug. 6, 1867.
70, 325	Same..... Process of manufacturing silvered glassware.....	Oct. 29, 1867.
	Dit Lagieze, G. Elieze, and Martial Pidaut. (See Pidaut & Dit Lagieze.)	
62, 616	Diver, Daniel, Boone, Iowa. Lifting jack.....	Mar. 5, 1867.
64, 289	Divine, Allen O., Cambria Mills, Mich. Gate.....	Apr. 30, 1867.
64, 504	Dixce, Thomas, England. Brick machine.....	May 7, 1867.
70, 425	Dixon, D. A., St. Louis, Mo. Saddle-tree.....	Nov. 5, 1867.
72, 819	Dixon, Ellis W., Forest Grove, Oregon. Washing machine.....	Dec. 31, 1867.
67, 849	Dixon, Joseph, New York, N. Y. Tunnel.....	Aug. 20, 1867.
69, 326	Dixon, William, and Luman Heath, assignors to selves and T. P. Saunders, Adams, N. Y. Clutch for suspending hay forks.....	Oct. 1, 1867.
	Doan, Robert, and Francis Farquhar. (See Farquhar & Doan.)	
	Same..... same..... (Reissue.)	
	Doane, A. Sidney, et al. (See Hill, Samuel L., assignor.)..... (Reissue.)	
71, 999	Doane, Thomas, Boston, Mass. Carriage for rock drills.....	Dec. 10, 1867.
72, 820	Same..... Air pump.....	Dec. 31, 1867.
64, 849	Doane, William H., Gerritt V. Orton, and William E. London, assignors to J. A. Fay & Co., Cincinnati, Ohio. Planing machine.....	May 21, 1867.
65, 183	Doane, William H., and John Richards, Cincinnati, Ohio. Shaft coupling. (Ante-dated February 16, 1867.)	May 28, 1867.
65, 796	Doane, W. H., and W. E. London, Cincinnati, Ohio. Wood planing machine. (Ante-dated December 18, 1866.)	June 18, 1867.
	Doane, William H., and John Richards. (See Richards & Doane.)	
63, 710	Dobbs, E. K., Poughkeepsie, N. Y. Gate.....	Apr. 9, 1867.
66, 810	Dobson, Henry C., New York, N. Y. Banjo.....	July 16, 1867.
72, 821	Dochez, Louis A., New York. Axle box.....	Dec. 31, 1867.
66, 310	Dodds, T. W., England. Method of effecting the cementation of rails, axles, &c. (Patented in England December 1, 1865.)	July 2, 1867.
	Dodge & Wellington. (See Parker, Gardner R., assignor.)	
	Same..... (See Geer, John M., assignor.)	
2, 698	Dodge, Calvin, assignor to John B. Ryan, Cincinnati, Ohio. Fireplace.... (Reissue.)	July 23, 1867.
64, 644	Dodge, D., Rockford, Ill. Uterine supporter.....	May 14, 1867.
64, 290	Dodge, E. N., Plainview, Minn. Whiffletree.....	Apr. 30, 1867.
	Dodge, E. S., & Company. (See Shearman, John F., assignor.)	
67, 513	Dodge, George, Kalamazoo, Mich. Plow wheel.....	Aug. 6, 1867.
61, 173	Dodge, George Pomeroy, assignor to Nathaniel S. Dodge, England. Manufacture of rubber belting.....	Jan. 15, 1867.
67, 850	Dodge, John A., Auburn, N. Y. Harvester rake.....	Aug. 20, 1867.
67, 851	Same..... Harvester rake.....	Aug. 20, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
67, 852	Dodge, John A., Auburn, N. Y. Harvester	Aug. 20, 1867.
67, 853	Dodge, John A., William H. and Howard S. Stevenson, Auburn, N. Y. Harvester rake	Aug. 20, 1867.
71, 718	Dodge, John A., and George Perry, assignors to John A. Dodge, Auburn, N. Y. Harvester rake	Dec. 3, 1867.
66, 811	Dodge, John E., et al. (See Holbrook, Dodge & Marshall.)	July 16, 1867.
69, 643	Dodge, J. G., Louisville, Ky. Washing machine	Oct. 8, 1867.
	Same.....Plow	
	Same. (See Brinley, T. E. C., assignor.)	
	Dodge, R., and S. C. Raudlett. (See Rundlett & Dodge.)	
	Dodge, Thomas H., and T. W. Wellington. (See Rice, T. C., assignor.)	
	Same.....same.	
63, 620	Dodge, William C., Washington, D. C. Boat-detaching tackle	Apr. 9, 1867.
72, 614	Dodge, William J., assignor to self, J. L. Humphrey, and D. D. Smith, Syracuse, N. Y. Paint. (Antedated December 4, 1867.)	Dec. 24, 1867.
72, 822	Dodson, Silas, Jersey City, N. J. Portable mill	Dec. 31, 1867.
67, 420	Doebels, Henry, assignor to self and Peter Krier, Philo, Ohio. Bed bottom	Aug. 6, 1867.
67, 854	Doebert, Augustus F., Lancaster, N. Y. Meat chopper	Aug. 20, 1867.
63, 621	Doen, Edward, New Britain, Conn. Curtain fixture	Apr. 9, 1867.
	D'Oench, Guido, et al. (See Crohn, Moritz, assignor.)	
72, 465	Doering, F. B., England. Machine for boring rocks. (Patented in England September 4, 1867)	Dec. 24, 1867.
	Same.....Stand for rock-drilling engines. (Patented in England Nov. 9, 1866)	Dec. 24, 1867.
72, 466	Doering, Justus, Philadelphia, Pa. Filter	Jan. 22, 1867.
61, 407	Doisy, Agnes, Cincinnati, Ohio. Stick for trundling hoops	Dec. 17, 1867.
72, 174	Dolan, Thomas, Albany, N. Y. Bridge for billiard tables	Mar. 12, 1867.
62, 827	Doll, Arnold, Cleveland, Ohio. Operating feed wheel in sewing machines	Sept. 3, 1867.
68, 420	Dolley, J. H., and S. T. Thomas. (See Dolley & Thomas.)	
	Dominick, J. W., and Edward Corning. (See Hebbard, Alonzo, assignor.) (Design.)	
70, 977	Dominy, Felix, Penataquit, N. Y. Center board	Nov. 19, 1867.
68, 718	Dominy, Lorenzo, Ottawa, Ill. Riding attachment for plows	Sept. 10, 1867.
	Donald, James O. (See Hendrick, John H., assignor.)	
72, 375	Donaldson, Ireneus, Toledo, Iowa. Sulky plow	Dec. 17, 1867.
69, 903	Donaldson, John, Rockford, Ill. Grinding mill	Oct. 15, 1867.
66, 227	Donaldson, R. B., Washington, D. C. Pressure gauge for gas fitters	July 2, 1867.
66, 311	Donaldson, R. B., and Emmett Quinn, Washington, D. C. Steam gauge	July 2, 1867.
61, 522	Donehoo, Daniel M., Beaver, Pa. Safety bridle	Jan. 29, 1867.
66, 312	Same.....same	July 2, 1867.
62, 828	Doney, G. H., and Moses Clay, Lockport, Ill. Making soap	Mar. 12, 1867.
67, 735	Donnell, William A., Greensburg, Ind. Corn planter	Aug. 13, 1867.
67, 855	Donnelly, Matthew M., Cincinnati, Ohio. Moulder's flask. (Antedated Aug. 11, 1867.)	Aug. 20, 1867.
67, 856	Same.....same. (Antedated Aug. 11, 1867)	Aug. 20, 1867.
64, 505	Doolittle, A. B., assignor to Eli Terry, Hartford, Conn. Machine for polishing metal springs	May 7, 1867.
62, 737	Doolittle, A. J., Hamden, Conn. Pruning shears	Mar. 12, 1867.
66, 313	Same.....Spittoon envelope	July 2, 1867.
66, 812	Same.....Scrubbing brush	July 16, 1867.
61, 326	Doolittle, George W., Lincoln, Ill. Wheat drill	Jan. 22, 1867.
62, 118	Doremus, R. Ogden, New York, N. Y. Extinguishing fires	Feb. 19, 1867.
2, 800	Dorgan, T. A., Baltimore, Md. Stove door. (Design.)	Oct. 15, 1867.
2, 644	Dorian, Thomas H., Washington, D. C. Statuette. (Design.)	May 7, 1867.
72, 175	Dorman, H. C., North Bridgewater, Mass. Washing machine	Dec. 17, 1867.
64, 955	Dorman, L., Worcester, Mass. Carriage wheel hub	May 21, 1867.
	Dorman, O. P. (See Smyth, D. M., assignor.)	
	Dorr, Daniel, et al. (See Sykes, Chester W., assignor.)	
68, 291	Dorsett, Folsom, Chicago, Ill. Curing and preserving grain	Aug. 27, 1867.
62, 617	Dorwart, Benjamin K., Lancaster, Pa. Shutter bolt	Mar. 5, 1867.
68, 053	Dorwart, Benjamin K., assignor to self and Frank Stahl, Lancaster, Pa. Shutter fastening	Aug. 27, 1867.
69, 191	Dorwart, Benj. K., Lancaster, Pa., and Washington I. Hines, Frederick, Md. Fence	Sept. 24, 1867.
71, 146	Dorwart, Benj. K., and G. F. Rote, jr., Lancaster, Pa. Fence	Nov. 19, 1867.
71, 147	Same.....same	Nov. 19, 1867.
68, 719	Doten, Clark W., Boston, Mass. Steam engine lubricator	Sept. 10, 1867.
66, 228	Dotter, A. S., Philadelphia, Pa. Car seat	July 2, 1867.
66, 474	Dotterer, D. H., Philadelphia, Pa. Coupling journal and box	July 9, 1867.
67, 638	Same.....Axle box and hanger	Aug. 13, 1867.
65, 797	Dotterer, D. H., assignor to self and Dillwyn Parrish, Philadelphia, Pa. Axle box	June 18, 1867.
	Doty & Rawlins. (See Little & Dabey, assignors.)	
62, 119	Doty, A. E., assignor to J. I. New and C. H. Doty, Ilion, N. Y. Sleigh	Feb. 19, 1867.
66, 813	Doty, Duane, Detroit, Mich. Folding table	July 16, 1867.
63, 231	Doty, William M., New York, N. Y. Clothes pin	Mar. 26, 1867.
72, 823	Doty, William M., assignor to R. C. Browning, New York, N. Y. Clothes pin	Dec. 31, 1867.
61, 056	Doud, Bernard, assignor to self and A. Holmes, Cortland, N. Y. Cement composition for pavements, floors, walks, &c	Jan. 8, 1867.
64, 291	Doud, E. O., and W. F. Beardley, Penfield, N. Y. Potato digger	Apr. 30, 1867.
70, 819	Doud, Orlean, assignor to self and Isiah Rowe, Dansville, N. Y. Gate	Nov. 12, 1867.
67, 276	Doudes, Warren B., Canton, Ohio. Lighting cigars	July 30, 1867.
64, 083	Doudna, L. M., Elmira, N. Y. Horse hay fork	Apr. 23, 1867.
	Dougherty, H. F. (See Ingersoll, Platt C., assignor.)	
	Same.....same	
	Same.....same	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 645	Dougherty, James, Philadelphia, Pa. Cupola furnace.	May 14, 1867.
68, 856	Dougherty, John B., Rochester, N. Y. Barrel head machine. (Antedated September 4, 1867).	Sept. 17, 1867.
66, 685	Dougherty, Joshua W., and F. W. Gerecke, Newburg, N. Y. Ice cream freezer.	July 16, 1867.
64, 506	Doughty, Frank B., N. Y. Interfering attachment.	May 7, 1867.
68, 054	Doughty, John H., New York, N. Y. Clothes dryer.	Aug. 27, 1867.
62, 258	Doughty, J. W., and B. F. Olmstead, Newburg, N. Y. Boiler feeder.	Feb. 19, 1867.
70, 538	Doughty, John W., and Horatio B. Beckman, Newburg, N. Y. Feed water heater for steam generators.	Nov. 5, 1867.
61, 656	Douglas, Bernard, New York, and Wm. H. Walton, Brooklyn, N. Y. Apparatus for carburetting air.	Jan. 29, 1867.
70, 702	Douglas, Frank, Norwich, Conn. Blind staple.	Nov. 12, 1867.
	Douglas, Frank. (See Sweet, George C., assignor.)	
64, 292	Douglas, J. W., assignor to W. and B. Douglas, Middletown, Conn. Hose coupling.	Apr. 30, 1867.
69, 192	Douglas, Richard B., Cleveland, Ohio. Apparatus for filtering petroleum. (Antedated September 12, 1867).	Sept. 24, 1867.
	Douglas, W. and B. (See North, Henry S., assignor.)	
64, 646	Douglas, Wm., and H. M. Ingler, Bellair, Ohio. Oil cup for machinery.	May 14, 1867.
	Douglass, A. N., and M. D. Cone. (See Cone and Douglass.)	
	Same. same.	
71, 719	Douglass, Joseph, McConnelstown, Pa. Yard measure.	Dec. 3, 1867.
61, 408	Douthit, J. H., Albany, Oregon. Gang plow.	Jan. 22, 1867.
	Dovell, Louis, and Chas. C. Buckley. (See Buckley & Dovell). (Design.)	
61, 327	Dow, George H., Freeport, Ill. Washing machine.	Jan. 22, 1867.
65, 731	Same. Bed bottom.	June 11, 1867.
68, 354	Same. Churn dasher.	Sept. 3, 1867.
	Dow, Lavias F. (See Harsha, Mortimer S., assignor.)	
61, 523	Dowd, James, Boston, Mass. Wagon.	Jan. 29, 1867.
61, 174	Dowlin, Levi W., Sherbrooke, Canada East. Vulcanizing flask for dentists.	Jan. 15, 1867.
65, 654	Dowling, George, Fair Haven, Conn. Compasses used in calking seams.	June 11, 1867.
	Downe, E., and S. E. Mason. (See Mason & Downe.)	
68, 493	Dewner, Andrew, Hammondsville, Ohio. Wagon lock.	Sept. 3, 1867.
	Downes, L. T., and Anton Zschille. (See Zschille & Downes.)	
63, 468	Downie, Robert E., and H. C. Johnson, Delevan, Wis. Washing machine.	Apr. 2, 1867.
70, 978	Downing, George, assignor to self and Robert Hermance, Schuylerville, N. Y. Rock drilling machine.	Nov. 19, 1867.
72, 060	Downing, John H., Salem, Mass. Railway chair.	Dec. 10, 1867.
	Downing, Oliver. (See Lucas, William, assignor.)	
66, 133	Downman, R. W., Georgetown, D. C. Drain plow.	June 25, 1867.
	Downs & Co.'s Manufacturing Company. (See Pollard, Wm. H., assignor.)	
67, 639	Downs, Sewall H., Bangor, Maine. Travellers for the jib booms of vessels.	Aug. 13, 1867.
68, 055	Dowse, Jabez B., Lockport, Ill. Apparatus for exploding by electricity.	Aug. 27, 1867.
61, 175	Doyle, George, Worcester, Mass. Steam pump valve gear.	Jan. 15, 1867.
	Doyle, James. (See Clifford, Patrick, assignor.)	
73, 001	Doyle, John, Hoboken, N. J., and Timothy A. Martin, New York, N. Y. Rotary pump.	Dec. 10, 1867.
66, 686	Draeger, Charles, Ladoga, Ind. Washing machine.	July 16, 1867.
	Drake, Ellis, and C. Dyer, jr. (See Dyer & Drake.)	
	Same. same.	
	Drake, E. H., and M. W. Stevens. (See Stevens & Drake.)	
	Drake, F. E. (See Hill, Sylvester B., assignor.)	
66, 814	Drake, James L., Boston, N. Y. Milk pail and strainer.	July 16, 1867.
	Drake, Joseph, et al. (See Russell, Carpenter & Drake.)	
72, 376	Drake, Levi F., and Enoch Egginton, Portland, Maine. Lamp.	Dec. 17, 1867.
61, 328	Drake, Mahlon S., Newark, N. J. Barrel bung.	Jan. 22, 1867.
61, 814	Same. Machine for pouncing hats.	Feb. 5, 1867.
	Drake, Oliver P., Boston, Mass., Apparatus for combining hydro-carbon vapor with air. (Extension.)	Aug. 29, 1867.
	Drake, Oliver P., assignor to Automatic Gas Machine Company, Boston, Mass. Apparatus for combining hydro-carbon vapor with air. (Disclaimer.)	Aug. 30, 1867.
	Drake, Sill & Hutson. (See Sill, Joseph, assignor.)	
	Drake, S. A., and C. G. Bennet. (See Bennet & Drake.)	
68, 494	Drake, W. L., Sturgis, Mich. Brick press.	Sept. 3, 1867.
64, 410	Draper, Daniel A., Cambridge, Mass. Device for forming letters on type blocks.	May 7, 1867.
72, 176	Draper, E. D., Hopedale, and E. W. Glover, Medford, Mass. Fire-proof safe.	Dec. 17, 1867.
60, 704	Draper, George, Milford, Mass. Spindle and bolster for spinning machines.	Jan. 1, 1867.
	Draper, G., and W. W. Dutcher. (See Dutcher & Draper.)	
	Draper, George, and Jesse D. Cottrell. (See Cottrell & Draper.)	
	Draper, Henry C., and Theodore Purse. (See Purse & Draper.)	
	Draper, Joshua. (See Brown, James B., assignor.)	
69, 547	Draper, Virgil, assignor to Oscar M. Draper, North Attleborough, Mass. Device for the manufacture of watch keys.	Oct. 8, 1867.
71, 148	Drawbaugh, Daniel, Eberly's Mill, Pa. Nail-plate feeding device.	Nov. 19, 1867.
66, 475	Drayton, Benjamin Adams, Utica, N. Y. Paint brush.	July 9, 1867.
70, 702	Dreidsl, Theodore, Cincinnati, Ohio. Blucing paper for laundry purposes.	Nov. 12, 1867.
71, 860	Dresser, Charles A., (George A. Dresser, trustee,) New York, N. Y. Producing calcium-magnesium light.	Dec. 10, 1867.
69, 193	Dreusike, Julius, Cincinnati, Ohio. Bed bottom.	Sept. 24, 1867.
64, 850	Drew, James W., assignor of one-half interest to Joseph N. Townson, Stockbridge, Mich. Wheel vehicles. (Antedated May 16, 1867).	May 21, 1867.
63, 687	Drew, Noah, Howell, Mich. Churns.	July 16, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 450	Drew, Reuben W., Lowell, Mass. Revolving fire-arm	Apr. 2, 1867.
2, 567	Drew, R. W., assignor to Alfred B. Ely, Newton, Mass. Sewing machine. (Reissue)	Apr. 16, 1867.
2, 578	Same..... (Division A, reissue)	Apr. 30, 1867.
2, 579	Same..... (Division B, reissue)	Apr. 30, 1867.
2, 580	Same..... (Division C, reissue)	Apr. 30, 1867.
72, 177	Drexler, Constantine, Washington, D. C. Device for securing and feeding soft crabs.	Dec. 17, 1867.
64, 956	Dreyfus, Isidore, New York, N. Y. Automatic lubricator	May 21, 1867.
69, 644	Driggs, James D., assignor to self and Ed. Merrill, New Bedford, Mass. Die plate	Oct. 8, 1867.
61, 176	Driggs, Jehiel C., assignor to Matthew T. Higgins, New York, N. Y. Sewing machine.	Jan. 15, 1867.
69, 416	Driggs, Spencer D., New York, N. Y. Dikes and levees to rivers	Oct. 1, 1867.
70, 177	Dripps, W. A. Fort Wayne, Ind. Pneumatic spring	Oct. 2, 1867.
71, 465	Driscoll, J. B., New York, N. Y. Stove and furnace	Nov. 26, 1867.
70, 178	Driver, Henry W., Havana, Ill. Washing machine	Oct. 29, 1867.
64, 530	Drucker, Edward, France. Corset	May 7, 1867.
	Drullard, Solomon, Jr. (See Watson, Joseph, assignor.)	
64, 957	Drum, Simon, Allegheny, Pa. Sash pulley	May 21, 1867.
65, 477	Drummond, James F., New York, N. Y. Can or box for holding paints.	June 4, 1867.
72, 002	Same..... Grinding mill	Dec. 10, 1867.
67, 963	Drummond, Thomas R., Hartford, Conn. Slate cutter	Aug. 20, 1867.
61, 614	Dryden, George, assignor to self and E. A. Prescott, Worcester, Mass. Piston packing	Jan. 29, 1867.
67, 173	Dryden, W. A. and C. E., Monmouth, Ill. Cultivator	July 30, 1867.
2, 475	Dubber, J. Frederick, Brooklyn, N. Y. Pocket book	Feb. 12, 1867.
64, 507	Same..... Corset fastening	May 7, 1867.
	Dubois, Charles W. (See Seabury, Alfred M., assignor.)	
62, 534	Duburn, A. M., and J. Keith, Chicago, Ill. Frame for supporting stoves on vessels.	Mar. 5, 1867.
68, 968	Duc, Francis H., Charleston, S. C. Ice cream freezer	Sept. 17, 1867.
68, 330	Duchemin, William, and Albert Jeffers, Lynn, Mass. Manufacture of boots and shoes	Aug. 27, 1867.
72, 003	Duchesne, Joseph J., Lacon, Ill. Pivot gearing	Dec. 10, 1867.
	Duckworth, Christopher, Mt. Carmel, Conn. Loom	June 14, 1867.
	Same..... Power loom	June 14, 1867.
	Same..... same	June 14, 1867.
60, 705	Ducur, Claude, New York, N. Y. Safety attachment to carriages	Jan. 1, 1867.
61, 177	Dudderar, George W., Unionville, Md. Device for protecting trees from the borer	Jan. 15, 1867.
61, 815	Dudgeon, Richard, New York, N. Y. Apparatus for fastening and expanding boiler tubes	Feb. 5, 1867.
	Dudly, Edward C. (See Mosher, Henry W., assignor.)	
67, 736	Dudley, George D., assignor to Woods, Sherwood & Company, Lowell, Mass. Corn popper	Aug. 13, 1867.
	Dudley Hosiery Company. (See Cotton, William, assignor.)	
71, 466	Dueberg, Helmuth, New York, N. Y. Brick machine	Nov. 26, 1867.
72, 004	Duffner, William, Petersburg, Ind. Cultivator	Dec. 10, 1867.
	Duffy, John, and A. C. Babcock. (See Babcock & Duffy)	
68, 969	Dugdale, Thomas A., Richmond, Ind. Hand loom. (Antedated Sept. 7, 1867)	Sept. 17, 1867.
65, 572	Dugdale, William R., Penn Township, Pa. Gate	July 9, 1867.
72, 368	Duke, E. T., Plattsburgh, Neb. Stove damper	Nov. 26, 1867.
63, 869	Dumery, Constant J., assignor to Francis C. Cormier, France. Apparatus for tanning. (Antedated April 10, 1867)	Apr. 16, 1867.
65, 888	Dummeldinger, Charles, Cleveland, Ohio. Roof for railroad cars	June 18, 1867.
71, 861	Dummer, Samuel R., New York, N. Y. Calendar attachment to inkstands	Dec. 10, 1867.
60, 863	Same..... Toy gun	Jan. 1, 1867.
70, 704	Du Motay, Cyprier Marie Essie, and Charles Raphael Marechal, France. Mode of producing hydrogen gas	Nov. 12, 1867.
70, 705	Same..... Mode of producing oxygen gas	Nov. 12, 1867.
71, 467	Duppelmann, Edward, Washington, D. C. Process of disinfecting rooms, ships, and other structures	Nov. 26, 1867.
60, 839	Dunaway, Elijah F., Indianapolis, Ind. Machine for wiring blind slats. (Antedated Dec. 19, 1866)	Jan. 1, 1867.
72, 178	Dunback, Charles S., Swampscot, Mass. Rocker for chairs or cradles	Dec. 17, 1867.
61, 816	Dunbar, A. T., and A. McNaught, Alba, Pa. Combined grain separator and straw carrier	Feb. 5, 1867.
67, 737	Same..... Device to attach to firkins, barrels, &c.	Aug. 13, 1867.
67, 174	Dunbar, Robert, Buffalo, N. Y. Water wheels	July 30, 1867.
67, 175	Same..... same	July 30, 1867.
	Same..... (See Wooster, J. H., assignor.)	
67, 277	Duncan, Charles S., assignor to self and H. S. Saroni, Baltimore, Md. Vapor burner for heating. (Antedated July 26, 1867)	July 30, 1867.
65, 889	Duncan, Daniel, and E. R. Rideley, Olney, Ill. Combined sower, planter, and cultivator	June 18, 1867.
66, 815	Same..... Washing machine	July 16, 1867.
	Duncan, James, et al. (See Rowe, Abram, assignor.)	
64, 647	Duncan, James C., Olney, Ill. Plow	May 14, 1867.
	Same..... (See Alexander, J. B., assignor.)	
64, 648	Duncan, James C., assignor to self and J. B. Alexander, Olney, Ill. Portable fence.	May 14, 1867.
	Duncan, William, et al. (See Hays, Duncan & Bowen.)	
67, 176	Duncan, W. A., Syracuse, N. Y. Machine for raking and loading hay. (Antedated July 15, 1867)	July 30, 1867.
	Duncan, William P. (See Todd, John, assignor.)	
2, 728	Dundas, John, New York, N. Y. Ornamental star..... (Design)	Aug. 6, 1867.
	Dunham, Charles P. (See Arnold, Israel B., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 179	Dunham, D. A., Pilatka, Fla. Cradle.....	Oct. 29, 1867.
67, 421	Dunham, George, Unionville, Conn. Machine for making nuts.....	Aug. 6, 1867.
2, 772	Dunham, John G., assignor, through mesne assignments, to Peter V. Staats, Adam R. Reese, C. S. Melick, Andrew J. Farrand, George Sweeney, John W. Dean, and Rufus Slicker, Raritan, N. J. Reaping and mowing machines.....(Reissue.)	Feb. 5, 1867.
2, 647	Dunham, John G., assignor through mesne assignments to Peter V. Staats, Raritan, N. J. Mowing machines.....(Division A, reissue.)	June 11, 1867.
2, 648	Same.....(Division B, reissue.)	June 11, 1867.
64, 084	Dunham, Thomas H., Boston, Mass. Carpet wadding.....	June 11, 1867.
71, 591	Dunham, W. H., and James Widney, Allegheny, Pa. Car brake.....	Apr. 23, 1867.
60, 840	Dunklee, B. Wells, Boston, Mass. Coal stove.....	Dec. 3, 1867.
72, 467	Dunlap, A., Clyde, Ohio. Head rest.....	Jan. 1, 1867.
61, 928	Dunlap, Andrew. (See Wilson, Lewis, assignor.)	Dec. 24, 1867.
61, 928	Dunlap, George O., Chicopee, Mass. Carpet stretcher.....	Feb. 12, 1867.
61, 928	Dunlap, R. C., et al. (See Hartsuff, John H., assignor.)	
65, 550	Dunlap, William P., Maquoketa, Iowa. Wrench.....	June 11, 1867.
66, 668	Same.....Equalizing the draught of horse powers.....	July 16, 1867.
63, 489	Dunlop, George, Brooklyn, N. Y. Lithographic press.....	Apr. 2, 1867.
63, 870	Dunlop, J. B., Meriden, Conn. Glass cleaner.....	Apr. 16, 1867.
62, 945	Dunn, I. J., and Washington Whitney. (See Hunt, George W., assignor.)	
62, 945	Dunn, Patrick V., Calamus, Wis. Method of holding edged tools on grindstones.....	Mar. 19, 1867.
62, 945	Dunn, R. B., and John C. Flint. (See Chandler, Moses, assignor).....(Reissue.)	
62, 945	Same.....(See Webb, Albion, assignor).....(Reissue.)	
69, 327	Dunn, William, Newark, N. J. Adjustable frame for stretching hides.....	Oct. 1, 1867.
64, 411	Dunn, William E., Delaware, Ohio. Manufacture of artificial teeth. (Antedated Feb. 2, 1867).....	May 7, 1867.
63, 871	Dunn, W. M., and J. M. Merrymon. (See Merrymon & Dunn.)	
72, 274	Dunning, Benjamin W., Brooklyn, N. Y. Cooking kettle.....	Apr. 16, 1867.
70, 706	Dunning, W. B., Geneva, N. Y. Railroad car ventilator.....	Dec. 17, 1867.
62, 738	Dunphy, Henry, New York, N. Y. Cloth folding machine.....	Nov. 13, 1867.
62, 738	Dunscomb, Edward, Boston, Mass. Vacuum pump. (Antedated Feb. 28, 1867).....	Mar. 13, 1867.
62, 739	Same.....Vacuum pump, pan, &c. (Antedated Feb. 28, 1867).....	Mar. 12, 1867.
2, 601	Dunworth, Andrew and Wilfred, Dobbs's Ferry, N. Y. Pitcher.....(Design).	Mar. 19, 1867.
65, 891	Dupue, Charles C., Wayne, Mich. Wagon-spoke machine.....	June 18, 1867.
72, 824	Durand, Ezra, Norwich, Conn. Dulcimer.....	Dec. 31, 1867.
65, 184	Durant, William C., West Troy, N. Y. Base-burning stove.....	May 28, 1867.
66, 957	Same.....Coal stove.....	July 23, 1867.
72, 377	Durfee, Dilectus, Fort Seneca, Ohio. Fruit dryer.....	Dec. 17, 1867.
60, 864	Durfee, Sidney S., assignor to self and Charles A. Gregory, Chicago, Ill. Method of removing bars from rivers and harbors.....	Jan. 1, 1867.
66, 689	Durfeld, John F. (See Huffer, Tilgham A., assignor.)	
65, 185	Durgin, Charles A., New York, N. Y. Nutmeg grater.....	July 16, 1867.
65, 890	Durgin, J. W., assignor to E. Q. and A. H. Norton, Bangor, Maine. Machine for cutting slate.....	May 28, 1867.
69, 548	Durham, James H., and Sanford Rising, La Fayette, Ind. Sash supporter. (Antedated Dec. 18, 1866).....	June 18, 1867.
69, 549	Durkee, George B., Alden, N. Y. Harness snap.....	Oct. 8, 1867.
69, 550	Same.....same.....	Oct. 8, 1867.
71, 862	Same.....Hames.....	Oct. 8, 1867.
71, 720	Durkee, G. B., and W. H. Murray, assignors to selves and Isaac T. Safford, Chicago, Ill. Planing machine for wood.....	Dec. 10, 1867.
64, 293	Durn, E. H., France. Car brake. (Patented in France Oct. 25, 1866).....	Dec. 3, 1867.
64, 294	Duryea, W., Glen Cove, N. Y., and W. Ennis, Hudson, N. J. Heating drum attachment for furnaces.....	Apr. 30, 1867.
64, 294	Same.....Furnace for burning saw dust, &c.....	Apr. 30, 1867.
61, 057	Duryea, Wright, et al. (See Maunton, Jabez, assignor.)	
63, 841	Same.....same.....	
64, 649	Same.....same.....	
63, 372	Dusenbury, Philip S., Bessebel, Wis. Portable fence.....	Jan. 8, 1867.
63, 872	Dust, J. E., Hyattsville, Ohio. Table.....	Jan. 1, 1867.
64, 207	Dustan, James C., New Vernon, N. J. Liniment.....	May 14, 1867.
63, 872	Dutcher, Warren W., Milford, Mass. Loom temple.....	Apr. 2, 1867.
64, 207	Dutcher, W. W., and G. Draper, Milford, Mass. Loom temple.....	Apr. 16, 1867.
69, 784	Dutton, Noah, Janesville, Wis. Clog for preventing cows from frisking the tail while being milked.....	Apr. 30, 1867.
65, 655	Duvall, William T., Georgetown, D. C. Apparatus for separating gold, &c.....	Oct. 15, 1867.
62, 322	Duvoll, James C., Sardis, Miss. Cotton press.....	June 11, 1867.
62, 618	Dwellely, Lucius H., Dorchester, Mass. Machine for making horse-shoe nails.....	Feb. 26, 1867.
62, 829	Same.....Wood-turning lathe.....	Mar. 5, 1867.
62, 829	Same.....Machine for cutting the rolls of window blinds.....	Mar. 12, 1867.
62, 120	Dwellely, Lucius H., and Silas S. Putnam. (See Putnam & Dwellely.)	
67, 738	Same.....same.....	
64, 422	Dyar, Smith, Charlestown, Mass. Prepared leather.....	Feb. 19, 1867.
70, 078	Dye, Lewis R., assignor to self and Philip S. Scovel, Cranberry, N. J. Stump extractor.....	Aug. 13, 1867.
64, 422	Dyer, C., jr., and Ellis Drake, Stoughton, Mass. Boot and shoe heel.....	Aug. 6, 1867.
65, 656	Same.....same.....	Oct. 23, 1867.
64, 508	Dyer, S. P., Prairie Depot, Ohio. Evaporating pan.....	June 11, 1867.
2, 805	Dyott, Michael B., Philadelphia, Pa. Lamp.....	May 7, 1867.
2, 805	Same.....Emblem.....(Design)	Oct. 22, 1867.
2, 805	Dyson, Job, and Marcus Delevan. (See Delevan & Dyson.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 401	Eades, William and William Thomas, England. Apparatus for raising weights.....	Feb. 26, 1867.
71, 592	Eads, James B., St. Louis, Mo. Loading ordnance.....	Dec. 3, 1867.
62, 619	Eagan, G. L. and C. H., San Francisco, Cal. Composition for roofing.....	Mar. 5, 1867.
63, 873	Eagle, Alburts, Trenton, N. J. Machine for mixing roofing composition and other materials.....	Apr. 16, 1867.
2, 514	Eagle, Robert N., Washington, D. C. Fetter and hopple..... (Reissue)	Mar. 19, 1867.
62, 946	Same..... Hopple for horses.....	Mar. 19, 1867.
69, 551	Eagle, R. N., and William F. Goodwin, assignors to selves and William Duane Wilson, Washington, D. C. Machine for separating the exterior or bark from the interior or pith of sorghum and other plants. (Antedated Sept. 25, 1867).....	Oct. 8, 1867.
	Eames, C. J. (See Lawton & Jones, assignors.)	
65, 657	Eames, Charles James, New York, N. Y. Preventing incrustation of steam boilers.....	June 11, 1867.
65, 186	Eames C. J., and C. A. Seely, New York, N. Y. Composition for soap.....	May 28, 1867.
66, 573	Same..... Compound for the treatment of oils for lubricating.....	July 9, 1867.
2, 466	Eames, Charles T., Milford, Mass. Boot-tree..... (Reissue)	Jan. 29, 1867.
64, 000	Earl, George W., and James H. Hawley, Kalamazoo, Mich. Apparatus for registering games of billiards.....	Apr. 23, 1867.
61, 929	Earle, Timothy, Valley Falls, R. I. Wrench.....	Feb. 12, 1867.
2, 698	Earley, E. S., Philadelphia, Pa. Burial case or coffin..... (Design)	July 9, 1867.
71, 464	Same..... Fastening for burial casket.....	Nov. 26, 1867.
45, 068	Early, Daniel S., Hummelstown, Pa. Rock drill.....	May 28, 1867.
65, 551	Same..... Meat cutter.....	June 11, 1867.
66, 476	Early, Sallie Ann, assignor to Samuel R. Nagel, Philadelphia, Pa. Hair curler.....	July 9, 1867.
68, 355	Earnest, W. H., Parkersburg, W. Va. Clothes dryer and stand.....	Sept. 3, 1867.
63, 622	Earnshaw, John, Providence, R. I. Power loom.....	April 9, 1867.
66, 134	Same..... East Greenwich, R. I. Kaleidoscope.....	June 25, 1867.
66, 574	Same..... Loom.....	July 9, 1867.
72, 005	Same..... Woven fabric.....	Dec. 10, 1867.
72, 825	Earseman, Wm. A., and Robert W. Gray, Pittsburg, Pa. Apparatus for carburetting coal gas.....	Dec. 31, 1867.
	Eason, Warren E. (See Baker, George W., assignor.)	
65, 732	Easterbrook, jr., Matthew, Geneva, N. Y. Harvester.....	June 11, 1867.
	Easterley, John M. (See Markee, S., assignor.)	
63, 874	Easterly, James, Albany, N. Y. Hinge for covers for tea-kettles and hollow-ware.....	Apr. 16, 1867.
71, 469	Eastes, William T., Madison county, Ind. Churn.....	Nov. 26, 1867.
65, 798	Eastham, C. L., Rhodes Point, N. Y. Gang plow.....	June 18, 1867.
66, 816	Eastman, James C., Titusville, Pa. Drill jar.....	July 16, 1867.
68, 421	Eastman, Zebina, Chicago, Ill. Railway.....	Sept. 3, 1867.
65, 658	Eastwick, Edward, Baltimore, Md. Manufacture of refined sugar.....	June 11, 1867.
	Eastwick, W. W., and William Van Dyke. (See Van Dyke & Eastwick.)	
62, 121,	Eastwood, Joseph, et al. (See Stace & Baker, assignors.)	
	Eaton, Belden R., Clifton, Wis. Churn.....	Feb. 19, 1867.
	Eaton, Calvin. (See Bryant, Charles R., assignor.)	
68, 857	Eaton, Charles A., Minneapolis, Minn. Burglar alarm.....	Sept. 17, 1867.
	Eaton, Edwin A. (See Jenks, Lemuel P., assignor.)	
71, 288	Eaton, Edwin A., and William Carlton Ireland, assignors to Sanborn Steam Fire-proof Safe Association, Boston, Mass. Fire-proof safe.....	Nov. 26, 1867.
68, 858	Eaton, Eljah, Hartford, Conn. Thread pointer.....	Sept. 17, 1867.
2, 535	Eaton, Harrison, Amherst, N. H. Stove..... (Design)	Jan. 1, 1867.
	Eaton, Howard. (See Goeway, George, assignor.)	
	Eaton, L. W. (See Matthews, Wm., assignor.)	
60, 706	Eaton, R., England. Fire grate for steam boilers.....	Jan. 1, 1867.
60, 865	Eaton, Richard, Montreal, C. E. Railroad freight car.....	Jan. 1, 1867.
70, 979	Same..... England. Automatic ventilating stove.....	Nov. 19, 1867.
	Eaton, R. B., and D. Ashworth. (See Ashworth & Eaton.)	
64, 958	Eaton, Stephen W., Farmington, Me. Support or bearing for friction rollers.....	May 21, 1867.
	Eaton, W. F. (See Porter, S. L., assignor.)	
66, 477	Ebaugh, Henry H., Hereford, Md. Plow.....	July 9, 1867.
70, 326	Ebee, Justin, Hummelstown, Pa. Car coupling.....	Oct. 29, 1867.
66, 314	Eberly, Samuel, and George Hauck, Mechanicsburg, Pa. Horse rake.....	July 2, 1867.
70, 327	Eberly, Samuel, and Samuel Hauck, Mechanicsburg, Pa. Horse rake.....	Oct. 29, 1867.
71, 593	Ebermeyer, Kaspar, assignor to Max Riederer, Germany. Melodeon.....	Dec. 3, 1867.
69, 645	Ebert, Benjamin, John, Samuel B., and Augustus H., Frederick, Md. Padlock.....	Oct. 8, 1867.
61, 178	Ebert, J. W., and W. Zanesville, Ohio. Head block for saw-mills.....	Jan. 15, 1867.
	Ebertz, Fredereck, and Henry Buchner. (See Buchner & Ebertz.)	
63, 711	Eby, Jacob M., Warren, Ill. Double shovel plow.....	Apr. 9, 1867.
68, 056	Eby, Reuben N., Upper Leacock township, Pa. Cultivator.....	Aug. 27, 1867.
	Eby, Samuel. (See Breeman, Martin, assignor.)	
68, 614	Eceleston, C. H., Oxford, N. Y. Jet atomizing tube.....	Sept. 10, 1867.
	Eckart, W. R., and J. M. Scott. (See Scott & Eckart.)	
	Eckel, George, and Thomas F. Hall. (See Hall & Eckel.)	
	Eckels, Lewis G., and Joseph C. Marks. (See Marks & Eckels.)	
61, 179	Eckert, Augustus, Trenton, Ohio. Converting motion.....	Jan. 15, 1867.
64, 001	Eckert, Wm. H., Syracuse, N. Y. Plane iron.....	Apr. 23, 1867.
	Edams, J. B. (See Emerson, S. T., assignor.)	
61, 658	Eddowes, Anna, Frankfort, Pa. Attachment for handles to brushes, brooms, &c.....	Jan. 29, 1867.
60, 866	Eddy, Charles, Grass Lake, Mich. Scaffold bracket.....	Jan. 1, 1867.
62, 947	Eddy, Charles H., assignor to self and Theodore I. Dickson, Auburn, N. Y. Blind and shutter fastener.....	Mar. 19, 1867.
68, 495	Eddy, John, Barnesville, Ohio. Steam engine governor.....	Sept. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 615	Eddy, Laben, Taunton, Mass. Weighing scales. (Antedated Dec. 20, 1867)	Dec. 24, 1867.
65, 357	Eddy, Walden, Greenwich, N. Y. Plowbeam	June 4, 1867.
61, 524	Edgar, John S., Janesville, Wis. Portable fence	Jan. 29, 1867.
63, 147	Edge, James, Acquackanonk, N. J. Seed planter	Mar. 25, 1867.
68, 057	Edgell, James G., Brooklyn, N. Y. Lubricator for shafting	Aug. 27, 1867.
65, 799	Edgerton, Nathan H., Poitsville, Pa. Car replacer	June 18, 1867.
61, 726	Edgett, Andrew J., assignor to self, John W. Ferry, and Alorzo Graves, Hornellsville, N. Y. Well tubing	Feb. 5, 1867.
71, 470	Edmunds, B. F., and James Hamblett, jr., Boston, Mass. Escapement and dial indicator for electric clocks	Nov. 26, 1867.
69, 194	Edmi-on, Thomas A., Lakeport, Mich. Turning-plate for carriages	Sept. 24, 1867.
67, 177	Edmonds, Henry V., Norwich, Conn. Apparatus for exhibiting hymns, &c.	July 30, 1867.
66, 478	Edmonds, James P., Rochelle, Ill. Churn	July 9, 1867.
65, 800	Edmondson, George D., assignor to self and Albert E. Clarke, Detroit, Mich. Spectacles	June 18, 1867.
	Edmunds, W. H., and G. Simpson. (See Simpson & Edmunds.)	
70, 180	Edson, Jacob, Boston, Mass. Hoisting machine	Oct. 29, 1867.
70, 830	Same.....Capstan	Nov. 12, 1867.
72, 468	Same.....Lathe tool holder	Dec. 24, 1867.
62, 122	Edson, Nathaniel T., New Orleans, La. Washing machine	Feb. 19, 1867.
64, 295	Same.....Paddle wheel	Apr. 30, 1867.
68, 859	Same.....Cotton bale tie	Sept. 17, 1867.
2, 527	Edson, William F., assignor, through mesne assignments, to the McKay Heeling Machine Co. Boston, Mass. Machine for cutting and finishing shoe heels. (Reissue)	Mar. 26, 1867.
64, 296	Edstrom, E. P., Somerville, Mass. Horse collar	Apr. 30, 1867.
70, 079	Same.....Manufacture of horse collars	Oct. 22, 1867.
66, 817	Edwards, H. F., and W. C. Whiting, Worcester, Mass. Attaching thills to sleighs, &c. (Antedated July 8, 1867)	July 16, 1867.
71, 369	Edwards, Jabez, Lowell, Mass. Belt shifter for roving machines	Nov. 26, 1867.
63, 623	Edwards, Joseph L. A., New Orleans, La. Cotton planter	Apr. 9, 1867.
70, 980	Edwards, Solomon J., New Berlin, N. Y. Running gear for vehicles	Nov. 19, 1867.
2, 505	Egger, Kilian, South Courtland, N. Y. Method of extracting cream from whey. (Reissue)	Mar. 12, 1867.
67, 964	Eggert, C. L., Lawrence, Kansas. Churn	Aug. 20, 1867.
	Egginton, Enoch, and Levi F. Drake. (See Drake & Egginton.)	
62, 259	Eggleston, Andrew R., and Charles F. Swain, Ripon, Wis. Seeding machine	Feb. 19, 1867.
71, 471	Eggleston, Leonard, assignor to self and Rumsey & Company, Seneca Falls, N. Y. Machine for polishing inner surface of tubes	Nov. 26, 1867.
62, 123	Eglin, John, assignor to Thomas Aldridge Weston, England. Drift	Feb. 19, 1867.
	Egnew, William W., and James P. Force. (See Force & Egnew.)	
63, 787	Ehle, Herman, Utica, N. Y. Sash supporter	Apr. 16, 1867.
64, 852	Ehle, James A., Green Bush, Wis. Converting rectilinear into rotary motion	May 21, 1867.
63, 788	Eichenseer, George, Waterloo, Ill. Threshing machine	Apr. 16, 1867.
62, 019	Eichner, Friedrich, Chicago, Ill. Razor strap	Feb. 12, 1867.
72, 726	Eickemeyer, R., assignor to Eickemeyer Hat Blocking Machine Company, Yonkers, N. Y. Machine for blocking and stretching hats	Dec. 31, 1867.
71, 721	Eiffler, Carl Herrman, New York, N. Y. Locking knob latches	Dec. 3, 1867.
72, 378	Eiffler, Herrman, New York, N. Y. Padlock	Dec. 17, 1867.
68, 422	Eikerenkotter, August, and Frank Silver, Searsville, Cal. Mode of preserving coffee	Sept. 3, 1867.
64, 412	Elder, Francis, Chester, S. C. Washing machine	May 7, 1867.
	Elder, Henry L., et al. (See Steers, Abraham, assignor.)	
	Same.....same	
	Elder, John A., deceased, by Simon M. Elder, administrator, Portland, Me. Curving the backs of books. (Extension)	July 8, 1867.
	Eldredge, George W. (See Ashe, Robert, assignor.)	
	Eldridge, Jacob, et al. (See Bussell, E. T., assignor.)	
	Eldridge, James. (See Forrest, David, assignor.)	
64, 002	Eldridge, M., and F. A. Reed, Alexandria, Va. Grain elevator and dumping apparatus	Apr. 23, 1867.
66, 078	Ellenwood, jr., Daniel, Garrettsville, Ohio. Machine for shrinking tires	June 25, 1867.
61, 409	Ellerbeek, Robert E., Washington, D. C. Skate	Jan. 22, 1867.
69, 417	Ellershansen, Francis, Ottawa, Canada. Manufacture of cast steel. (Patented in Canada Sept. 14, 1867)	Oct. 1, 1867.
62, 260	Ellig, Henry, Bridgeport, Conn. Match case	Feb. 19, 1867.
	Elliot, George, and G. W. Harris. (See Harris & Elliot.)	
64, 208	Elliot, J. D., Grafton, Conn. Cloth-folding machine	Apr. 30, 1867.
61, 058	Elliot, William H., New York, N. Y. Potato digger	Jan. 8, 1867.
65, 801	Same.....Rock excavator	June 18, 1867.
65, 802	Same.....Drilling machine	June 18, 1867.
2, 650	Same.....Revolving firearm	June 18, 1867.
68, 292	Same.....Hammer for breech-loading firearms. (Reissue)	Aug. 27, 1867.
64, 003	Elliot, Wm. H., assignor to John Kingdon, New York, N. Y. Hay loader	Apr. 23, 1867.
65, 478	Elliot, Wm. H., assignor to Lovell L. Johnson, New York, N. Y. Hay loader	June 4, 1867.
	Elliot, W. H., and Andrew Johnson. (See Johnson & Elliot.)	
62, 535	Elliot, C. C., Escanawba, Mich. Snow scraper for locomotives, &c.	Mar. 5, 1867.
62, 402	Elliott, Charles F., assignor to self and O. O. Barrett, Great Falls, N. Y. Wheel for vehicles	Feb. 26, 1867.
	Elliott Felting Mills. (See Waite, Enoch, assignor.)	
	Same. (See Pollard, J. E., assignor.)	
72, 826	Elliott, James, New York, N. Y. Stamp extractor	Dec. 31, 1867.
61, 817	Elliott, John T., Grand Rapids, Mich. Clothes dryer	Feb. 5, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 261	Elliott, jr., Lewis, New Haven, Conn. India-rubber whip socket.	Feb. 19, 1867.
70, 539	Elliott, Stephen, Richmond, Ind. Straw cutters.	Nov. 5, 1867.
72, 469	Ellis, Augustin, and Oliver Albertson, Salem, Ind. Fence.	Dec. 24, 1867.
72, 470	Same..... Animal trap.	Dec. 24, 1867.
	Ellis, Benjamin F. (See Fowler, Benjamin E., assignor.)	
70, 821	Ellis, David B., Ypsilanti, Mich. Wheelbarrow.	Nov. 12, 1867.
64, 539	Ellis, Freeman, Lafayette, Ohio. Fence.	May 7, 1867.
67, 789	Ellis, John, New York, and Edward C. Kattell, Binghamton, N. Y. Apparatus for distilling and refining petroleum, &c.	Apr. 16, 1867.
68, 869	Same..... Apparatus for distilling, evaporating, and refining oils and other liquids.	Sept. 17, 1867.
64, 004	Ells, George F., Troy, N. Y. Hand card.	Apr. 23, 1867.
67, 837	Ells, Josiah W., Pittsburg, Pa. Mode of forming a steel surface on sheet and bar iron.	Aug. 20, 1867.
69, 904	Same..... Mode of coating wrought iron with cast steel.	Oct. 15, 1867.
63, 423	Ells, Josiah W., assignor to self and Isaiah C. Breed, Pittsburg, Pa. Method of making axe blanks.	Sept. 3, 1867.
	Ellsworth, Eliza. (See Lutimer, James F., assignor.)	
71, 722	Ellsworth, E. A., Washington, D. C. Nut lock and washer.	Dec. 3, 1867.
61, 933	Ellsworth, Oliver, assignor to self and Richard Smith, Boston, Mass. Machine for drying paper in paper-making machines.	Feb. 12, 1867.
69, 195	Ellyson, Webster, West Branch, Iowa. Sheep-shearing table.	Sept. 24, 1867.
61, 180	Elmer, Albert E., Greenfield, Mass. Railway car axle.	Jan. 15, 1867.
66, 690	Elmer, A. W., assignor to self and Christian Ensminger, Springfield, Mass. Hand saw.	July 16, 1867.
	Elmer, A. W., and C. Ensminger. (See Ensminger & Elmer.)	
69, 418	Elmer, D. F., Springfield, Mass. Index gauger and caliper.	Oct. 1, 1867.
63, 026	Elmer, William, New York, N. Y. Process of separating metals.	Mar. 19, 1867.
65, 733	Same..... Process of manufacturing illuminating gas.	June 11, 1867.
73, 436	Elmer, W., and H. G. Hubert, New York, N. Y. Ozone generator.	Nov. 5, 1867.
61, 659	Elmer, W. H., Fair Water, Wis. Water wheel.	Jan. 8, 1867.
67, 965	Elmes, Geo., assignor to self and F. B. Wells, Chestertown, N. Y. Sewing machine.	Aug. 20, 1867.
67, 966	Elrod, W. M., assignor to self and George L. Williams, St. Louis, Mo. Oscillating piston engine.	Aug. 20, 1867.
	Elsley, George, and Dwight S. Spafford. (See Spafford & Elsley.)	
64, 650	Elson, Julius, Boston, Mass. Breech-loading fire-arm.	May 14, 1867.
67, 033	Same..... Breech-loading fire-arm.	July 23, 1867.
71, 142	Same..... same.	Nov. 19, 1867.
67, 739	Elston, J. A., Elston Station, Mo. Aerial machine.	Aug. 13, 1867.
67, 423	Elting, Peter T., Buffalo, N. Y. Smut machine.	Aug. 6, 1867.
66, 691	Elton, Charles A., Hillsboro', Ohio. Plow.	July 16, 1867.
64, 825	Elward, John H., Mendota, Ill. Measuring funnel.	May 14, 1867.
66, 575	Same..... Clamp for ropes or wires.	July 9, 1867.
63, 646	Same..... Clamp for ropes and wires.	Oct. 8, 1867.
61, 410	Ely, Alfred B., Newton, Mass. Machine for cutting files.	Jan. 22, 1867.
63, 373	Same..... Machine for separating fibrous substances from the seed.	Apr. 2, 1867.
64, 209	Same..... Let-off and tension for yarns, threads, &c.	Apr. 30, 1867.
69, 082	Same..... Boot and shoe tip.	Sept. 24, 1867.
72, 379	Same..... Warp-feeding mechanism for looms.	Dec. 17, 1867.
72, 727	Same..... Boot and shoe.	Dec. 31, 1867.
	Ely, Alfred B. (See Preston, James W., assignor.)	
	Same..... (See Hotchkiss, Truman, assignor.)	
	Same..... (See Stevens, Edgar M., assignor.)	
	Same..... same.	
	Same..... (See Hall, Luther, assignor.) (Reissue.)	
	Same..... (See Sargent, Sumner, assignor.) (Reissue.)	
	Same..... (See Marden, Jeremiah A., assignor.)	
	Same..... (See Hall, Luther, assignor.)	
	Same..... (See Ames & Gowen, assignors.)	
	Same..... (See Drew, Reuben W., assignor.) (Reissue.)	
	Same..... same (Reissue.)	
	Same..... same (Reissue.)	
	Same..... same (Reissue.)	
	Ely, Alfred B., trustee. (See Stevens, E. M., assignor.)	
	Same. (See Streeter, L. R., assignor.)	
	Ely, Alfred B., and Chas. Wild, trustees. (See Hayward, Daniel E., ass'r. (Reissue.)	
	Same..... same (Reissue.)	
72, 380	Ely, Charles R., Northfield, Vt. Head block for saw mills.	Dec. 17, 1867.
67, 424	Ely, James, and Robert Cook, Franklin, Ohio. Percussion cap and portable primer.	Aug. 6, 1867.
63, 148	Ely, Philip, assignor to J. M. Keep & Co., New York, N. Y. Steam motor for toys.	Mar. 26, 1867.
	Ely, William N. (See Stevens, E. M., assignor.) (Reissue.)	
	Same..... same.	
	Same. (See Peck, H. D., assignor.)	
71, 289	Elzy, Andrew M., Placerville, Cal. Churn.	Nov. 26, 1867.
	Emanuel, Abraham. (See De La Mar, Joseph, assignor.)	
72, 827	Embree, Davis, Dayton, Ohio. Food for stock.	Dec. 31, 1867.
64, 510	Emerson, A., New York, N. Y. Machine for making nuts.	May 7, 1867.
71, 150	Emerson, Charles W., Hartford, Conn. Holder for lamp and gas shades.	Nov. 19, 1867.
63, 615	Emerson, Daniel L., Rockford, Ill. Harvester.	Sept. 10, 1867.
64, 210	Emerson, George W., Peru, Ill. Churn.	Apr. 30, 1867.
61, 818	Emerson, James E., Trenton, N. J. Swage for sharpening saws.	Feb. 5, 1867.
62, 020	Same..... Saw.	Feb. 12, 1867.

List of patentees of inventions, designs and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 948	Emerson, James E., Trenton, N. J. Saw-gumming machine	Mar. 19, 1867.
63, 232	Same.....Saw	Mar. 26, 1867.
65, 358	Same.....Saw set	June 4, 1867.
66, 692	Same.....Saw	July 16, 1867.
66, 693	Same.....Saw gummer	July 16, 1867.
2, 719	Same.....Swage for sharpening saws	(Reissue) Aug. 6, 1867.
71, 453	Same.....Apparatus for punching saw teeth	Nov. 26, 1867.
71, 994	Same.....Mode of attaching handles to cross-cut saw	Dec. 3, 1867.
64, 005	Emerson, Richard H., Fond du Lac, Wis. Windlass	Apr. 23, 1867.
63, 624	Emerson, S. F., assignor to self and J. B. Edams, Amboy, Ill. Switch chair	Apr. 9, 1867.
70, 181	Emerson, T. B., Seville, Ohio. Clothes wringer	Oct. 29, 1867.
63, 875	Emery, A. H., New York, N. Y. Hydraulic press	Apr. 16, 1867.
70, 707	Emery, Arthur P., and Charles Moore. (See Moore & Emery.) Emery, Charles E., Brooklyn, N. Y. Steam engine	Nov. 12, 1867.
66, 576	Emery, George T. (See Feyh, Henry, assignor.)	
65, 187	Emery, George T., et al. (See Feyh, Henry, assignor.)	
66, 135	Emery, James, Bucksport, Maine. Lamp shade	July 9, 1867.
65, 187	Emery, Jonathan, Cedar Falls, Iowa. Artificial leg	May 28, 1867.
66, 135	Same.....Harvester	June 25, 1867.
68, 970	Emmert, Elias. (See Koons, Even, assignor.)	
68, 970	Emmert, Joseph F., Quincy, Pa. Carriage jack	Sept. 17, 1867.
71, 151	Emmons, Sydney, and El Nathan S. Simpson, Geneva, N. Y. Carriage top	Nov. 19, 1867.
71, 723	Emmore, Samuel, assignor to self and A. Burkholder, Stouchburg, Pa. Dough-kneading machine	Dec. 3, 1867.
66, 007	Empire Wind Wheel Manufacturing Company. (See Mills, E. W., assignor.)	
62, 620	Emswiler, J. P., Knightstown, Ind. Animal trap	June 25, 1867.
66, 007	Engel, Franz, Camden, N. J. Blower	Mar. 5, 1867.
63, 374	Engelhardt, Francis E., and Cassius C. Peck. (See Peck & Engelhardt.) Engels, H. A. and C. H., and John Wieland, San Francisco, Cal. Malt drying apparatus	Apr. 2, 1867. Apr. 2, 1867.
63, 490	Same.....Hot-air furnace	Apr. 2, 1867.
65, 065	England, Lewis C., Philadelphia, Pa. Apparatus for evaporating liquids	May 28, 1867.
68, 861	Same.....Tannery	Sept. 17, 1867.
66, 694	England, S. M. (See Ramsey, J. C., assignor.) England, William R., Milwaukee, Wis. Water indicator for boilers	July 16, 1867.
71, 060	English, B. C. (See Traps, Francis, assignor.) English, C. L., Cincinnati, Ohio. Bellow	Nov. 10, 1867.
69, 179	English, James G., et al. (See Twitchell, Charles S., assignor.)	
60, 867	English, W. H., Macon, Ga. Carriage spring	Sept. 24, 1867.
60, 867	Ennis, William, Hudson, N. J. Furnace	Jan. 1, 1867.
	Ennis, W., and W. Duryea. (See Duryea & Ennis.) Same.....Same	
	Ennis, William, et al. (See Maunton, Jabez, assignor.) Same.....Same Same.....Same	
62, 021	Eno, George A., Philadelphia, Pa. Ice pitcher	Feb. 12, 1867.
2, 596	Same.....Spoon handle	(Design) Mar. 19, 1867.
61, 819	Enos, John M., St. Joseph, Mich. Steam engine	Feb. 5, 1867.
64, 025	Enright, John, Louisville, Ky. Game-register	Apr. 23, 1867.
68, 424	Ensign, Elizur R., East Hartford, Conn. Machine for making holes for planting	Sept. 3, 1867.
2, 628	Ensley, J. J., assignor, through mesne assignments, to Thomas D. Ledyard, Toronto, C. W. Generating gas and obtaining other useful products from animal and vegetable materials	(Reissue) May 23, 1867.
66, 695	Ensminger, Christian. (See Elmer, A. W., assignor.) Ensminger, C., and A. W. Elmer, Springfield, Mass. Plumb level	July 16, 1867.
66, 008	Enterprise Manufacturing Company. (See Baker & Harbster, assignors.)	
67, 514	Epperson, James W., Woodhull, Ill. Farm gate	June 25, 1867.
67, 514	Erkenbrecher, Andrew, Cincinnati, Ohio, Starch elevator	Aug. 6, 1867.
67, 515	Same.....Starch making apparatus	Aug. 6, 1867.
67, 516	Same.....Starch agitator apparatus	Aug. 6, 1867.
68, 293	Same.....Corn elevator	Aug. 27, 1867.
68, 294	Same.....Apparatus for drying starch	Aug. 27, 1867.
65, 554	Erpelding, Lambert, and Leander J. McCormick. (See McCormick & Erpelding.)	
67, 858	Ernst, Adam, Milwaukee, Wis. Stove-pipe drum	June 11, 1867.
65, 188	Ernst, F., San Francisco, Cal. Clothes washer	Aug. 20, 1867.
71, 152	Ernst, John G., Baltimore, Md. Tobacco pouch	May 28, 1867.
72, 728	Ernst, John W., Heidelberg, Pa. Adjustable cultivator	Nov. 19, 1867.
67, 178	Ertel, George, Liberty, Ill. Beater press	Dec. 31, 1867.
2, 448	Esch, Michael, and William Rosenkranz. (See Rosenkranz & Esch.)	
62, 536	Eshelman, Henry L., Elizabethtown, Pa. Harrow	July 30, 1867.
63, 536	Eshleman, J. Albert, Philadelphia, Pa. Neck-tie holder	(Reissue) Jan. 8, 1867.
65, 189	Eshleman, John J., assignor to self and James Riley, Philadelphia, Pa. Attaching stopples to bottles. (Antedated February 16, 1867.)	May 5, 1867.
67, 740	Eslaman, Jacob, Belleville, Ill. Wheat dampener	Mar. 22, 1867.
	Esmond, George. (See Willson, H. F. assignor.)	
65, 892	Esselen, Mitchel, assignor to J. D. Guyer & Co., Roxbury, Mass. Machine for raising and drying the nap on hats	Aug. 13, 1867.
70, 540	Esser, William G., Milwaukee, Wis. Compound for tempering steel	June 18, 1867.
68, 425	Essex, James J., Newport, R. I. Syringe	Nov. 5, 1867.
	Essick, S. V., Mansfield, Ohio. Knitting machine	Sept. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 182	Estabrook, Joseph M., Milford, Mass. Paint brush	Oct. 29, 1867.
69, 419	Estep, Thomas B., Cincinnati, Ohio. Coffin	Oct. 1, 1867.
69, 420	Estep, Thomas B., and William C. Hefferman, assignors to Thomas B. Estep, Cincinnati, Ohio. Coffin	Oct. 1, 1867.
64, 297	Esterle, R. M., San Francisco, Cal. Railroad rail	Apr. 30, 1867.
61, 820	Estes, Dana, Newton, Mass. Ventilating pipes for houses, &c.	Feb. 5, 1867.
72, 828	Estes, Philip, Leavenworth, Kans. Head-block	Dec. 31, 1867.
	Estes, Philip, and F. J. Nutz. (See Nutz & Estes.)	
67, 640	Estes, Thomas G., Fall River, Mass. Mode of striking gongs or bells	Aug. 13, 1867.
	Esty, J., & Co. (See Thomas, Elihu H., jr., assignor.)	
	Ethridge, L. T., and Stephen Rawdon. (See Rawdon & Ethridge.)	
64, 086	Etnier, Oliver, Mt. Union, Pa. Cultivator	Apr. 23, 1867
63, 027	Etter, H. H., Washington, D. C. Burning fluid	Mar. 19, 1867.
65, 555	Eustus, James B., New Orleans, La. Change box	June 11, 1867.
2, 838	Euteneuer, Jacob, Peoria, Ill. Door-knob (Design)	Nov. 26, 1867.
72, 275	Same.....Lamp-chimney tongs	Dec. 17, 1867.
63, 038	Same.....Needle-wrapper	Mar. 29, 1867.
	Evans, David, England. (See Walsh, Walsh & Evans.)	
68, 356	Evans, George E., Boston, Mass. Centrifugal machines for washing sugar	Sept. 3, 1867.
69, 328	Same.....Centrifugal apparatus for washing sugar	Oct. 1, 1867.
64, 087	Evans, James W., New York, N. Y. Car-spring	Apr. 23, 1867.
69, 421	Same.....Machine for coiling springs	Oct. 1, 1867.
68, 862	Evans, John, Davenport, Iowa. Brick mould	Sept. 17, 1867.
67, 741	Evans, jr., John, Milbridge, Maine. Means for casting anchor	Aug. 13, 1867.
71, 474	Evans, Jonathan B., Millville, N. J. Door latch	Nov. 26, 1867.
2, 814	Evans, Jonathan G., Albany, N. Y. Model of the ancient city of Jerusalem. (Design)	Oct. 22, 1867.
	Evans, Joseph, and Andrew Buckham. (See Buckham & Evans.)	
69, 083	Evans, J. D., Pleasant Hill, Ga. Plow	Sept. 24, 1867.
	Evans, J. G., and Thomas Martin. (See Martin & Evans.)	
64, 651	Evans, Lot P., Springville, Pa. Cherry-scuder	May 14, 1867.
66, 701	Evans, M., Russiaville, Ind. Boot and shoe	Jan. 1, 1867.
	Evans, O., and A. F. Wicke. (See Wicke & Evans.)	
69, 084	Evans, Owen, Alliance, Ohio. Horse hay fork	Sept. 24, 1867.
65, 190	Evans, O. B., Buffalo, N. Y. Tanning	May 28, 1867.
	Evans, Philander, et al. (See Mitchell, C. E., assignor.)	
71, 290	Evans, Thomas, Newark, N. J. Tack hammer	Nov. 26, 1867.
71, 593	Same.....Drafting instrument	Dec. 3, 1867.
	Evans, William, and W. L. Aldrich. (See Aldrich & Evans.)	
65, 893	Evans, William H., Richmond, Ind. Straw-cutter. (Antedated June 10, 1867)	June 18, 1867.
66, 958	Evarts, Washington C., Danby, N. Y. Plow	July 23, 1867.
64, 753	Everdell, Henry, New York, N. Y. Envelope	May 14, 1867.
68, 426	Everest, Hiram B., assignor to the Vacuum Oil Co., Rochester, N. Y. Apparatus for distilling petroleum	Sept. 3, 1867.
	Everett, H. (See Pepper, Daniel W., assignor.)	
61, 525	Everett, Horace, Philadelphia, Pa. Tinned joint for iron vessels	Jan. 29, 1867.
67, 298	Same.....Paint can	July 30, 1867.
67, 859	Same.....Metal can for putting up alkalis	Aug. 29, 1867.
68, 863	Everett, Mahlon, assignor to self and Henry F. Cook, Kalamazoo, Mich. Hydraulic engine	Sept. 17, 1867.
	Everett, S. H., and J. B. Powell. (See Powell & Everett.)	
68, 616	Everingham, F. M., Collingwood, N. Y. Clothes and picture hanger	Sept. 10, 1867.
69, 552	Everingham, Francis M., La Fayette, N. Y. Derrick	Oct. 8, 1867.
69, 198	Everitt, Elisha E., Philadelphia, Pa. Spring bed bottom	Sept. 24, 1867.
67, 425	Everitt, Sheldon B., assignor, through mesne assignments, to Frederick G. Niedringhaus, Ansonia, Conn. Tea kettle and other vessels	Aug. 6, 1867.
65, 894	Everson, Charles R., Palmyra, N. Y. Fastening for paper collars	June 18, 1867.
71, 472	Everst, Joseph J., assignor to self and G. P. Gephart, Cumberland, Md. Churn	Nov. 26, 1867.
	Everts, Edgar S. (See Corbett, Henry V., assignor.)	
69, 785	Evertson, J. R., Mt. Vernon, Ind. Grain-dryer	Oct. 15, 1867.
65, 659	Evinger, N., Sand Ford, Ind. Road scraper	June 11, 1867.
67, 860	Ewell, James B., Baltimore, Md. Seeding cultivator	Aug. 20, 1867.
61, 526	Ewor, Franklin, Honeoye Falls, N. Y. Gate	Jan. 29, 1867.
70, 328	Ewick, C. A., Rushville, Ind. Cultivator	Oct. 29, 1867.
64, 211	Ewing, David, Indianapolis, Ind. Pessary	Apr. 30, 1867.
69, 905	Ewins, John A., South Boston, Mass. Knife-cleaner	Oct. 15, 1867.
64, 511	Eybel, Bernhard, New York, N. Y. Device for converting motion	May 7, 1867.
69, 786	Eynon, David, Richmond, Va. Method of slotting the lips of railroad chairs	Oct. 15, 1867.
69, 685	Eynon, David, assignor to the Tredegar Co., Richmond, Va. Rolling apparatus for rolling chairs for railroads	Sept. 24, 1867.
	Eyre, James H. (See Hutchings, John W., assignor.)	
69, 329	Faber, Charles T., New York, N. Y. Self-adjusting lid support for pianos, desks, &c.	Oct. 1, 1867.
	Faber, Eberhard, et al. (See Higginbotham, Theophilus, assignor.)	
	Fabian, G. C. (See Burrige, Thomas H., assignor.)	
	Same.....Same	
	Fagan, E., and J. B. Newbrough. (See Newbrough & Fagan.)	
	Same.....Same	
70, 183	Fagerström, Anders, Wyoming, Pa. Setting tires on wheels	Oct. 29, 1867.
63, 375	Fagin, Lewis, Cincinnati, Ohio. Steam generator	Apr. 2, 1867.
	Fahnestock, George W. (See Haslett, John, jr., assignor.)	
2, 715	Fahnestock, Jno., assignor to Jas. Buchaw & Co., New York, N. Y. Label (Design)	Aug. 6, 1867.
2, 568	Fairbrother, N., and G. S. Fales, Pawtucket, R. I. Trade-mark (Design)	Feb. 5, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 359	Fairchild, B. Homer, and Emory Sadler, Farmington, Mich. Gate.....	June 4, 1867.
70, 541	Fairchild, H. C., Brooklyn, N. Y. Se d planter.....	Nov. 5, 1867.
68, 720	Fairchild, John, Eagleville, Ohio. Cement compound.....	Sept. 10, 1867.
	Fairchild, J. H., et al. (See Robinson, Warren, assignor.).....	
70, 672	Fairchild, J. M., assignor to self, J. K. Bundy, and J. M. Townsend, New Haven, Conn. Fire-alarm telegraph.....	Nov. 5, 1867.
70, 673	Same.....Mechanism for opening and closing telegraphic circuits.....	Nov. 5, 1867.
71, 863	Same.....Self-adjusting relay magnet.....	Dec. 10, 1867.
	Fairchild, S. B., and M. Coloney. (See Coloney & Fairchild.).....	
68, 721	Fairclough, John, St. Joseph, Mo. Steam engine.....	Sept. 10, 1867.
60, 862	Fairfax, Joseph S., Wheeling, W. Va. Railroad car.....	Jan. 1, 1867.
63, 149	Fairfield, George A., Hartford, Conn. Feeding mechanism for sewing machines.....	Mar. 26, 1867.
67, 179	Same.....Thread controller for sewing machines.....	July 30, 1867.
65, 360	Falardo, Dennis L., New York, N. Y. Machine for driving nails.....	June 4, 1867.
	Falconer, jr., Ralph, Washington, D. C. Hose coupling.....(Extension).....	May 20, 1867.
67, 519	Fales, Andrew B., Troy, N. Y. Spider, or frying pan.....	Aug. 6, 1867.
	Fales, D. L. (See Marsh, Thomas, assignor.).....	
	Fales, G. S., and N. Fairbrother. (See Fairbrother & Fales.).....	
71, 724	Fales, Levi S., Tarrytown, N. Y. Fertilizing compound.....	Dec. 3, 1867.
71, 725	Same.....Fertilizer.....	Dec. 3, 1867.
	Fallis, William A. (See Moore, Thomas C., assignor.).....	
70, 708	Fallon, William, Washington, D. C. Paper file.....	Nov. 12, 1867.
70, 427	Fallows, James, assignor to Porter & Booth, Philadelphia, Pa. Construction of sheet-metal buckets.....	Nov. 5, 1867.
70, 822	Falls, William F., assignor to Ira Steward, Boston, Mass. Marble shooter.....	Nov. 12, 1867.
70, 124	Faloon, Matthew, Bloomington, Ill. Gas generator.....	Oct. 29, 1867.
61, 821	Falvey, Thomas, Racine, Wis. Carriage axle.....	Feb. 5, 1867.
	Same.....(See Reilly, John, assignor.).....	
62, 971	Fancher, Francis B., Lansingburg, N. Y. Garden tile for bordering.....	Sept. 17, 1867.
70, 185	Fancher, O. H. P., New York, N. Y. Anti-kicking attachment for horses.....	Oct. 29, 1867.
66, 229	Fanning, John, New York, N. Y. Drilling apparatus.....	July 2, 1867.
72, 829	Fanning, John, assignor to John S. Andrews, Brooklyn, N. Y. Sewing machine.....	Dec. 31, 1867.
65, 734	Fanyon, Joseph, Bridgeport, Conn. Lubricator.....	June 11, 1867.
69, 553	Fargo, Corydon A., Soquel, Cal. Wagon brake.....	Oct. 8, 1867.
61, 060	Faries, Robert, Maroa, Ill. Steam generator.....	Jan. 8, 1867.
62, 949	Farley, James H., Lowell, Mass. Milk can.....	Mar. 19, 1867.
69, 647	Farmer, George, Flint, Mich. Tallying instrument.....	Oct. 8, 1867.
67, 518	Farmer, Jerome B., Indianapolis, Ind. Latch and ketch.....	Aug. 6, 1867.
72, 616	Farmer, Moses G., Salem, Mass. Lighting and extinguishing gas.....	Dec. 24, 1867.
	Farmington, H., et al. (See Robinson, Warren, assignor.).....	
72, 381	Farnam, Charles N., Norwich, Conn. Machinery for tanning.....	Dec. 17, 1867.
67, 180	Farnham, Daniel P., Janesville, Wis. Broom head. (Antedated July 15, 1867.).....	July 20, 1867.
60, 869	Farnham, D. P. and M. P., Janesville, Wis. Combined foot stove and lantern.....	Jan. 1, 1867.
63, 150	Farnham, Moses P., assignor to self and Daniel P. Farnham, Janesville, Wis. Grate for stoves.....	Mar. 26, 1867.
66, 009	Farnsworth, Joseph S., assignor to Ebenezer G. Lamson, president of the Windsor Manufacturing Company, Windsor, Vt. Die for swaging and punching the jaws of wrenches.....	June 25, 1867.
64, 006	Farnsworth, Luther H., Hudson, Mass. Tool holder.....	April 23, 1867.
61, 822	Farnum, Edward, Blackstone, Mass. Butter worker.....	Feb. 5, 1867.
61, 823	Farnum, Edward, and George Scott, Blackstone, Mass. Husking machine.....	Feb. 5, 1867.
2, 729	Farquhar, Francis, and Robert E. Doan, Wilmington, Ohio. Sugar evaporator. (Reissue.).....	Aug. 13, 1867.
67, 742	Same.....Apparatus for heating and evaporating.....	Aug. 13, 1867.
71, 726	Farr, George V., and E. Hall, Brandon, Vt. Saddler's and shoemaker's tool.....	Dec. 3, 1867.
64, 413	Farr, T. J., Medina, Ohio. Wagon brace.....	May 7, 1867.
	Farrand, Andrew J., et al. (See Dunham, John G., assignor).....(Reissue.).....	
	Same.....(See Quick, Opie & Farrand.).....	
64, 512	Farrar, Benjamin F., assignor to self, Edward M. Wesson, and Henry Willis, Springfield, Mass. Construction and ventilation of the walls of buildings.....	May 7, 1867.
66, 136	Farrar, Benjamin F., assignor to self and D. B. Wesson, Springfield, Mass. Safety railroad switch.....	June 25, 1867.
67, 181	Farrar, John, and William Groves, Providence, R. I. Mold for casting metal.....	July 30, 1867.
65, 361	Farrar, Oliver W., Pittsburg, Pa. Mode of recovering waste acid from refining petroleum.....	June 4, 1867.
	Farrell, A. D. (See Stillwell, R., assignor).....(Reissue.).....	
61, 329	Farrell, Joseph O., Chicago, Ill. Tail board for wagons.....	Jan. 22, 1867.
65, 556	Farrington, J. S., Milwaukee, Wis. Bed bottom.....	June 14, 1867.
	Farrington, Lafayette. (See Searles, Charles E., assignor.).....	
	Same.....(See McCoun, Samuel, assignor.).....	
66, 696	Farris, Henry V., Richmond, Ind. Horse rake.....	July 16, 1867.
	Farwell, George. (See Priest, David H., assignor.).....	
	Fasig, William H., and J. W. Suirley. (See Shirley & Fasig.).....	
65, 191	Fassler, Jerome, Springfield, Ohio. Machine for drilling harvester guard fingers.....	May 28, 1867.
65, 192	Same.....Machine for milling harvester guard fingers.....	May 28, 1867.
65, 193	Same.....Machine for slotting harvester guard fingers.....	May 28, 1867.
	Fassler, Jerome, et al. (See Whiteley, Fassler & Kelly).....(Reissue.).....	
	Same.....same.....(Reissue.).....	
	Same.....same.....	
	Same.....same.....	
	Same.....(See Long, John, assignor.).....	
	Same.....same.....	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 527	Fassmann, Henry, New Orleans, La. Cotton bale tie.....	Jan. 29, 1867.
61, 727	Same.....same.....	Feb. 5, 1867.
62, 188	Same.....same.....	Feb. 19, 1867.
	Fast, J. B., and G. F. Hipp. (See Hipp & Fast.)	
	Faucett, G. O. (See Bridges, John R., assignor.)	
66, 818	Faulkner, George S., Staffordville, Conn. Cam for looms.....	July 16, 1867.
	Faulkner, Robert. (See Badger, Simon H., assignor.)	
67, 743	Faull, Edwin, Australia. Lubricator.....	Aug. 13, 1867.
	Faunce, N., and W. Bolster. (See Johnson, William W., assignor.)	
62, 621	Faus, Henry, Hayesville, Ohio. Boot-crimping machine.....	Mar. 5, 1867.
70, 981	Fautz, Hermann, assignor to self, and Joseph H. Ferreira, Newark, N. J. Lock for traveling bags.....	Nov. 19, 1867.
65, 735	Favinger, George, Pittsford, Mich. Clothes dryer and stand combined.....	June 11, 1867.
	Faxon, Ellis G. L. (See Curtis, George S., assignor.)	
60, 708	Fay, C. J., Hammoncton, N. J. Roofing and siding for houses.....	Jan. 1, 1867.
65, 895	Same. Philadelphia, Pa. Belting.....	June 18, 1867.
	Fay, J. A. & Company. (See Doane, Orton & London, assignors.)	
	Same.....(See Brown, Samuel C., assignor.)	
	Same.....(See Richards, John, assignor.)	
	Same.....same.....	
	Same.....(See Richards & Doane, assignors.)	
	Same.....(See London, W. E., assignor.)	
	Same.....(See Street, Anton & Henry, assignors.)	
61, 411	Fay, Samuel, Lowell, Mass. Machine for opening and cleaning cotton.....	Jan. 22, 1867.
64, 688	Fay, Samuel B., Franklin, Pa. Ticket fastener.....	Apr. 23, 1867.
64, 298	Same.....String tag.....	Apr. 30, 1867.
66, 697	Faye, James, Philadelphia, Pa. Propelling hoop. (Antedated July 11, 1867).....	July 16, 1867.
64, 559	Fayette, Henry, Port Chester, N. Y. Wooden pavement.....	May 21, 1867.
64, 960	Same.....same.....	May 21, 1867.
70, 329	Same.....Blast and smelting furnace cupola.....	Oct. 23, 1867.
69, 976	Febles, George, Postoria, Ohio. Combined sheep rack and trough.....	Oct. 22, 1867.
69, 555	Federhen, John, and William C. Sherman, Boston, Mass. Double eye-glass.....	Oct. 8, 1867.
61, 639	Fehleisen, Wilhelm and Ernst, Austria. Blasting powder.....	Jan. 29, 1867.
64, 734	Feightner, George, Wooster, Ohio. Machine for making wagon clips.....	May 14, 1867.
61, 528	Felber, Jacob, St. Louis, Mo. Governor cut-off for steam engines.....	Jan. 23, 1867.
69, 554	Feldhaus, Ferdinand, Baltimore, Md. Hillside plow.....	Oct. 8, 1867.
	Felker, H., and W. N. Rinehart. (See Rinehart & Felker.)	
71, 464	Felker, Leonard, Tewksbury, Mass. Corn-cake cutter.....	Dec. 10, 1867.
62, 824	Fell Ambrose G., Brooklyn, N. Y. Rendering articles incombustible.....	Dec. 31, 1867.
66, 231	Fell, Ambrose G., ass'ort to self and Wm. Bell, Brooklyn, N. Y. Water indicator for boilers.....	July 2, 1867.
	Fell, John. (See Ross, Alexander, assignor.)	
69, 709	Fell, Thomas M., New York, N. Y. Cylindrical amalgamator.....	Jan. 1, 1867.
66, 157	Fell, Thomas M. and Ambrose G., assignors to selves and William Bell, Brooklyn, N. Y. Manufacture of white lead.....	June 25, 1867.
66, 138	Same.....same.....	June 25, 1867.
66, 139	Same.....same..... (Antedated April 11, 1867).....	June 25, 1867.
66, 140	Same.....Mode of treating lead salts for the manufacture of white lead. (Antedated April 11, 1867).....	June 25, 1867.
63, 233	Fellheimer, August, New York, N. Y. Hoop skirt.....	Mar. 26, 1867.
63, 234	Fellheimer, Louis, New York, N. Y. Hoop skirt.....	Mar. 26, 1867.
65, 896	Fellows, Christopher C., Centre Sandwich, N. H. Vegetable lifter.....	June 18, 1867.
69, 977	Same.....Clothes line clamp.....	Oct. 22, 1867.
69, 626	Fellows, James B., assignor to C. C. Jones, Concord, N. H. Brace for boring bits.....	Sept. 24, 1867.
65, 362	Fellows, M. S., Livonia, N. Y. Washing machine.....	June 4, 1867.
66, 101	Felt, Luther W., Keene, N. H. Machine for cutting corks.....	June 25, 1867.
2, 626	Felton, A. C., Boston, Mass. Clock case..... (Design).....	Apr. 23, 1867.
2, 675	Same.....same..... (Design).....	June 18, 1867.
71, 596	Felton, Benjamin W., Roxbury, Mass. Car replacer.....	Dec. 3, 1867.
67, 641	Felton, Charles E., Buffalo, N. Y. Lock for prison doors, &c.....	Aug. 13, 1867.
	Felts, Robert L., and Alfred Gifford. (See Gifford & Felts.)	
64, 853	Fenlason, Perry, Cincinnati, Ohio. Portable roofing boiler and furnace.....	May 21, 1867.
71, 727	Fenn, Samuel F., assignor to self and T. B. Clark, Middletown, Conn. Bit brace.....	Dec. 3, 1867.
70, 709	Fenn, William A., Wolcott, N. Y. Salt sifter.....	Nov. 12, 1867.
63, 427	Fenton, Green, Streetsboro', Ohio. Sheep table.....	Sept. 3, 1867.
64, 513	Fenton, Hector T., Philadelphia, Pa. Steam generator.....	May 7, 1867.
63, 010	Fenton, M. R., Washington, D. C. Curtain fixture.....	June 25, 1867.
	Ferguson & Lewers. (See Lewers, Dixon, assignor.)	
	Ferguson, Edwin. (See Foley, Richard, assignor.)	
	Ferguson, Edwin L. (See Clark, C. B., assignor.)	
63, 491	Ferguson, James H., and Henry W. Lovejoy, New York, N. Y. Machine for trimming metals.....	Apr. 2, 1867.
63, 376	Ferguson, Lorenzo D., Corning, N. Y. Illuminating burning fluid.....	Apr. 2, 1867.
	Ferguson, Thomas S., et al. (See Fitch, W. B., assignor.)	
70, 982	Ferguson, William H., assignor to self and Clark D. Page, Rochester, N. Y. Safety attachment for pocket books.....	Nov. 19, 1867.
67, 861	Ferguson, William R., Marseilles, Ill. Hook and terret.....	Aug. 29, 1867.
64, 529	Ferguson, J. R., Brooklyn, N. Y. Refrigerator.....	Jan. 29, 1867.
65, 263	Fernald, Daniel H., Bangor, Maine. Construction of sewers and drains.....	June 4, 1867.
69, 330	Fernald, Henry B., Dedham, Mass. Railway truck. (Antedated Sept. 25, 1867).....	Oct. 1, 1867.
	Fernier, Philipp. (See Gold, Willis D., assignor.)	
	Ferreira, Joseph H. (See Fautz, Hermann, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 652	Ferris, Gilbert J., assignor to self and Byron Sykes, Washington, D. C. Combination tool.	May 14, 1867.
2, 645	Ferris, Martin V. B., assignor to self and Charles E. Ferris, South Norwalk, Conn. Trade mark (Design).	May 7, 1867.
69, 199	Ferris, Smith, New York, N. Y. Horse blinder.	Sept. 24, 1867.
63, 428	Ferriss, Thomas St. Clair, Nashville, Tenn. Truss pad.	Sept. 3, 1867.
72, 831	Ferry, E. R., New Haven, Conn. Check and driving rein.	Dec. 31, 1867.
	Ferry, John W., et al. (See Edgett, Andrew J., assignor.)	
	Ferry, John W., and Lewis F. Rider. (See Rider & Ferry.)	
	Ferry, Samuel. (See Allen, John, assignor.)	
2, 853	Fersch, Caspar, assignor to Hoffman & Fersch, New York, N. Y. Molding for show cases (Design).	Dec. 31, 1867.
	Fertig, John. (See Colahan, Charles, assignor.)	
66, 577	Fessenden, A., Beaufort, S. C. Cotton gin.	July 9, 1867.
62, 323	Fessenden, George F., West Cambridge, Mass. Apparatus for rolling and spreading dough.	Feb. 26, 1867.
	Fessler, Henry, and Robert V. Jones. (See Jones & Fessler.)	
64, 755	Fessler, Henry, and Isaac E. Betz, Canton, Ohio. Combined hoe and hand planter.	May 14, 1867.
	Fessler, Henry, and A. C. Goodman. (See Goodman & Fessler.)	
64, 854	Fetherolf, B. L., assignor to self and J. M. Hadesty, Tamaqua, Pa. Attachment to stoves for generating gas.	May 21, 1867.
62, 189	Fetter, David F., New York, N. Y. Bushing for barrels.	Feb. 19, 1867.
67, 519	Fewkes, Jesse, Newton, Mass. Threading and regulating tension of thread in weaving and braiding machines.	Aug. 6, 1867.
71, 291	Same. Spool support.	Nov. 26, 1867.
60, 870	Feyh, Henry, assignor to self and George T. Emery, Columbus, Ohio. Steam generator. (Antedated September 13, 1866)	Jan. 11, 1867.
65, 479	Feyh, Henry, assignor to self, George T. Emery, and William B. Hawkes, Columbus, Ohio. Steam generator.	June 4, 1867.
62, 537	Fecken, R., and F. L. Williams, Philadelphia, Pa. Machine for cleaning and purifying bone black.	Mar. 5, 1867.
71, 728	Fickett, Albert, Rochester, N. Y. Device for filling and packing rotary paper pulp boilers.	Dec. 3, 1867.
65, 897	Fickett, Albert, and Justin C. Ware, Titusville, Pa. Device for measuring liquids.	June 18, 1867.
63, 712	Fickinger, Jacob, Kingsville, Ohio. Grinding mill.	Apr. 9, 1867.
	Fidler, B., and J. A. Niman. (See Niman & Fidler.)	
66, 231	Fidler, Robert, assignor to self and the Dighton Furnace Company, Taunton, Mass. Apparatus for forming sheet metal tubes.	July 2, 1867.
	Field, B. J., and John C. Guerrant. (See Guerrant & Field.)	
66, 819	Field, Charles H., Providence, R. I. Rosette engine.	July 16, 1867.
72, 006	Field, Edward A., Sidney, Maine. Horse rake.	Dec. 10, 1867.
67, 862	Field, George B., New York, N. Y. Ore roasting furnace.	Aug. 20, 1867.
68, 058	Same. Ore roasting furnace.	Aug. 27, 1867.
68, 175	Same. Amalgamator.	Aug. 27, 1867.
	Field, G. F., and L. O. Crocker. (See Crocker & Field.)	
68, 722	Field, H. T., Worcester, Mass. Fruit safe.	Sept. 10, 1867.
61, 412	Field, Thomas F., Saugerties, N. Y. Device for changing water in steam generators.	Jan. 22, 1867.
63, 876	Field, William A., Boston, Mass. Blacking-box holder.	Apr. 16, 1867.
63, 713	Fields, James B., assignor to self and Peter Fields, Jersey City, N. J. Quartz mill.	Apr. 9, 1867.
71, 597	Fields, Samuel, Bridgeport, Ohio. Roofing compound.	Dec. 3, 1867.
15, 153	Fields, William, Wilmington, Del. Propeller.	Nov. 19, 1867.
65, 364	Piester, John U., Winchester, Ohio. Fireplace.	June 4, 1867.
68, 059	Same. Shoe fastener.	Aug. 27, 1867.
68, 723	Fifield, J. B. M., Philadelphia, Pa. Sideboard and refrigerator.	Sept. 10, 1867.
65, 736	Fifield, John S., Westerly, R. I. Coal sifter.	June 1, 1867.
61, 413	Fifield, Levi W., Melrose, Mass. Knitting-machine needle.	Jan. 22, 1867.
71, 729	Pilkins, R. A., assignor to self and W. B. Werden, North Adams, Mass. Low water indicator.	Dec. 3, 1867.
71, 730	Same. Rotary steam valve.	Dec. 3, 1867.
2, 663	Filley, Giles F., St. Louis, Mo. Trade mark (Design).	June 4, 1867.
	Same. Cooking stove (Extension).	June 8, 1867.
	Same. Stove back plate.	Dec. 17, 1867.
72, 179	Fillmore, Charles, assignor to self and George Washer, Romeo, Mich. Trace buckle.	Dec. 31, 1867.
65, 365	Finch, A. L., Sing Sing, N. Y. Building block machinery.	June 4, 1867.
65, 366	Finch, E. D., Stanton, Mich. Soda fountain.	June 4, 1867.
63, 029	Finch, John L., Warwick, N. Y. Milk can.	Mar. 19, 1867.
68, 864	Finch, Oscar, Owego, N. Y. Trace buckle.	Sept. 17, 1867.
72, 617	Finch, W. B., assignor to self, Thomas S. Ferguson, and N. B. Boyden, Chicago, Ill. Varnish paint.	Dec. 24, 1867.
65, 737	Finch, W. W., Mishawaka, Ind. Mop wringer.	June 11, 1867.
63, 714	Fink, Albert, Louisville, Ky. Bridge.	Apr. 9, 1867.
67, 967	Fink, G. W., Pleasant Plains, Ill. Trace fastener.	Aug. 20, 1867.
72, 729	Fink, Reuben, Lancaster, Pa. Attachment for safety bridles.	Dec. 31, 1867.
	Finkle, Peter, and W. Hailes. (See Hailes & Finkle.)	
	Finley, H. H. (See Crowl, Peter, assignor.)	
62, 740	Finley, John E., Memphis, Tenn. Churn.	Mar. 12, 1867.
66, 560	Same. Churn.	Sept. 3, 1867.
	Finley, R. S., et al. (See Welsh, J. A., assignor.)	
64, 855	Finn, P. G., Erie, Pa. Putting up oil in casks, &c.	May 21, 1867.
67, 968	Finn, William, Poughkeepsie, N. Y. Carriage prop.	Aug. 20, 1867.
69, 978	Finnegan, Roger, New York, N. Y. Hoisting apparatus.	Oct. 22, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 186	Firestone, G. W., Fredericksburg, Ohio. Hand loom.	Oct. 29, 1867.
62, 950	Firmenich, Joseph, Buffalo, N. Y. Apparatus for the manufacture of vinegar.	Mar. 19, 1867.
62, 190	Fischer, Friedrich, Garibaldi, Iowa. Rotary steam engine.	Feb. 19, 1867.
63, 194	Fischer, Julius, New York, N. Y. Fire escape and alarm.	May 28, 1867.
66, 315	Fischer, J., St. Louis, Mo. Medicine.	July 2, 1867.
64, 089	Fish, Edward B., Glen's Falls, N. Y. Nicking screw heads.	Apr. 23, 1867.
67, 182	Fish, Harriet M., New York, N. Y. Rouge pad.	July 30, 1867.
64, 961	Fish, John C., Barnstable, Mass. Device for lubricating wheels, &c.	May 21, 1867.
	Fish, J. J., and G. A. Mallory. (See Mallory & Fish.)	
68, 724	Fish, John R., Fort Wayne, Ind. Valve gear for steam engines.	Sept. 10, 1867.
61, 181	Fish, John R., and H. C. Hartman, Fort Wayne, Ind. Steam generator.	Jan. 15, 1867.
63, 377	Fish, Josiah, Smelser, Wis. Plow.	Apr. 2, 1867.
67, 969	Fisher, Charles and George, Tecumseh, Mich. Apparatus for soldering eave troughs.	Aug. 20, 1867.
67, 108	Fisher, Clark, assignor, through mesne assignments, to himself, Trenton, N. J. Mode of burning hydrocarbon liquids.	July 23, 1867.
66, 232	Fisher, Cyrus, Canton, Mass. Machine for skeining silk, thread, &c.	July 2, 1867.
70, 823	Fisher, C. J., Waukon, Iowa. Door holder.	Nov. 12, 1867.
63, 195	Fisher, D. S., Cedar Spring, Ind. Wheat drill.	May 28, 1867.
65, 196	Same. Harrow.	May 28, 1867.
65, 197	Same. Corn planter.	May 28, 1867.
65, 198	Same. Plow.	May 28, 1867.
65, 199	Same. Propelling wheeled carriages.	May 28, 1867.
71, 370	Fisher, Edwin S., Boston, Mass. Divider.	Nov. 26, 1867.
64, 756	Fisher, Ferdinand, Cambridge, Mass. Steam heating and ventilating apparatus.	May 14, 1867.
69, 906	Fisher, Frederick, Gloucester, Mass. Tynere.	Oct. 15, 1867.
70, 983	Fisher, George B., Chicago, Ill. Peat and brick machine.	Nov. 19, 1867.
2, 801	Fisher, Henry S., Newburg, N. Y. Sealing preserve cans. (Reissue).	Nov. 19, 1867.
69, 260	Fisher, H. W., Philadelphia, Pa. Cooler and filter.	Sept. 24, 1867.
69, 979	Fisher, John, St. Joseph, Wis., and Jacob Meili, Stillwater, Minn. Sled.	Oct. 22, 1867.
69, 425	Fisher, L. C., and A. D. Holliday, El Paso, Ill. Weighing attachment to faucets.	Oct. 1, 1867.
63, 877	Fisher, L. S., Broadhead, Wis. Mode of hanging and guiding the harness in looms.	Apr. 16, 1867.
70, 984	Fisher, Paul, Williamsburg, N. Y. Meat spit.	Nov. 19, 1867.
64, 299	Fisher, T. A. and A. F., Beardstown, Ill. Carriage.	Apr. 30, 1867.
	Fishley, John E. (See Veré, Henry Holton, assignor.)	
71, 154	Fisk, Daniel E., Springfield, Mass. Pocket-book clasp. (Antedated Oct. 21, 1867).	Nov. 19, 1867.
66, 698	Fisk, Robert W., Olney, Ill. Safety pocket.	July 16, 1867.
69, 728	Fisk, Russell, New York, N. Y. Composition for concrete pavement. (Antedated July 20, 1867).	Oct. 8, 1867.
68, 176	Fisk, Thomas G. U., Macor City, Mo. Washing machine.	Aug. 27, 1867.
	Fisk, William H. (See Barton, Richard T., assignor.)	
71, 371	Fiske, Charles H., Lowell, Mass. Bobbin.	Nov. 26, 1867.
70, 824	Fiske, Isaac, Worcester, Mass. Crook for musical instruments.	Nov. 12, 1867.
72, 180	Fiske, William, Lowell, Mass. Sewing machine.	Dec. 17, 1867.
	Fitch and Van Vechten. (See Powers, Timothy J., assignor.)	
64, 514	Fitch, C. T., Harbor Creek, Pa. Post-driving machine.	May 7, 1867.
71, 372	Same. Post drives.	Nov. 26, 1867.
	Fitch, J. P., and J. R. Van Vechten. (See Powers, Timothy J., assignor.)	
67, 183	Fitch, Mary T., Lockport, N. Y. Ruffling attachment for sewing machines.	July 30, 1867.
70, 080	Fitch, N. T., Forsyth, Ill. Corn crib.	Oct. 23, 1867.
62, 830	Fitch, O. F., Morristown, Ind. Carding engine.	Mar. 12, 1867.
65, 803	Fitts, Benaiah, Newark, N. J. Packing pump joints.	June 18, 1867.
66, 820	Same. Pipe coupling.	July 16, 1867.
72, 618	Same. Planing machine.	Dec. 24, 1867.
72, 619	Same. same.	Dec. 24, 1867.
2, 672	Fitts, Benaiah, assignor to Gould Machine Company, Newark, N. J. Steam fire engine. (Design).	June 11, 1867.
67, 034	Fitts, jr., Robert, assignor to the Walter Heyward Chair Company, Fitchburg, Mass. Office chair.	July 23, 1867.
71, 731	Fitts, R. H., Lawrence, Kansas. Roofing cement.	Dec. 3, 1867.
63, 790	Fitzgerald, Daniel, New York, N. Y. Bed bottom.	Apr. 16, 1867.
62, 831	Fitzgerald, Daniel, assignor to self and R. Onderdonk, New York, N. Y. Portable house.	Mar. 12, 1867.
	Fitzgerald, D., and Benjamin Sherwood. (See Sherwood & Fitzgerald.)	
	Same. same.	
71, 865	Fitzgerald, Elisha, New York, N. Y. Measuring faucet.	Dec. 10, 1867.
71, 475	Fitzgerald, Frederick, Cincinnati, Ohio. Vault light.	Nov. 26, 1867.
64, 300	Fitzgerald, Walter, Boston, Mass. Button-hole cutter.	Apr. 30, 1867.
70, 428	Fitzgerald, Walter H., assignor to self and W. H. Sexton, Philadelphia, Pa. Shutter-bowing bolt.	Nov. 5, 1867.
62, 324	Fitzhenry, Edward, Boston, Mass. Machine for dressing leather.	Feb. 26, 1867.
61, 182	Fitzhenry, Edward, and Isaac Ball, Portland, Oregon. Machine for finishing leather.	Jan. 15, 1867.
	Fitzhenry, Edward, and Ira W. Pray. (See Pray & Fitzhenry.)	
61, 061	Fitzhugh, B. G., Baltimore, Md. Burglar alarm for safes, &c.	Jan. 8, 1867.
67, 744	Same. Sykesville, Md. Tethering stake.	Aug. 13, 1867.
64, 653	Fitzki, Edward, Washington, D. C. Envelope.	May 14, 1867.
67, 184	Fitzmaier, Louis, assignor to Atwater, Benham & Co., New York, N. Y. Method of ornamenting tin, &c.	July 30, 1867.
61, 330	Fitzsimmons, John H., Susquehanna Depot, Pa. Safety valve.	Jan. 22, 1867.
63, 492	Flach, C. Fleming, Prussia. Extracting silver from argentiferous ore.	Apr. 2, 1867.
62, 538	Flad, Henry, St. Louis, Mo. Filter.	Mar. 5, 1867.
65, 200	Flad, Henry, and George P. Herthel, jr., St. Louis, Mo. Hydraulic elevator.	May 28, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 062	Flagg, James H., Perkinsville, Vt. Device for hanging paint pots to sides of buildings.	Jan. 8, 1867.
61, 183	Flagg, John G., Philadelphia, Pa. Device for forming hassocks or stools. (Ante-dated January 10, 1867).	Jan. 15, 1867.
69, 980	Flagg, Lylander. (See Sutton, Sedgwick A., assignor.)	
	Flagler, Thomas, Grass Lake, Mich. Fruit gatherer.	Oct. 22, 1867.
	Flanders, F., and S. E. Bickford. (See Wheeler & Bickford, assignors.)	
	Same. (See Bickford & Flanders.)	
	Flanders, Frederick, and Walter S. Sargent. (See Sargent & Flanders.)	
	Flanders, John J., et al. (See Crockett, Jacob G., assignor.)	
70, 330	Flanders, J. P., and S. K. Wells, Burlington, Vt. Bed bottom.	Oct. 29, 1867.
61, 728	Flanders, L. B., Philadelphia, Pa. Piston for steam engines.	Feb. 5, 1867.
66, 011	Same. Apparatus for boring cylinders.	June 25, 1867.
69, 787	Same. Device for transmitting rotary motion. (Antedated October 1, 1867.)	Oct. 15, 1867.
	Flanders, Lucian B., Philadelphia, Pa. Replacing cars upon railroad tracks. (Ext'n).	Nov. 21, 1867.
64, 515	Flanders, W. A., Shelby, Ohio. Beehive.	May 7, 1867.
68, 617	Flanedy, Patrick J., San Francisco, Cal. Ironing machine.	Sept. 10, 1867.
63, 235	Flanegin, Eli, and A. B. Smith, Pittsburg, Pa. Pump.	Mar. 26, 1867.
66, 012	Flansburgh, Peter H., Eden township, Cal. Hill-side plow.	June 25, 1867.
67, 279	Fleckenstine, Leonard, assignor to self and Peter F. Binkley, Manor township, Pa. Fruit gatherer.	July 30, 1867.
61, 062	Fleetwood, Thomas, Carleton, New Brunswick. Steam engine lubricating cup.	Jan. 8, 1867.
60, 710	Fleischl, Josef, New York, N. Y. Paper file.	Jan. 1, 1867.
62, 325	Fleischmann, Charles L., New York, N. Y. Plow.	Feb. 26, 1867.
71, 252	Fleming, J. H., Groton township, Ohio. Windlass crank power.	Nov. 26, 1867.
68, 296	Fleming, T. T., Memphis, Tenn. Cotton scraper.	Aug. 27, 1867.
	Flersheim, Lemuel H., et al. (See Brown, F. H., assignor.)	
	Same. same.	
	Same. same.	
	Same. same.	
	Same. same.	
62, 191	Flesch, Charles, Rochester, N. Y. Permutation lock.	Feb. 19, 1867.
71, 373	Same. same.	Nov. 26, 1867.
72, 007	Flesche, C. D., New York, N. Y. Punch for forming clasps.	Dec. 10, 1867.
61, 615	Fletcher, Addison C., New York, N. Y. Grate bar.	Jan. 29, 1867.
64, 090	Same. Air heating apparatus for steam boiler furnaces, &c. (Antedated April 18, 1867.)	Apr. 23, 1867.
	Fletcher, B. L. (See Lazear, C. G., assignor.) (Disclaimer.)	
68, 618	Fletcher, Benjamin S., assignor to self and David W. Rawson, Cornish, N. H. Rein holder.	Sept. 10, 1867.
67, 426	Fletcher, Friend P., and Virgil W. Blanchard, Bridport, Vt. Process of converting cast iron into steel and malleable iron.	Aug. 6, 1867.
70, 825	Fletcher, James S., South Bend, Ind. Work box.	Nov. 12, 1867.
66, 821	Fletcher, Seth, Skowhegan, Maine. Water wheel.	July 16, 1867.
61, 931	Fleury, Anthony L., Philadelphia, Pa. Preparing soluble silica and applying the same to useful purposes. (Antedated December 28, 1866.)	Feb. 19, 1867.
72, 008	Flinn, John, Philadelphia, Pa. Self-fastening spring for webbing.	Dec. 10, 1867.
65, 557	Flinn, William H., assignor to self and James N. Kendall, Nashua, N. H. Tool for cutting wires.	June 11, 1867.
69, 788	Flint, Daniel, Sacramento, Cal. Gate.	Oct. 15, 1867.
64, 201	Flint, George, Lowell, Mass. Parlor skate.	Apr. 30, 1867.
	Flint, John C., and R. B. Dunn. (See Chandler, Moses, assignor.) (Reissue.)	
	Same. (See Webb, Albion, assignor.) (Reissue.)	
69, 789	Flood, Edward P., Chicago, Ill. Wagon reach.	Oct. 15, 1867.
65, 898	Floga, Orlando V., assignor to self and William A. Collins, Madison, Ind. Vice.	June 18, 1867.
63, 493	Flora, Orlando V., Madison, Ind., and James S. Bogle, Springfield, Ohio. Churn.	Apr. 2, 1867.
	Florence Manufacturing Company. (See Brown, Clarence E., assignor.)	
72, 471	Florer, M. W., Bracken county, Ky. Fruit dryer.	Dec. 24, 1867.
69, 981	Flory, Christian, East Donegal, Pa. Corn cultivator.	Oct. 22, 1867.
	Flower, T. A. (See Keith, Horace M., assignor.)	
65, 367	Floyd, E. A., Macomb, Ill. Beehive.	June 4, 1867.
61, 531	Floyd, F. G., and E. A., Macomb, Ill. Cherry stoner.	Jan. 22, 1867.
63, 378	Same. Broadcast sower.	Apr. 2, 1867.
64, 654	Floyd, George, Cincinnati, Ohio. Insulator.	May 14, 1867.
	Floyd, James, et al. (See Sangster, William, assignor.)	
67, 520	Flynn, Daniel, Hartford, Conn. Machinery for cutting key seats.	Aug. 6, 1867.
65, 201	Flynt, Chester D., Collinsville, Ill. Carriage seat.	May 28, 1867.
67, 185	Fobes, Charles, Whitewater, Wis. Coffee generator.	July 30, 1867.
64, 856	Fobes, Daniel, assignor to Fobes, Hayward & Co., Boston, Mass. Edible compound.	May 21, 1867.
2, 669	Pogerty, Valentine, assignor, through mesne assignments, to self, Royal E. Robbins, and Frank W. Andrews, West Roxbury, Mass. Magazine fire-arm. (Reissue.)	July 9, 1867.
70, 187	Fogg, Thomas, Detroit, Mich. Railroad switch.	Oct. 29, 1867.
72, 382	Foley, D. D., Washington, D. C. Penholder. (Antedated November 13, 1867.)	Dec. 17, 1867.
68, 865	Foley, John, Cleveland, Ohio. Balancing mill stones.	Sept. 17, 1867.
67, 035	Foley, Richard, assignor to self and Edwin Ferguson, New York, N. Y. Tunnel.	July 23, 1867.
65, 738	Folger, Addison L., Sumner, Ind. Sorghum evaporator.	June 11, 1867.
71, 155	Follensbee, Willard S., Jamesville, Wis. GROUT conductor.	Nov. 19, 1867.
67, 521	Follett, Henry A. and Amos, Smithfield, R. I. Bed bottom.	Aug. 6, 1867.
	Folsom, Charles, and J. P. James. (See Miller, Abraham S., assignor.)	
64, 857	Folsom, George F., assignor to self and Charles F. Pease, Roxbury, Mass. Extension table.	May 21, 1867.
	Folsom, John G. (See Hadley, Horace W., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 494	Folsom, John G., Winchendon, Mass., and W. C. Anderson, St. Louis, Mo. Treadle.	Apr. 2, 1867.
60, 871	Folsom, Nehemiah T., Laconia, N. H. Atmospheric dental plate.	Jan. 1, 1867.
	Folsom, Sewall S. W. (See Freeman, Arthur L., assignor.)	
69, 648	Foltz, Henry. (See Goodman & Fessler, assignor.)	
61, 824	Fontaine, Amedée and Eugene, Fort Wayne, Ind. Annunciating fire alarm.	Oct. 8, 1867.
69, 790	Fontaine, J. A. A., New York, N. Y. Aerial railroad.	Feb. 5, 1867.
63, 130	Foote, Henry R., Oil City, Pa. Furnace for steam boilers, &c.	Oct. 15, 1867.
70, 081	Foote, Henry R., assignor to self, Stillman B. Allen, and J. H. Winsor, Oil City, Pa. Vapor generator and burner for heating purposes.	Mar. 19, 1867.
69, 201	Foote, M. B., assignor to self and E. N. Foote, New England village, Mass. Combined knob, latch, and lock.	Oct. 22, 1867.
66, 316	Forbes, James, Plainwell, Mich. Mode of attaching calks to horseshoes.	Sept. 24, 1867.
69, 649	Forbes, John, New York, N. Y. Skate.	July 2, 1867.
63, 236	Same.....Skate.	Oct. 8, 1867.
68, 177	Forbush, Walter H., and Stephen Greene. (See Greene & Forbush.)	
69, 907	Force, Albert M., assignor to self and A. H. Vaughn, Norwich, Conn. Meat slicer.	Mar. 26, 1867.
63, 495	Force, Benjamin, Mt. Pleasant, Iowa. Fence.	Aug. 27, 1867.
71, 374	Force, J., and G. W. Renwick, Elgin, Ill. Tenter bars for stretching cloth.	Oct. 15, 1867.
61, 332	Force, Charles P., and William W. Egnew, Jarvis, Ind. Weather strip.	Apr. 2, 1867.
	Ford, Charles T., Salem, Mass. Toy fortune teller.	Nov. 26, 1867.
	Ford, E. G., and H. Weible, assignors to E. G. and J. G. Ford, Delphos, Ohio. Clamp for raising timber frames.	Jan. 22, 1867.
70, 331	Ford, E. R. (See Howe, Henry, assignor.)	
69, 556	Ford, Franklin D., New Bedford, Mass. Neck tie.	Oct. 29, 1867.
61, 184	Ford, Joseph S., Philadelphia, Pa. Gas burner.	Oct. 8, 1867.
66, 479	Ford, Lorenzo D., Canaan, N. Y. Method of attaching roofing to buildings.	Jan. 15, 1867.
65, 660	Ford, Martin P., Columbus, Ohio. Car seat lock.	July 9, 1867.
67, 835	Ford, W. P., and A. A. Moore, Concord, N. H. Composition for pavements.	June 11, 1867.
68, 619	Fordyce, John N., Cambridge, Ohio. Harrow.	Aug. 13, 1867.
64, 414	Foreman, John, Pottstown, Pa. Railway car.	Sept. 10, 1867.
66, 142	Foreman, M., and J. R. Mathewson, Philadelphia, Pa. Steam blower.	May 7, 1867.
67, 745	Forgie, James, and Simon G. Cheever. (See Cheever & Forgie.)	
70, 188	Forissier, J. B., New York, N. Y. Amalgamator.	June 25, 1867.
70, 542	Forker, William H., Meadville, Pa. Brush.	Aug. 13, 1867.
71, 866	Same.....Machine for opening cans.	Oct. 29, 1867.
63, 030	Same.....Paint brush.	Nov. 5, 1867.
71, 375	Forncrook, Charles C., Hermitage, N. Y. Tuyere.	Dec. 10, 1867.
67, 036	Forney, Henry S., Baltimore, Md. Washing machine.	Mar. 19, 1867.
70, 189	Forrest, David, assignor to self, P. M. Keane, and D. N. Clark, Eastport, Maine. Gas meter.	Nov. 26, 1867.
71, 376	Forrest, David, assignor to self and James Eldridge, Eastport, Maine. Car wheel.	July 23, 1867.
62, 124	Forsyth, Samuel C. (See Haynes, J. P. assignor.)	
72, 620	Forsyth, G. R., Pemberton, Ohio. Pump.	Feb. 19, 1867.
2, 589	Forsyth, James B., Roxbury, Mass. Manufacture of India-rubber rollers. (Reissue)	Dec. 24, 1867.
70, 332	Fosdick, George W., Dowagiac, Mich. Rein holder.	May 7, 1867.
66, 822	Foss, Adam, Wayne county, Ohio. Whitewash brush.	Oct. 29, 1867.
72, 009	Foster, Alden T., Albany, N. Y. Carving knife and fork holder.	July 16, 1867.
68, 866	Foster, Ambrose J., Lake Mills, Wis. Hame fastener.	Dec. 10, 1867.
2, 700	Foster, C. A., assignor, through mesne assignments, to the Metropolitan Washing Machine Company, Middlefield, Conn. Meat chopper. (Reissue)	Sept. 17, 1867.
64, 212	Foster, Edward V., and William T. Clement. (See Clement & Foster.)	July 23, 1867.
62, 951	Foster, George Kale, San Francisco, Cal. Fire ladder.	Apr. 30, 1867.
62, 952	Foster, John T., Jersey City, N. J. Peat machine.	Mar. 19, 1867.
67, 970	Same.....Machine for making pasteboard boxes.	Mar. 19, 1867.
64, 962	Foster, Joseph, Beverly, Mass. Fish flake.	Aug. 20, 1867.
72, 276	Foster, Josiah, Sandwich, Mass. Marine furniture.	May 21, 1867.
72, 277	Foster, Morrison, Cleveland, Ohio. Railroad spike.	Dec. 17, 1867.
64, 655	Foster, O. S., Durhamville, N. Y. Jack for pulling hop poles.	Dec. 17, 1867.
65, 066	Foster, P. S., Richmond, Maine. Road scraper.	May 14, 1867.
69, 537	Foster, S. W., and J. Davis. (See Davis & Foster.)	
70, 082	Foster, Theodore S., assignor to self and John P. Sabin, Fitchburg, Mass. Pipe cutter.	May 28, 1867.
67, 280	Foster, Walter K., Bangor, Maine. Carriage wheel.	Oct. 8, 1867.
72, 730	Same.....Cambridgeport, Mass. Washer for axle boxes.	Oct. 22, 1867.
62, 622	Foster, William, Logansport, Ind. Railway chair.	July 30, 1867.
69, 558	Foster, William, Greenville, Ohio. Medical compound.	Mar. 5, 1867.
69, 982	Foster, William H., assignor to self and Michael R. Perkins, Portsmouth, N. H. Steering apparatus.	
63, 031	Foster, W. T., Jeffersonville, Ind. Adjustable hood for coal grates and fireplaces.	Oct. 8, 1867.
67, 863	Foubert, André, New York, N. Y. Apparatus for the manufacture of vinegar.	Mar. 19, 1867.
67, 864	Same.....Apparatus for distilling and rectifying spirits.	Aug. 20, 1867.
71, 156	Same.....Apparatus for distilling spirits.	Aug. 20, 1867.
71, 476	Same.....Apparatus for distilling.	Nov. 19, 1867.
72, 182	Foucault, A., New York, N. Y. Marine telegraph.	Nov. 26, 1867.
72, 181	Foulds, Thomas H., et al. (See Bevis, Henry, assignor.)	
	Fountain, Stepaen, Silver City, Nevada. Ore concentrator and amalgamator.	Dec. 17, 1867.
	Fountain, Vincent, jr., Castleton, New York. Machine belting.	Dec. 17, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 826	Fowke, George Augustus Frederick, Great Britain. Composition for coating ships' bottoms.....	Nov. 12, 1867.
72, 833	Fowler, A. D., Newark, N. J. Children's carriage. (Antedated Dec. 21, 1867).....	Dec. 31, 1867.
61, 185	Fowler, Benjamin E., assignor to Benjamin F. Ellis, Hartford, Conn. Door bolt.....	Jan. 15, 1867.
65, 067	Fowler, Charles H., West Roxbury, Mass. Curtain fixture.....	May 28, 1867.
63, 739	Same..... Parlor ten pin-alley.....	June 11, 1867.
62, 539	Fowler, F. F., Upper Sandusky, Ohio. Ice crusher.....	Mar. 5, 1867.
61, 530	Fowler, F. G., Springfield, Ill. Windmill.....	Jan. 29, 1867.
65, 202	Same..... Propeller.....	May 28, 1867.
68, 060	Fowler, G. W., Jenner's crossroads, Pa. Churn.....	Aug. 27, 1867.
66, 480	Fowler, Henry, Bronson, Mich. Apparatus for evaporating sorghum juice and other liquids.....	July 9, 1867.
68, 357	Fowler, Herbert E., Wolcottville, Conn. Machine for separating tinned and galvanized articles of metal.....	Sept. 3, 1867.
	Fowler, H. T., <i>et al.</i> (See Hall, James T., assignor.).....	
63, 151	Fowler, Joseph, Hartland, Wis. Plow.....	Mar. 26, 1867.
70, 190	Fowler, Maltby, Northford, Conn. Card for hooks and eyes.....	Oct. 29, 1867.
63, 832	Fowler, Merwin, Wolcottville, Conn. Buckle.....	Mar. 12, 1867.
67, 865	Fowler, Merwin, assignor to Turner, Seymour & Judds, Wolcottville, Conn. Machine for making buckles.....	Aug. 20, 1867.
60, 711	Fowler, Robert G., Olney, Ill. Burglar alarm.....	Jan. 1, 1867.
69, 331	Fowler, Samuel T., Brooklyn, N. Y. Composition of matter for filling safes and for other purposes.....	Oct. 1, 1867.
72, 010	Fowler, Samuel W., Brooklyn, N. Y. Lamp chimney.....	Dec. 10, 1867.
68, 429	Fowler, Thaddeus, Seymour, Conn. Machine for making sewing-machine needles.....	Sept. 3, 1867.
68, 430	Same..... Machine for reducing wires for needle blanks.....	Sept. 3, 1867.
61, 963	Fowler, Thaddeus, assignor to the Fowler Nail Company, Seymour, Conn. Machinery for making nails.....	May 21, 1867.
64, 964	Same..... Machine for making horseshoe nails.....	May 21, 1867.
72, 278	Fowler, W. D., and Le Roy M. Taylor. (See Taylor & Fowler.).....	
72, 279	Fownes, Charles, Pittsburg, Pa. Furnace for steam boilers.....	Dec. 17, 1867.
67, 281	Same..... Hinging tea kettle covers.....	Dec. 17, 1867.
71, 598	Fox, Alexander, Poughkeepsie, N. Y. Filter.....	July 30, 1867.
	Fox, Alfred D., Oil City, Pa. Railroad jack.....	Dec. 3, 1867.
	Fox, A. F., and T. G. Thompson. (See Thompson & Fox.).....	
	Fox, A. W., and H. W. Camp. (See Camp & Fox.).....	
66, 823	Fox, George W., St. Joseph county, Mich. Farm gate.....	July 16, 1867.
70, 986	Fox, Howard Busby, and John Turner Hall, England: Bottle stopper.....	Nov. 19, 1867.
69, 908	Fox, John, Baltimore, Md. Harvester.....	Oct. 15, 1867.
72, 183	Fox, Oscar C., Georgetown, D. C. Driven wells.....	Dec. 17, 1867.
	Fox, S. R., and E. W., <i>et al.</i> (See Hufendeck, Henry, assignor.).....	
	Fox, S. R., Manufacturing Company. (See Child, Pascal P., assignor.).....	
63, 496	Fox, Thomas W., New London, Conn. Apparatus for expelling water from the holds of vessels.....	Apr. 2, 1867.
63, 625	Foy, Lavinia H., Worcester, Mass. Pin for the attachment of bows and rosettes.....	Apr. 9, 1867.
2, 653	Foy, Lavinia H., assignor, through mesne assignments, to herself and James H. Foy, Boston, Mass. Corset skirt supporters..... (Division 1, reissue.).....	June 18, 1867.
2, 654	Foy, Lavinia H., assignor, through mesne assignments, to herself and James H. Foy, Boston, Mass. Corset skirt supporter..... (Division 2, reissue.).....	June 18, 1867.
	Frair, Robert L., <i>et al.</i> (See Frink, C. L., assignor.).....	
71, 867	Fraily, John H., New Orleans, La. Cotton tie.....	Dec. 10, 1867.
	Framo, John. (See Jackson, Leonard L., assignor.).....	
2, 506	Frances, George W., and W. L. Woods, assignors to W. L. Woods, Washington, D. C. Tobacco pipe..... (Reissue.).....	Mar. 12, 1867.
60, 872	Francis, Charles B., Newark, N. J. Window-blind fastener.....	Jan. 1, 1867.
67, 642	Francis, John B., Barnesville, Ohio. Washing machine.....	Aug. 13, 1867.
72, 621	Francis, Lewis, assignor to W. O. Hickok, New York, N. Y. Ink for ruling paper.....	Dec. 24, 1867.
63, 626	Francis, Lewis, assignor to self and Cyrus H. Loutrel, New York, N. Y. Mode of making spring backs for books.....	Apr. 9, 1867.
2, 805	Francis, Lewis, and Frederick W. Letmate, assignors to Lewis Francis and Cyrus H. Loutrel, New York, N. Y. Composition for inking rollers, pads, and other printing purposes..... (Reissue.).....	Nov. 26, 1867.
2, 684	Francis, Samuel W., Newport, R. I. Visiting card..... (Design.).....	June 25, 1867.
69, 983	Francis, Samuel W., New York, N. Y. Oar.....	Oct. 22, 1867.
71, 293	Frank, Charles, Cincinnati, Ohio. Tanning.....	Nov. 26, 1867.
63, 497	Frank, Conrad, Cincinnati, Ohio. Belt rivet.....	Apr. 2, 1867.
	Frank, H. L., and Gustavus Jonson. (See Jonson, Julius, assignor.).....	
67, 522	Frank, John, Webster City, Iowa. Cultivator.....	Aug. 6, 1867.
	Frank, T. F. (See Ransom, Franklin, assignor.).....	
72, 632	Frankeberger, J. T., Hensly, Ill. Cultivator.....	Dec. 24, 1867.
72, 623	Same..... Harrow.....	Dec. 24, 1867.
69, 791	Frankem, I. L., Indianapolis, Ind. Damper. (Antedated Sept. 14, 1867).....	Oct. 15, 1867.
66, 824	Franklin, Alvin, Galena, Ohio. Wool-packing table.....	July 16, 1867.
69, 909	Franklin, Francis M., O. K. McIntyre, and William Whiteley, Springfield, Ohio. Brick mold.....	Oct. 15, 1867.
66, 825	Franklin, L. H., Poland, N. Y. Weighing scale.....	July 16, 1867.
62, 623	Frantz of Joseph, John, Selby's Port, Md. Fruit gatherer.....	Mar. 5, 1867.
72, 472	Frantz, Joseph K., Goodville, Pa. Seed planter.....	Dec. 24, 1867.
65, 740	Franzen, Nicolai C., Germany. Steering indicator.....	June 11, 1867.
67, 186	Frap, Francis, assignor to self and B. C. English, Springfield, Mass. Spring for beds and lounges.....	July 30, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Frary, Orange S., <i>et al.</i> (See Seekins, H. G., assignor.)	
69, 984	Frary, William M., Bucyrus, Ohio. Operating telegraph keys.....	Oct. 22, 1867.
67, 971	Frasr, E. J., Erie, Pa. Carburetting apparatus.....	Aug. 20, 1867.
61, 660	Fraser, John, Williamsburg, N. Y. Marking skirt wire in lengths for hoops. (Ante-dated January 21, 1867).....	Jan. 29, 1867.
68, 178	Fraser, John, Dowagiac, Mich. Smoothing iron.....	Aug. 27, 1867.
72, 473	Frayer, Ambrose, Ripley, Ohio. Rail fence.....	Dec. 24, 1867.
	Frayer, Ambrose. (See Sattison, Jacob, assignor.)	
67, 282	Frazee, Laurence F., South Amboy, N. J. Ships' davit.....	July 30, 1867.
2, 536	Frazee, Orion, New York, N. Y. Medallion..... (Design).....	Jan. 1, 1867.
60, 712	Frazier, Kasson, Syracuse, N. Y. Hollow ring.....	Jan. 1, 1867.
65, 068	Same..... Shaft tug.....	May 23, 1867.
69, 087	Same..... Snap hook.....	Sept. 24, 1867.
	Frazier, William. (See Campbell, Neil, assignor.)	
	Frear, William H. (See Alexander, Joseph B., assignor.)	
67, 523	Frederick, Levi W., Gosport, Ind. Horse rake.....	Aug. 6, 1867.
	Fredericks, Jerome, and J. B. Pettet. (See Pettet & Fredericks.)	
	Free, John W. (See Ogborn, Harrison, assignor.)	
72, 011	Freeborn, William, Tivoli, N. Y. Cartridge box.....	Dec. 10, 1867.
70, 191	Freed, Isaac, assignor to William Getty, Harrisburg, Pa. Seat for chamber vessels.....	Oct. 29, 1867.
68, 061	Freeland, Aaron M., New York, N. Y. Belt-shitting device.....	Aug. 27, 1867.
67, 972	Freeland, John, and Daniel Ward, New York, N. Y. Volute spring.....	Oct. 20, 1867.
63, 379	Freeman, Albert A., Philadelphia, Pa. Axle box.....	Apr. 2, 1867.
70, 429	Freeman, Armstrong, Lowell, Mass. Cattle guard gate.....	Nov. 5, 1867.
65, 368	Freeman, Arthur L., assignor to Sewall S. W. Folsom, England. Keg and barrel for paint and other materials.....	June 4, 1867.
61, 003	Freeman, A. M., and A. M. Stoner, Springfield, Ohio. Car coupling.....	Jan. 8, 1867.
68, 297	Freeman, David A., Belleville, Mich. Marker for planting corn.....	Aug. 27, 1867.
68, 620	Freeman, Henry C., South Pass, Ill. Box for transporting strawberries. (Antedated August 27, 1867).....	Sept. 10, 1867.
69, 202	Freeman, H. C., Lewisville, Ind. Sawing machine.....	Sept. 24, 1867.
68, 179	Freeman, James M., Belleville, N. Y. Riding attachment for harrows.....	Aug. 27, 1867.
64, 656	Freeman, Moses H., Somerville, Mass. Pipe wrench.....	May 14, 1867.
70, 192	Freeman, Thomas F., assignor to self and William H. Abbot, Brooklyn, N. Y. Machine for cutting wood gear.....	Oct. 29, 1867.
	Freeport, William. (See Howlett, Charles, assignor.)	
2, 707	Frees, P. M., and Zenas King; said Frees assignor to said King, Cleveland, Ohio. Bridge..... (Reissue).....	July 30, 1867.
68, 431	Freestone, James N., Williamsburg, N. Y. Wrench.....	Sept. 3, 1867.
69, 332	Freet, Samuel, Upper Strasburg, Pa. Horse rake.....	Oct. 1, 1867.
62, 624	Freet, S. D., McCutchenville, Ohio. Instrument for paring hoofs of horses.....	Mar. 5, 1867.
61, 531	Freetsha, Charles, Paterson, N. J. Pattern chart.....	Jan. 29, 1867.
65, 203	French, Abel M., Burton, Ohio. Medical compound for treating ring-bone, spavin, &c., in horses.....	May 28, 1867.
68, 725	French, Andrew J., assignor to Waterbury Brass Company, Waterbury Conn. Machine for lining percussion caps.....	Sept. 10, 1867.
68, 432	French, Edwin W., South Scituate, Mass. Engine hose.....	Sept. 3, 1867.
61, 616	French, Gilbert B., Dunbar, N. H. Car coupling.....	Jan. 29, 1867.
65, 369	French, James, Belle Vernon, Ohio. Machine for washing sand.....	June 4, 1867.
67, 866	French, John, Newport, Ky. Boiler gauge cock.....	Aug. 20, 1867.
66, 318	French, Joseph J., assignor to self and Reuben A. McCauley, Baltimore, Md. Globe valve for steam engines.....	July 2, 1867.
66, 143	French, William P., Washington, Iowa. Band cutter for threshing machines.....	June 25, 1867.
69, 422	Fretz, David K., Cono, Iowa. Loom.....	Oct. 1, 1867.
70, 987	Frey, Franklin, Liberty, Ill. Machine for picking hair.....	Nov. 19, 1867.
61, 186	Frey, James H., and William Heckert, assignors to selves and E. A. Wheeler, Sharon, Pa. Printing press.....	Jan. 15, 1867.
64, 965	Frey, John A., New York, N. Y. Lamp burner.....	May 21, 1867.
65, 741	Same..... Metal barrel.....	June 11, 1867.
62, 262	Freylinghausen, P. H., Jonestown, Pa. Bedstead fastening.....	Feb. 19, 1867.
64, 657	Friberg, Andrew, Moline, Ill. Cultivator.....	May 14, 1867.
	Frick, E. B. (See Custer, George, assignor.)	
60, 873	Friend, Jacob J., Altona, Ill. Portable field fence.....	Jan. 1, 1867.
	Frillman, Fritz, <i>et al.</i> (See Schaefer, Charles A., assignor.)	
	Same..... Same.....	
71, 599	Frink, C. L., assignor to E. H. Robinson, E. I. Smith, and Robert L. Frair, Rockville, Conn. Device for smoothing cloth.....	Dec. 3, 1867.
61, 414	Frink, C. L., Rockville, Conn. Globe valve.....	Jan. 22, 1867.
72, 624	Frink, C. R., Norwich, N. Y. Hay spreader.....	Dec. 24, 1867.
72, 280	Frink, S. C., Indianapolis, Ind. Sadiron heater.....	Dec. 17, 1867.
68, 621	Frink, S. C. and E. O., Indianapolis, Ind. Wood-bending machines.....	Sept. 10, 1867.
	Same..... <i>et al.</i> (See Rhoads, C. W., assignor.)	
2, 553	Frisbie, Russel, assignor to J. & E. Stevens & Company, Cromwell, Conn. Match-safe..... (Design).....	Jan. 15, 1867.
61, 729	Same..... Cast-iron frame for toy looking-glasses.....	Feb. 5, 1867.
2, 809	Same..... Mirror frame..... (Design).....	July 23, 1867.
69, 333	Frisbie, Samuel, and Andrew S. Upson, Farmington, Conn. Method of making carriage bolts.....	Oct. 1, 1867.
64, 516	Fritz, Henry C., Philadelphia, Pa. Shaft coupling.....	May 7, 1867.
63, 032	Fritz, Herman, Cleveland, Ohio. Galvanic battery for remedial uses.....	Mar. 19, 1867.
71, 600	Froehlich, C., Philadelphia, Pa. Instrument for cutting the tips from cigars preparatory to smoking.....	Dec. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 237	Froggett, Job, Youngstown, Ohio. Apparatus for hot blast furnaces.....	Mar. 26, 1867.
67, 524	Frohlich, H. E., Easton, Pa. Thread guide for sewing machines.....	Aug. 6, 1867.
65, 370	Fromm, Herman, East New York, N. Y. Propeller.....	June 4, 1867.
65, 661	Frost, A., Seymour, Ind. Animal trap.....	June 11, 1867.
67, 283	Frost, Charles H., Peekskill, N. Y. Base burning stove.....	July 30, 1867.
61, 333	Frost, David, Dupage, Ill. Shaker attachment for threshing machines.....	Jan. 22, 1867.
65, 742	Frost, Edward J., New York, N. Y. Magazine-revolving fire-arm.....	June 11, 1867.
66, 481	Frost, Francis S., West Cambridge, Mass. Bed bottom.....	July 9, 1867.
67, 525	Frost, Henry S., Watertown, Conn. Door spring.....	Aug. 6, 1867.
	Frost, Henry S., et al. (See Beecher, Davis, Frost & Davis.)	
	Frost, Pinckney, Springfield, Vt. Scythe fastening..... (Extension).....	Jan. 7, 1867.
72, 291	Frost, Thomas Q., Indian River, N. Y. Washing machine.....	Dec. 17, 1867.
70, 710	Fry, John E., Johnstown, Pa. Mold for casting steel ingots.....	Nov. 12, 1867.
69, 792	Fry, William A., Worcester, Pa. Pump.....	Oct. 15, 1867.
70, 988	Fry, William T., New York, N. Y. Breast pump.....	Nov. 19, 1867.
65, 204	Frye, jr., A. D., New York, N. Y. Bouquet holder.....	May 28, 1867.
65, 205	Fryer, Alfred, England. Apparatus for evaporating and concentrating cane juice and other liquids.....	May 28, 1867.
66, 317	Fryer, Wm. J., assignor to self and John P. Witbeck, West Troy, N. Y. Pattern for casting port-hole covers.....	July 2, 1867.
67, 526	Fryling, John, Fletcher, Ohio. Stream fence.....	Aug. 6, 1867.
72, 625	Fuchs, Jean Michel, New York, N. Y. Process for manufacturing albumen.....	Dec. 24, 1867.
66, 578	Fulghum, Jesse P., Milton, Ind. Seed drill.....	July 9, 1867.
67, 284	Fullam, A. J., Springfield, Vt. Drilling apparatus.....	July 30, 1867.
66, 579	Fuller, Albert, Brooklyn, N. Y. Gauge cock.....	July 9, 1867.
66, 580	Same..... Hydrant valve.....	July 9, 1867.
63, 152	Fuller, Andrew, and Francis J. Bray, Buffalo, N. Y. Pump.....	Mar. 26, 1867.
68, 726	Fuller, Daniel, Oakwood, Mich. Gate.....	Sept. 10, 1867.
71, 732	Fuller, Frank, New York, N. Y. Toy gun or pistol.....	Dec. 3, 1867.
71, 477	Fuller, Frederick C. Lowell, Mass. Lubricating roller in spinning machines.....	Nov. 26, 1867.
63, 033	Fuller, H. W., New York, N. Y. Sewing machine attachment for making tucks.....	Mar. 19, 1867.
66, 013	Fuller, Jim B., assignor to self, J. P. Upham, and Edwin T. Rice, Norwich, Conn. Bleaching. (Antedated June 11, 1867.)	June 25, 1867.
	Fuller, T. H. (See Polsey, A. M., assignor.)	
	Fuller, Thomas R., and Samuel S., et al. (See Hillman, A., assignor.)	
	Fuller, Warren, & Co. (See Hathaway, David, assignor)..... (Design.)	
	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
	Same..... (See Harwood, Luther W., assignor)..... (Design.)	
72, 626	Same..... same.....	
72, 474	Fuller, Willard M., Chicago, Ill. Amalgamator for ores of gold and silver.....	Dec. 24, 1867.
	Fuller, Williston K., Modena, Ill. Apparatus for ventilating mill-stones.....	Dec. 24, 1867.
64, 007	Fulton, John W. and Lec W. (See Carman, J. T., assignor.)	
	Fulton, Lorenzo, Edinburg, Ind. Low water indicator.....	Apr. 23, 1867.
67, 746	Furber & Davis. (See Stone, Joseph M., assignor.)	
61, 187	Furlon, Walter S., Geneseo, Ill. Snap-hook.....	Aug. 13, 1867.
	Furlong, Edward P., ass'or to self and Henry Inman, Portland, Me. Paper pantalnets.....	Jan. 15, 1867.
62, 833	Furnier, David L., Rostraver, Pa. Machine for washing sand and other materials.....	Mar. 12, 1867.
64, 091	Same..... Riddle for sand washers.....	Apr. 23, 1867.
69, 650	Same..... Machine for washing sand, &c.....	Oct. 8, 1867.
67, 857	Furniss, F. H., Cleveland, Ohio. Steam engine oil cup.....	Aug. 29, 1867.
64, 092	Fuzzard, William, Chelsea, Mass. Carpet lining.....	Apr. 23, 1867.
67, 285	Same..... Rowlock.....	July 30, 1867.
72, 282	Gabel, William B., East Cocalico Township, Pa. Horse hay fork.....	Dec. 17, 1867.
67, 527	Gabriel, Mathias, Newark, N. J. Rotary steam engine.....	Aug. 6, 1867.
67, 528	Gabriel, Peter, Seymour, Conn. Lead or pencil holder.....	Aug. 6, 1867.
68, 727	Same..... Fountain penholder.....	Sept. 10, 1867.
60, 761	Gage, C. E., Fond du Lac, Wis. Wringer for clothes and mops.....	Jan. 1, 1867.
68, 728	Same..... Weighing scale.....	Sept. 10, 1867.
66, 699	Gage, C. W., Homer, N. Y. Hay loader.....	July 16, 1867.
65, 558	Gage, Charles W., and James Northrup, Homer, N. Y. Mop wringer.....	June 11, 1867.
66, 581	Gage, Franklin B., St. Johnsbury, Vt. Process for making positive and negative photographs in the camera.....	July 9, 1867.
	Same..... Photographic camera.....	Dec. 24, 1867.
72, 697	Galbraith, Edward A. (See Jenks, Lemuel P., assignor.)	
68, 867	Galbraith, Samuel, Pine Grove Plantation, La. Compound for destroying insects.....	Sept. 17, 1867.
72, 012	Same..... New Orleans, La. Device for hitching horses.....	Dec. 10, 1867.
71, 601	Gale, C. C., Cleveland, Ohio. Railroad time indicator.....	Dec. 3, 1867.
69, 559	Gale, J. M. B. Ames and J. F. Blaisdell, Lawrence, Mass. Carriage.....	Oct. 8, 1867.
61, 617	Gale, Warren, Chicopee Falls, Mass. Straw cutter.....	Jan. 29, 1867.
61, 932	Same..... same.....	Feb. 12, 1867.
61, 933	Same..... same.....	Feb. 12, 1867.
66, 482	Galette, Joseph, New York, N. Y. Anti-rheumatic liniment.....	July 9, 1867.
64, 858	Galladay, William, Sheboygan Falls, Wis. Mechanical movement.....	May 21, 1867.
	Gallagher, J. H. (See McGrath, R. M., assignor.)	
71, 602	Gallagher, Joseph P., St. Louis, Mo. Stove-pipe thimble.....	Dec. 3, 1867.
71, 157	Gallandet, William L., New York, N. Y. Thread cutter.....	Nov. 19, 1867.
64, 517	Gallipo, Joseph, assignor to self and Walter Campbell, Cohoes, N. Y. Apparatus for crutching soap.....	May 7, 1867.
	Gallup, Benjamin F., and James G. Stoddard. (See Stoddard & Gallup.)	
63, 498	Gallup, H. P., Medina, Mich. Wind wheel. (Antedated March 21, 1867.).....	Apr. 2, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 625	Gally, Merritt, Marion, N. Y. Car coupling	Mar. 5, 1867.
63, 238	Same..... Evener for whiffletrees, &c.	Mar. 26, 1867.
68, 729	Gally, Merritt, assignor to Otis Potter and Frederick Grandin, Marion, N. Y. Evener for whiffletree	Sept. 10, 1867.
72, 184	Galvin, Bartholomew Clifford, New York, N. Y. Portable switch	Dec. 17, 1867.
72, 185	Same..... Railway switch	Dec. 17, 1867.
71, 377	Gamgee, John, England, and Gamgee, Arthur, Scotland. Preserving animal and vegetable substances	Nov. 26, 1867.
65, 480	Ganneron, Edmond Theodore, France. Machine for hulling rice	June 4, 1867.
65, 371	Gannev, H., Louisville, Ky. Watch	June 4, 1867.
	Gannon, Thomas. (See Badeaux, P. T., assignor.)	
62, 741	Gano, L. H., Milwaukee, Wis. Bag holder	Mar. 12, 1867.
66, 700	Gans, Alois, assignor to self and John Moos, Lincoln, Ill. Brick machine	July 16, 1867.
	Gans, J. H., and S. D. Tuttle. (See Tuttle & Gans.)	
62, 483	Ganster, George P., New York, N. Y. Steam engine. (Antedated Feb. 22, 1867.)	Feb. 26, 1867.
69, 334	Gantner, Benedict, assignor to self and John Sporre, Tell City, Ind. Shoemakers' bench	Oct. 1, 1867.
72, 834	Gantz, Samuel, Beaver Creek, Md. Machine for separating wheat from garlic	Dec. 31, 1867.
	Gangweiler, J. F., et al. (See Andrews, Cummer, Gangweiler & Stengel.)	
	Gapen, Charles C., and James Winters. (See Winters & Gapan.)	
65, 069	Gard, E. R., Chicago, Ill. Brick press	May 28, 1867.
70, 827	Gardner, C., Esperance, N. Y. Sleigh brake	Nov. 19, 1867.
64, 966	Gardner, E. R., Brooklyn, N. Y. Machine for sizing and felting hats	May 21, 1867.
61, 730	Gardner, Francis P., New Haven, Conn. Medical compound for cure of catarrh	Feb. 5, 1867.
67, 286	Gardner, George R., assignor to self and B. W. Bentley, Westerley, R. I. Clamp for paint brushes	July 30, 1867.
72, 543	Same..... Condenser for carding engines	Nov. 5, 1867.
	Gardner, J. B. (See Rodier, Louis C., assignor)..... (Reissue.)	
	Same..... (See Currier, John W., assignor.)	
72, 383	Gardner, J. B., and Edward H. Hyde, Springfield, Mass. Steam pump	Dec. 17, 1867.
62, 125	Gardner, jr., Samuel, New York, N. Y. Apparatus for lighting gas by electricity	Feb. 19, 1867.
71, 158	Same..... Electric switches	Nov. 19, 1867.
64, 967	Gardner, jr., T. Elzare, Bryantown, Md. Gang plow	May 21, 1867.
	Gardner, Abraham B., et al., executors, &c. (See Millington & George). (Extension.)	Nov. 12, 1867.
70, 828	Gardner, E. K., Orrville, Ohio. Railroad gates	
68, 358	Gardner, George H., assignor to self and A. B. Cooley, Philadelphia, Pa. Cow milker	Sept. 3, 1867.
	Gardner, J. (See Monroe, Joshua, assignor.)	
63, 715	Gardner, John, Piroqua, Wis. Saw-set and gummer	Apr. 9, 1867.
67, 529	Gardner, John, Philadelphia, Pa. Cocoa-nut cutter and grater	Aug. 6, 1867.
71, 193	Gardner, John, New Haven, Conn. Capping screws	Oct. 29, 1867.
72, 013	Same	Dec. 10, 1867.
62, 626	Gardner, Joseph W., Shelburne Falls, Mass. Mode of attaching handles to table cutlery	Mar. 5, 1867.
66, 014	Gardner, Mitchell C., Rochester, N. Y. Chucks for iron planing	June 25, 1867.
68, 730	Gardner, O. L., New York, N. Y. Frame for mirrors	Sept. 10, 1867.
69, 985	Gardner, Smith, New York, N. Y. Process for ornamenting marble	Oct. 22, 1867.
72, 283	Gardner, William, New York, N. Y. Iron safe	Dec. 17, 1867.
71, 159	Garfield, Edwin, Hartford, Conn. Steam engine	Nov. 19, 1867.
64, 093	Garfield, Joel, Groton, Mass. Hay and cotton press	Apr. 23, 1867.
64, 518	Same..... Hay spreaders	May 7, 1867.
67, 868	Gariboldi, G. G., Buffalo, N. Y. Marble cement	Aug. 20, 1867.
71, 733	Garland, A. N., West Charleston, Vt. Dress for mill-stones	Dec. 3, 1867.
67, 187	Garland, W. J., and N. Morgan, Winchester, Ill. Adjusting tires to wheels	July 30, 1867.
64, 757	Garlinghouse, George B., North Madison, Ind. Knuuckle joint	May 14, 1867.
68, 062	Same..... Boiling press	Aug. 27, 1867.
63, 627	Garnett, Obadiah V., Versailles, Ky. Medical compound	Apr. 9, 1867.
	Garrard, Jephtha. (See Traugh, Samuel A., assignor.)	
	Same..... (See Bash, Franklin P., assignor.)	
	Garrard, Jephtha, and H. A. V. Post. (See Post & Garrard.)	
72, 628	Garrett, Alfred C., Boston, Mass. Voltaic piles	Dec. 24, 1867.
71, 633	Garretson, Joel G., and Franklin D. Clark, Buffalo, N. Y. Sash stop	Dec. 3, 1867.
65, 662	Garretson, O. S., Buffalo, N. Y. Mop head	June 11, 1867.
67, 643	Same..... Cincinnati, Ohio. Mop head	Aug. 13, 1867.
68, 868	Same..... Buffalo, N. Y. Window pulleys	Sept. 17, 1867.
2, 681	Garrett, Charles C., Dayton, Ala. Corn and cotton seed planter..... (Reissue.)	July 16, 1867.
72, 186	Garrick, Thomas, Providence, R. I. Twine holder and cutter. (Antedated Dec. 11, 1867.)	Dec. 17, 1867.
	Garrison, A. B., et al. (See Allen, Thomas, assignor.)	
69, 203	Garrison, Jeannette, New York, N. Y. Attachment for cook stove	Sept. 24, 1867.
61, 661	Garrison, W. K., Abingdon, Ill. Cultivator	Jan. 29, 1867.
72, 835	Garter, R., Grand Rapids, Mich. Cultivator	Dec. 31, 1867.
63, 499	Gartner, Arnold, assignor to self and M. O. Luttgen, New York, N. Y. Machine for cleaning flax and hemp	Apr. 2, 1867.
	Gartside, Amos. (See Hainsworth, William, assignor.)	
64, 968	Garvie, George D., Hartford, Conn. Guide for sewing machines	May 21, 1867.
62, 022	Garvin, B., and R. J. Pettibone, Oshkosh, Wis. Tubular grate	Feb. 12, 1867.
71, 604	Same..... Feed-water heaters for locomotives	Dec. 3, 1867.
	Gaskill, Samuel M., and George Burket. (See Burket & Gaskill.)	
	Same..... same.	

List of patents of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Gass, J. Jacob, and J. Henry Vogt. (See Canter, Wm., assignor.)	
68, 359	Gaston, Henry A., Nevada City, Cal. Amalgamator	Sept. 3, 1867.
63, 791	Gaston, J. C., Cincinnati, Ohio. Churn	Apr. 16, 1867.
64, 969	Same.....Atmospheric churn dasher	May 21, 1867.
66, 015	Same.....Churn	June 25, 1867.
72, 475	Same.....sams	Dec. 24, 1867.
72, 836	Same.....Envelope	Dec. 31, 1867.
69, 793	Gaston, Joseph N., Lyons City, Iowa. Buckle	Oct. 15, 1867.
64, 758	Gates, David, Captina, Ohio. Churn	May 14, 1867.
	Gates, George A., et al. (See Sargent, Lucius, M., assignor.)	
69, 910	Gates, Joseph P., Lincoln, Ill. Bridle bit	Oct. 15, 1867.
72, 014	Same.....Tight and loose pulleys	Dec. 10, 1867.
68, 972	Gates, L. B., Bane Centre, N. Y. Device for reounding lines	Sept. 17, 1867.
72, 284	Gates, M. A., Troy, Pa. Check rein attachment	Dec. 17, 1867.
61, 188	Gates, P. Tenney, Plattsburg, N. Y. Carriage boot	Jan. 15, 1867.
65, 206	Gates, Stephen F., Boston, Mass. Umbrella	May 23, 1867.
60, 713	Gates, William H., Louisville, Ky. Machine belting	Jan. 1, 1867.
67, 287	Gates, William N., assignor to Oscar J. Whitney, Manchester Centre, N. Y. Corn harvester	July 30, 1867.
67, 869	Gatley, Joseph, Philadelphia, Pa. Cooler for liquors on draught	Aug. 20, 1867.
70, 989	Gatschet, Jacob, York Township, Ohio. Beehive	Nov. 19, 1867.
70, 990	Gattman, Isaac M., New York, N. Y. Manufacture of white lead. (Antedated November 14, 1867).	Nov. 19, 1867.
	Gaudson, Adolphus, et al. (See Johnson, George, assignor.)	
67, 427	Gaughran, P., and L. Sweeney, San Francisco, Cal. Mode of preserving eggs	Aug. 6, 1867.
69, 088	Gault, Jacob W., Pleasant Township, Ohio. Churn	Sept. 24, 1867.
63, 380	Gaume, Charles J. B., Davenport, Iowa. Electro-magnetic engine	Apr. 2, 1867.
2, 613	Gautier, Charles, Washington, D. C. Bottle.....(Design)	Apr. 9, 1867.
2, 699	Same.....Label for bottle.....(Design)	July 9, 1867.
66, 826	Gavett, George L., Sandstone, Mich. Fence	July 16, 1867.
67, 288	Gayle, J. B., Portsmouth, Va. Lathe for turning eccentrics	July 30, 1867.
72, 384	Same.....Raleigh, N. C. Oil-can	Dec. 17, 1867.
60, 874	Gaylord, E. L., Terryville, Conn. Drawer lock	Jan. 1, 1867.
68, 496	Same.....Piano lock	Sept. 3, 1867.
68, 497	Same.....same	Sept. 3, 1867.
66, 483	Gaylord, Sereno, Chicopee, Mass. Trunk lock	July 9, 1867.
	Gear, Nathaniel, Marietta, Ohio. Machine for turning or cutting irregular forms.....(Extension)	Sept. 30, 1867.
69, 204	Gearing, F., assignor to self and Henry Millingar, Pittsburg, Pa. Market box	Sept. 24, 1867.
	Gearn, W. W., & Company. (See Patterson, James, assignor).....(Design)	
64, 519	Gebby, William L., New Richland, Ohio. Planter and cultivator combined	May 7, 1867.
66, 827	Gebhart, John F., New Albany, Ind. Motion for harness looms	July 16, 1867.
66, 828	Same.....same	July 16, 1867.
68, 869	Geemen, Joseph, Chicago, Ill. Malt kiln	Sept. 17, 1867.
62, 540	Geddis, William B., Rochester, N. Y. Cresset or barrel heater	Mar. 5, 1867.
65, 481	Ge, Henry C., New York, N. Y. Apparatus for annealing wire	June 4, 1867.
69, 986	Gee, William, New York, N. Y. Lining soda fountains	Oct. 22, 1867.
2, 440	Geer, George, Douglas, Ill. Corn harvester.....(Reissue)	Jan. 1, 1867.
63, 716	Geer, George, assignor to self, T. G. Hadley, and William Hamilton, Galesburg, Ill. Cherry stoner	Apr. 9, 1867.
66, 484	Geer, John M. Holden, assignor to Dodge and Wellington, Worcester, Mass. Saw-set	July 9, 1867.
	Geer, Sidney L., and Henry W. Holly. (See Holly & Geer.)	
69, 335	Gehr, John, Mercersburg, Pa. Three-wheel carriage	Oct. 1, 1867.
	Geiger, Benendikt, and Herman Woehner. (See Woehner & Geiger.)	
2, 484	Same.....same	
	Geiser, Peter, Green Castle, Pa. Grain separator	Feb. 19, 1867.
	Geiss, Jacob, et al. (See Penn. Geiss & Brosius).....(Reissue)	
66, 959	Gemmill, John B., Strawbridge, Pa. Corn planter and guano sower	July 23, 1867.
70, 991	Geunander, George, New York, N. Y. Violins and other bow instruments	Nov. 19, 1867.
65, 207	Geunerat, Auguste Lion, France. Burglar alarm lock	May 28, 1867.
65, 663	George, Amos D., Boston, Mass. Searf supporter	June 11, 1867.
65, 899	George, Conrad, Ligonier, Pa. Churn	June 18, 1867.
	George, Dennis J., and Norman Millington. (See Millington & George).....(Extension)	
70, 194	George, J. N., Boston, Mass., and Jacob R. Sanborn, Waltham, Mass. Hair brush	Oct. 29, 1867.
	George, John S. (See Bennett, Frederick, assignor.)	
2, 795	Gephart, G. P. (See Everst, Joseph J., assignor).....(Design)	Oct. 1, 1867.
63, 153	Gerard, Alfred, Somerset Co., N. J. Watch plate	Mar. 26, 1867.
2, 677	Gerard, George L., New Haven, Conn. Bed bottom.....(Reissue)	July 9, 1867.
67, 428	Same.....Buckle	Aug. 6, 1867.
68, 973	Gerdomb, Joseph, jr., West Albany, N. Y. Chair, lounge, and step ladder	Sept. 17, 1867.
	Gerecke, F. W., and Joshua W. Dougherty. (See Dougherty & Gerecke.)	
	Gerhard, Tiras, and Wm. Rhoads, jr. (See Rhoads & Gerhard.)	
	Gerlach, J., et al. (See Kennedy, Holt & Gerlach.)	
69, 205	Germain, William, Rockbottom, Mass. Condensing tube for carding machines	Sept. 24, 1867.
63, 239	German, J. B., Walnut Hill, Ohio. Car coupling	Mar. 26, 1867.
69, 560	Gerrish, J. Woodman, Bethel, Maine. Cant hook	Oct. 8, 1867.
2, 765	Gersten, Conrad, assignor to William Westlake and James F. Danc, New York, N. Y. Lantern.....(Division 1, reissue)	Sept. 17, 1867.
2, 766	Same.....(Division 2, reissue)	Sept. 17, 1867.
	Gervers, J., and J. Bailie. (See Bailie & Gervers.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 859	Gessner, Ernst, Saxony. Gtg mill	May 21, 1867.
68, 180	Gesswein, Frederick, Fond du Lac, Wis. Window shade	Aug. 27, 1867.
72, 476	Gettemy, Jacob, Donegal, Pa. Tire-bending and shrinking machine	Dec. 24, 1867.
67, 037	Getty, Henry, Brooklyn, N. Y. Pump	July 23, 1867.
67, 530	Same. Tube cutter	Aug. 6, 1867.
69, 423	Same. Air pump	Oct. 1, 1867.
	Getty, William. (See Freed, Isaac, assignor.)	
	Gevelot, J. F., et al. (See Pidault & Ligieze, assignors.)	
67, 289	Gibbs, Charles, Hicksford, Va. Cotton cultivator	July 30, 1867.
72, 385	Gibbons, Rodmond, San Francisco, Cal. Strap fastening	Dec. 17, 1867.
68, 974	Gibbons, Samuel, Binghamton, N. Y. Still for refining and distilling oils	Sept. 17, 1867.
68, 181	Gibbons, Samuel, assignor to self and G. E. Palmer, Binghamton, N. Y. Drying barrels	Aug. 27, 1867.
68, 298	Gibbs, D. L., assignor to R. Ball & Company, Worcester, Mass. Mortising machine	Aug. 27, 1867.
	Gibbs, E. N., et al. (See Baldwin, Jones & Gibbs.)	
64, 213	Gibbs, George, Canton, Ohio. Plow	Apr. 30, 1867.
71, 734	Same. same	Dec. 3, 1867.
2, 655	Gibbs, James E. A., Steel's Tavern, Va. Sewing machine (Extension of design)	Feb 14, 1867.
	Same. Midway, Va. Sewing machine (Reissue)	June 18, 1867.
	Gibbs, John C. (See Stone, Henry C., assignor.)	
62, 835	Gibbs, Joshua, Canton, Ohio. Machine for grinding plow castings (Extension)	Sept. 27, 1867.
66, 016	Gibbs, Lewis, assignor to Bucher, Gibbs, & Company, Canton, Ohio. Plow	Mar. 12, 1867.
	Same. same	June 25, 1867.
	Gibbs, Lewis, and Rufus Little. (See Little & Gibbs.)	
68, 063	Gibbs, Luther, Fremont, Ohio. Line-kiln	Aug. 27, 1867.
65, 372	Gibbs, Manson F., Livonia, N. Y. Portable fence	June 4, 1867.
65, 373	Same. Car coupling	June 4, 1867.
2, 560	Gibbs, Samuel W., Albany, N. Y. Coal shovel (Design)	Jan. 22, 1867.
2, 706	Same. Range (Design)	Oct. 1, 1867.
71, 735	Gibbs, William, and George and L. P. Wikidal, Canton, Ohio. Plow	Dec. 3, 1867.
64, 658	Gibson, Charles R., Madison, Ind. Bench vice	May 14, 1867.
65, 462	Gibson, Hugh M., Grand Rapids, Mich. Stump extractor	June 4, 1867.
60, 714	Gibson, John, jr., Albany, N. Y. Street car heater	Jan. 1, 1867.
68, 360	Same. Method of holding whips	Sept. 3, 1867.
	Gibson, John, jr. and E. J. Selkirk. (See Selkirk, Alexander, assignor.)	
72, 477	Gidley, Robert, Lagrange, N. Y. Gate	Dec. 24, 1867.
67, 038	Gifford, Alfred, and Robert L. Felts, Milroy, Ind. Saw mill	July 23, 1867.
68, 975	Gifford, Alfred, and Isaac Seright, Milroy, Ind. Ditching machine	Sept. 17, 1867.
62, 023	Gifford, A. W., assignor to self and Henry D. Ward, Worcester, Mass. Scissors sharpener	Feb. 12, 1867.
2, 674	Gifford, A. W., assignor through mesne assignments to Henry D. Ward and William A. Richardson, Worcester, Mass. Scissors sharpener (Reissue)	July 9, 1867.
68, 064	Gifford, A. W., assignor to E. A. and Moses Bagley, Worcester, Mass. Milling tool	Aug. 27, 1867.
70, 544	Gifford, A. W., assignor to William A. Richardson and Henry D. Ward. Scissors sharpener and cloth ripper combined	Nov. 5, 1867.
61, 189	Gifford, Burton, Pedeo, Iowa. Hog pen	Jan. 15, 1867.
61, 190	Same. Sheep pen	Jan. 15, 1867.
69, 651	Gifford, C. H., assignor to self and Elbridge Sims, Philadelphia, N. Y. Horse hay fork	Oct. 8, 1867.
69, 652	Same. Hay loader	Oct. 8, 1867.
	Gifford, E. Harry. (See Hall, Thomas G., assignor.)	
62, 403	Gilbert, Job, Smithport, Pa. Liniment	Feb. 26, 1867.
	Gilbert, Charles G., jr., and Seth W. Herrick. (See Herrick & Gilbert.)	
61, 004	Gilbert, Charles N., John F. Barker, and E. N. Ives, assignor to the New England Portable Gas Works Company, Springfield, Mass. Apparatus for carbureting air	Jan. 8, 1867.
	Gilbert, C. N., and J. F. Barker. (See Barker & Gilbert.)	
66, 144	Gilbert, Charles W. (See Mortimer, Samuel, assignor.)	
	Gilbert, Daniel, Carbondale, Ill. Shovel plow	June 25, 1867.
	Gilbert, Edwin. (See Lockwood, John, assignor.)	
61, 731	Gilbert, Franklin T., Elgin, Ill. Water elevator	Feb. 5, 1867.
67, 644	Gilbert, G., and A. N. Allen, New Haven, Conn. Ironing machine	Aug. 13, 1867.
62, 024	Gilbert, Henry, Philadelphia, Pa. Vaporizing and burning gasoline for heating and illuminating	Feb. 12, 1867.
62, 025	Gilbert, H. C., Cambridge, Vt. Evaporator	Feb. 12, 1867.
64, 659	Gilbert, Joseph, Philadelphia, Pa. Fire-proof ceilings and roofs	May 14, 1867.
2, 794	Same. same (Reissue)	Nov. 5, 1867.
65, 664	Gilbert, J. J., Little Falls, N. Y. Manufacture of starch	Mar. 11, 1867.
65, 636	Gilbert, Marshall, New York, N. Y. Garbage box	Mar. 12, 1867.
2, 646	Gilbert, Philo B., New York, N. Y. Spoon, knife, and fork handle (Design)	May 7, 1867.
60, 875	Gilbert, P. M., Kewanee, Ill. Plow. (Antedated July 1, 1866)	Jan. 1, 1867.
69, 336	Gilbert, Riley James, Hanover, Wis. Gate	Oct. 1, 1867.
	Gilbert, Thomas S., and S. H. Perkins. (See Perkins & Gilbert.)	
	Same. same	
	Gilcher, Daniel. (See Hoeing, Charles F., assignor.)	
	Gildersleeve, Ezra. (See Sloan, Thomas J., assignor.)	
62, 404	Gile, T. M., and W. Cochran, Mansfield, Pa. Apparatus for drawing well tubes from wells	Feb. 26, 1867.
69, 561	Giles, Charles K., Chicago, Ill. Cuckoo clock	Oct. 8, 1867.
65, 268	Giles, Fayette S., New York, N. Y. Stem-winding watch	May 28, 1867.
	Giles, Henry G. (See Waters & Brown, assignors.)	
66, 145	Giles, Joel C., and Charles S. McRobert, Mead's Mills, Mich. Potato digger	June 25, 1867.
66, 233	Gilfillan, James, Charlestown, Mass. Water closet valve apparatus	July 2, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
67, 290	Giffilan, William, assignor to self and M. L. Van Horn, Syracuse, N. Y. Door spring.....	July 30, 1867.
	Gill, Charles. (See Stevens, Benjamin D., assignor.)	
67, 291	Gill, C. B., Rochester, N. Y. Piston for double-acting pump.....	July 30, 1867.
68, 498	Gill, Henry, Mansfield, Ohio. Screw plate for cutting screws.....	Sept. 3, 1867.
62, 837	Gillespie, James E., Boston, Mass. Governor.....	Mar. 12, 1867.
64, 660	Same..... Rod cutter.....	May 14, 1867.
65, 483	Same..... Rotary steam engine.....	June 4, 1867.
71, 160	Same..... Regulator for motive power.....	Nov. 19, 1867.
60, 876	Gillett, A. W., Sparta, Wis. Axle for vehicles.....	Jan. 1, 1867.
2, 658	Gillett, W. and W. S., Stowe, Vt. Mop wringer..... (Reissue)	June 25, 1867.
62, 126	Gillette, Cyrus F., Sparta, Wis. Axle-box for vehicles.....	Feb. 19, 1867.
63, 500	Same..... Bed bottom.....	Apr. 2, 1867.
68, 065	Gilham, S. I. and G. M., Carlisle, Ill. Gang plow.....	Aug. 27, 1867.
64, 214	Gilliam, Algernon, assignor to self, F. and H. Diehl, Cincinnati, Ohio. Harness saddle.....	Apr. 30, 1867.
64, 215	Same..... Harness pads.....	July 30, 1867.
71, 605	Gillinder, William T., assignor to self and Edwin Bennett, Philadelphia, Pa. Apparatus for forming threads on sheet metal caps.....	Dec. 3, 1867.
68, 622	Gillingham, H. R., assignor to self, Christopher R. Gillingham, and Ambrose L. Higgins, Baltimore, Md. Door lock.....	Sept. 10, 1867.
68, 066	Gillman, H. B., and H. S. Beamish, Milford, Mass. Paint brush.....	Aug. 27, 1867.
66, 017	Gilman, Albert H., Hopedale, Mass. Spindle for spinning.....	June 25, 1867.
72, 285	Same..... Lubricating spindle.....	Dec. 17, 1867.
2, 544	Gilman, Albert H., assignor, through mesne assignments, to himself, Milford, Mass. Mode of lubricating the bearings of spinning frames..... (Reissue)	Apr. 9, 1867.
69, 653	Gilman, Edward L., Somerville, Mass. Churn.....	Oct. 8, 1867.
68, 731	Gilmart, F., Minneapolis, Minn. Coal stove.....	Sept. 10, 1867.
67, 188	Gilman, William, Ottawa, Ill. Plow beam.....	July 30, 1867.
72, 386	Gilmore, Andrew, Phoenixville, Pa. Plow.....	Dec. 17, 1867.
	Gilmore, C. D., et al. (See Brown, J. Warren, assignor.)	
72, 337	Gilmore, John, Phoenixville, Pa. Horse hay fork.....	Dec. 31, 1867.
62, 405	Gilpatric, John, Biddeford, Me. Cultivator.....	Feb. 26, 1867.
65, 484	Gilpin, Richard A., Chester county, Pa. Construction of piers, docks, and walls.....	June 4, 1867.
63, 034	Gird, E. D. and W. K., Cedar Lake, N. Y. Bending machine.....	Mar. 19, 1867.
64, 661	Gish, C. C., Virden, Ill. Wind mill.....	May 14, 1867.
70, 829	Gissinger, Samuel. Lawrenceville, Pa. Car coupling.....	Nov. 12, 1867.
72, 015	Same..... Allegheny, Pa. Brick machine.....	Dec. 10, 1867.
72, 387	Same..... Lawrenceville, Pa. Machine for squeezing puddled balls of iron.....	Dec. 17, 1867.
72, 388	Same..... same.....	Dec. 17, 1867.
72, 389	Same..... Manchester, Pa. Coal boring bit.....	Dec. 17, 1867.
72, 390	Same..... Allegheny, Pa. Coal mining machine drill carriage.....	Dec. 17, 1867.
68, 870	Same..... Lawrenceville, Pa. Tool-holder for turning lathes.....	Sept. 17, 1867.
63, 154	Gladding, Benjamin F., Providence, R. I. Rake. (Antedated March 10, 1867.)	Mar. 26, 1867.
	Gladson, Timothy D. (See Bea, John, assignor.)	
72, 016	Glass, James H. and Albert J., McGregor, Iowa. Harvester rake.....	Dec. 10, 1867.
71, 868	Glass, John, George P. Schneider, and William B. Reznor, Cleveland, Ohio. Bridge.....	Dec. 10, 1867.
63, 501	Glass, John W., Richland, Ind. Corn husker.....	Apr. 2, 1867.
2, 813	Gleason, Elliott P., New York, N. Y. Chimney holder for gas-burners..... (Reissue)	Dec. 17, 1867.
72, 187	Same..... Argand burner.....	Dec. 17, 1867.
72, 188	Same..... Burner for heating gas, &c.....	Dec. 17, 1867.
	Same..... (See Ray, Amos H., assignor.)	
	Same..... (See Walker, Edwin R., assignor.)	
68, 732	Gleason, Franklin A., Brooklyn, N. Y. Clothes wringer. (Antedated Aug. 31, 1867.)	Sept. 10, 1867.
72, 478	Gleason, Leroy A., Southington, Conn. Machine for folding sheet metal.....	Dec. 24, 1867.
70, 830	Gleason, William, Rochester, N. Y. Tool rest.....	Nov. 12, 1867.
72, 017	Gleason, William D., Boston, Mass. Method of molding plastic material.....	Dec. 10, 1867.
71, 294	Same..... Plastic material to imitate wood and other substances.....	Nov. 26, 1867.
62, 192	Gleichman, John M., Evansville, Ind. Stump extractor.....	Feb. 19, 1867.
72, 629	Gleim, J. H., St. Louis, Mo. Book for book-keeping.....	Dec. 24, 1867.
66, 701	Glenn, John, Washington, Mo. Cask for fermenting wine.....	July 16, 1867.
69, 987	Glenn, James K., New York, N. Y. Motive power.....	Oct. 22, 1867.
62, 541	Glose, Adolph H., Philadelphia, Pa. Child's sleigh.....	Mar. 5, 1867.
69, 988	Glover, Edward W., Medford, Mass. Bosom pads. (Antedated October 12, 1867.)	Oct. 22, 1867.
	Glover, E. W., and E. D. Draper. (See Draper & Glover.)	
69, 337	Glover, Newton J., Waveland, Ind. Farm gate.....	Oct. 1, 1867.
69, 654	Same..... Portable fence.....	Oct. 8, 1867.
	Gluck, Elias M. (See Süssner, Benjamin, assignor.)	
61, 005	Gluyas, George K., San Francisco, Cal. Bearing for shafts of steamships.....	Jan. 8, 1867.
67, 973	Glynn, M. A., Cuba. Mode of treating water to prevent incrustations in steam boilers.....	Aug. 20, 1867.
64, 302	Goble, T. L., Orange, N. Y. Carriage jack.....	Apr. 30, 1867.
62, 026	Gochnauer, J. S., Goshen, Ind. Washing machine.....	Feb. 12, 1867.
72, 286	Same..... York, Pa. Horse hay fork.....	Dec. 17, 1867.
65, 900	Goddard, Artemas W., Clinton, Mass. Caliper rule.....	June 18, 1867.
70, 992	Goddard, Benjamin F., Charlton Depot, Mass. Boot-heel cutter.....	Nov. 19, 1867.
68, 976	Goddard, E. C., assignor to self and A. Bailey, Unionville, Ohio. Portable field fence.....	Sept. 17, 1867.
70, 545	Goddard, Nathan, Boston, Mass. Machine for splitting whalebone.....	Nov. 5, 1867.
	Godder, Louis. (See Goodale, Moses C., assignor.)	
69, 794	Godfrey, Austin, Du Page, Ill. Hay rakers and loaders.....	Oct. 8, 1867.
65, 374	Godfrey, Charles H., Stewartsville, N. J. Seed boxes for grain drills.....	June 4, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 977	Godfrey, N. W., Locust Valley, N. Y. Dumping cart.	Sept. 17, 1867.
67, 974	Godwin, J. H., Scotland Neck, N. C. Oiler.	Aug. 20, 1867.
68, 182	Same..... Baling press.	Aug. 27, 1867.
71, 295	Goellet, E. H. and E. B., Goldsborough, N. C. Seeding machine.	Nov. 26, 1867.
72, 479	Same..... Cotton cultivator.	Dec. 24, 1867.
72, 480	Goerke, Oscar, Brooklyn, N. Y. Stereoscope.	Dec. 24, 1867.
68, 433	Goesel, J. G., St. Louis, Mo. Feed-water heater.	Sept. 3, 1867.
63, 628	Goeway, David B., Birmingham, Pa. Modes of mortising hubs of wagon wheels and the tenons of spokes to fit in the hub.	April 9, 1867.
70, 195	Goeway, George, assignor to self and Howard Eaton, Philadelphia, Pa. Corn sheller.	Oct. 29, 1867.
	Goeway, John A., et al. (See Goodnow, William D., assignor). (Reissue.)	
66, 829	Goeway, Sylvester, Dormansville, N. Y. Farm gate.	July 16, 1867.
67, 189	Goff, Derick N., Wolcottville, Conn. Machine for lining percussion caps.	July 30, 1867.
67, 190	Same..... Machine for trimming percussion caps.	July 30, 1867.
64, 303	Goff, J. and W. B., Hornellsville, N. Y. Gate.	Apr. 30, 1867.
70, 196	Goff, William, Big Clats, N. Y. Portable dumping and loading machine.	Oct. 29, 1867.
66, 830	Gold, Stephen J., Cornwall, Conn. Machinery for propelling vessels.	July 16, 1867.
64, 662	Gold, Willis D., assignor to self and Phillipp Fernier, Philadelphia, Pa. Combined hammer, screw-driver, and wrench.	May 14, 1867.
	Golden, D. M., et al. (See Babcock, Charles A., assignor.)	
61, 415	Golden, Stephen M., Marcelline, Ill. Churn.	Jan. 22, 1867.
65, 901	Golding, John, New York, N. Y. Life-preserving mattress.	June 18, 1867.
67, 039	Same..... Life-preserving mattress and raft.	July 23, 1867.
69, 206	Goldmark, Joseph, Brooklyn, N. Y. Fulminating compound.	Sept. 24, 1867.
68, 361	Goldthwaite, John F., Boston, Mass. Buttoner for shoes.	Sept. 3, 1867.
	Goldthwaite, Moses. (See Robie, Daniel C., assignor.)	
72, 189	Goll, Henry A., Chicago, Ill. Pressure safety-valve.	Dec. 17, 1867.
71, 869	Gomber, J., et al. (See King, Gomber & Shope.)	
61, 532	Gomer, John H., New York, N. Y. Oil cup.	Dec. 10, 1867.
	Gomershall, John, assignor to self and E. Winslow, Mansfield, Mass. Composition for oiling wood.	Jan. 29, 1867.
	Gommenginger & Trotter. (See Trotter, Charles W., assignor.)	
71, 378	Gondouin, James, assignor to self and Felix Aumerle, New York, N. Y. Funnels.	Nov. 26, 1867.
64, 304	Gooch, Charles, Cincinnati, Ohio. Skate.	Apr. 30, 1867.
63, 559	Same..... Ice-cream freezer.	June 11, 1867.
63, 878	Good, Jacob G., Raps, Pa. Dung hook.	Apr. 16, 1867.
71, 736	Good, Samuel, Greensville, Ohio. Fence.	Dec. 3, 1867.
	Goodale, George L., and C. F. Brackett. (See Brackett & Goodale.)	
70, 711	Goodale, Moses C., assignor to self and Louis Goddu, Lowell, Mass. Belt cutter.	Nov. 12, 1867.
65, 804	Goodell, D. H., Antrim, N. H. Fruit parer.	June 18, 1867.
61, 533	Goodes, E. A., and E. L. Miller, assignors through mesne assignments to the American Button-hole, Cording, Braiding, and Embroidering Machine Company, Philadelphia, Pa. Button-hole sewing machine.	Jan. 29, 1867.
70, 546	Goodes, E. A., assignor to self, E. L. Miller, and W. H. Morford, Philadelphia, Pa. Weighing and measuring cup.	Nov. 5, 1867.
70, 831	Same..... Metamorphoscope.	Nov. 12, 1867.
67, 975	Goodhart, Alexander, Newville, Pa. Machine for cutting and grinding corn fodder.	Aug. 20, 1867.
60, 877	Goodher, W. A., Burlington, N. J. Cooking range.	Jan. 1, 1867.
67, 109	Goodin, John, Erastus F. Blair, and John Lyda, Georgetown, Ohio. Machine for manufacturing sheet-metal pans.	July 23, 1867.
71, 737	Goodman, A. C., and Henry Fessler, assignors to selves and Henry Foltz, Canton, Ohio. Railroad gate.	Dec. 3, 1867.
66, 831	Goodman, William, Troy, Mich. Washing machine.	July 16, 1867.
2, 696	Goodnow, William D., assignor through mesne assignments to John A. Goeway, D. S. Wood, and Joseph Jones, Albany, N. Y. Car brake. (Reissue.)	July 23, 1867.
71, 738	Goodrich, A. I., Waterbury, Conn. Regulator for marine clocks.	Dec. 3, 1867.
60, 715	Goodrich, Barnard, Brentwood, N. H. Root extractor.	Jan. 1, 1867.
67, 747	Goodrich, Chauncey, Plainville, Conn. Butt hinge.	Aug. 13, 1867.
71, 870	Goodrich, George D., Chicago, Ill. Peat machine.	Dec. 10, 1867.
61, 732	Goodrich, George D., Joliet, Ill. Clay-pipe machine.	Feb. 5, 1867.
66, 319	Goodrich, G. D. and H. A., Joliet, Ill. Manufacture of clay pipes.	July 2, 1867.
66, 320	Goodrich, Horace A., Joliet, Ill. Manufacture of clay pipes.	July 2, 1867.
61, 618	Goodrich, H. C., Chicago, Ill. Tuck marker for sewing machines.	Jan. 29, 1867.
67, 870	Same..... Tuck marker for sewing machines.	Aug. 21, 1867.
64, 305	Goodrich, H. W., and William B. Mason, Boston, Mass. Steam engine slide valves.	Apr. 30, 1867.
70, 993	Goodsell, Bennett J., Pent Water, Mich. Chimney cowl.	Nov. 19, 1867.
66, 079	Goodsell, Samuel C., New Haven, Conn. Hoisting device.	June 25, 1867.
	Goodsell, S. C., and Bennet Hotchkiss. (See Hotchkiss & Goodsell.)	
	Goodspeed, Albert. (See Smith, Edmund, jr., assignor.)	
	Goodspeed, H. C., et al. (See Chapman, Goodspeed & Reed.)	
60, 878	Goodspeed, Isaac, Norwich, Conn. File-cutting machine.	Jan. 1, 1867.
65, 978	Goodwin, Lewis, and S. A. West, San Francisco, Cal. Ore concentrator.	Sept. 17, 1867.
63, 879	Goodwin, R. J. P., Manchester, N. H. Construction of strainers.	Apr. 16, 1867.
63, 502	Goodwin, Samuel J., Rockton, Ill. Paint mill.	Apr. 2, 1867.
70, 084	Goodwin, William, Boston, Mass. Paddle wheel.	Oct. 22, 1867.
72, 018	Goodwin, William C., Hamden, Conn. Hand cultivators.	Dec. 10, 1867.
72, 838	Same..... Machine for trimming strawberry vines.	Dec. 31, 1867.
61, 416	Goodwin, William P., Washington, D. C. Automatic toy.	Jan. 22, 1867.
62, 838	Same..... Harvester rake.	Mar. 12, 1867.
64, 520	Same..... same.	May 7, 1867.
64, 521	Same..... same.	May 7, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 839	Goodwin, W. F., East New York, N. Y. Harvester rake.....	Dec. 31, 1867.
72, 840	Same.....Harvester rake.....	Dec. 31, 1867.
72, 841	Same.....same.....	Dec. 31, 1867.
72, 842	Same.....Mechanical movement for converting power into speed.....	Dec. 31, 1867.
72, 843	Same.....Revolving retort for roasting ores.....	Dec. 31, 1867.
64, 522	Goodwin, W. F., and Arthur W. Browne, Washington, D. C. Harvester rake.....	May 7, 1867.
64, 523	Same.....Harvester rake.....	May 7, 1867.
68, 561	Goodwin, Wm. F., East New York, and Charles R. Squire, New York, N. Y. Process for disintegrating and desulphurizing ores and minerals.....	Sept. 3, 1867.
69, 655	Same.....Machine for pulverizing rocks, ores, &c.....	Oct. 8, 1867.
69, 656	Same.....Machine for crushing rocks, ores, &c.....	Oct. 8, 1867.
	Goodwin, Wm. F., and R. N. Eagle. (See Eagle & Goodwin.)	
72, 481	Goodwyn, George W. W., New Orleans, La. Filter.....	Dec. 24, 1867.
66, 146	Goodyear, Andrew, Springport, Mich. Wood-turning lathe.....	June 25, 1867.
65, 560	Goodyear, Dennis, Ithaca, N. Y. Last lock.....	June 11, 1867.
65, 561	Goodyear, S. W., and W. F. Parker, assignors to Charles Parker, Meriden, Conn. Bolt-heading machine.....	June 11, 1867.
72, 482	Goole, Robert, Abington, Ill. Car coupling.....	Dec. 24, 1867.
67, 871	Goolman, W. P., assignor to Davis, Lawrence & Co., Dublin, Ind. Platform scale.....	Aug. 30, 1867.
63, 717	Gordon, Alexander, assignor to H. D. Gordon, Rochester, N. Y. Cultivator.....	Apr. 9, 1867.
65, 209	Gordon, E. C., Sevastopol, Ind. Fence.....	May 28, 1867.
2, 792	Gordon, George P., Rahway, N. J. Printing press..... (Reissue)	Oct. 29, 1867.
71, 379	Gordon, James, and E. Christianson, St. Joseph, Mo. Corn planters.....	Nov. 26, 1867.
68, 979	Gordon, James, and John Archbald, San Francisco, Cal. Barometric vacuum exhauster.....	Sept. 17, 1867.
72, 844	Gordon, John, New London, Conn. Spring-power repeating fire-arms.....	Dec. 31, 1867.
71, 739	Gordon, John J., Flint, Mich. Bag tie.....	Dec. 3, 1867.
69, 795	Gordon, Micajah C., Knightstown, Ind. Churn.....	Oct. 15, 1867.
64, 216	Gordon, Oliver W., Mt. Pleasant, Ohio. Means for operating the treadles and harness shafts of looms.....	Apr. 30, 1867.
70, 994	Gordon, William F., Detroit, Mich. Ice-cutting machine.....	Nov. 19, 1867.
61, 334	Gordon, W. J., Philadelphia, Pa. Machines for riveting buttons to fabrics.....	Jan. 22, 1867.
70, 197	Gordon, William W., Delhi, N. Y. Whiffletree trace catch or cock-eye.....	Oct. 29, 1867.
66, 321	Gore, A. W., Manhattan, Kansas. Fence post.....	July 2, 1867.
64, 524	Gore, Luke, Newburg, Ohio. Sap spout.....	May 7, 1867.
71, 161	Gorely, Charles P., Boston, Mass. Portable candlestick.....	Nov. 19, 1867.
72, 190	Same.....Letter box.....	Dec. 17, 1867.
71, 740	Gorham, Jackson, Bairdstown, Ga. Baling press.....	Dec. 3, 1867.
71, 741	Gorham, Jackson, assignor to self and John Armstrong, Bairdstown, Ga. Shaft attachment to carriages.....	Dec. 3, 1867.
2, 854	Gorham, John, Providence, R. I. Trade mark..... (Design)	Dec. 31, 1867.
	Gorham Manufacturing Company. (See Knuske, F. W. L., assignor.)	
72, 287	Gormall, Richard, Baltimore, Md. Valves for boiler feeders.....	Dec. 17, 1867.
62, 406	Gosling, John W., Cincinnati, Ohio. Combined step cover and wheel fender for earriages.....	Feb. 26, 1867.
70, 712	Gosnell, M. T., Baltimore, Md. Apparatus for burning hydro-carbon oils.....	Nov. 12, 1867.
	Goss, Eli, and Enoch Carleton. (See Carleton & Goss.)	
71, 380	Goss, Henry, Union Mills, Pa. Cement stove-pipe thimble.....	Nov. 26, 1867.
60, 871	Gotten, Nicholas, Union Depot, Tenn. Cotton cultivator.....	Jan. 1, 1867.
72, 630	Gottlieb, Joseph, Boston, Mass. Tassel apparatus for window curtains.....	Dec. 24, 1867.
72, 019	Gottstein, Peter R., Houghton, Mich. Apparatus for making dipped candles.....	Dec. 10, 1867.
72, 191	Gouch, Lyman A., Yonkers, N. Y. Naphtha burner.....	Dec. 17, 1867.
64, 306	Gould, Carlos H., Cincinnati, Ohio. Steam generator.....	Apr. 30, 1867.
66, 018	Same.....Boiler feed-water regulator.....	June 25, 1867.
66, 147	Gould, Charles H., New York, N. Y. Billiard cue.....	June 25, 1867.
69, 796	Gould, D. C., assignor to self, Elizabeth A. McCartney, and Ephraim F. Brock, Sterling, Ill. Medical compound.....	Oct. 15, 1867.
68, 434	Gould, D. H., Troy, N. Y. Gate hinge.....	Sept. 3, 1867.
64, 367	Gould, D. R., Chestertown, N. Y. Hydrant.....	Apr. 30, 1867.
65, 902	Same.....Window sash.....	June 18, 1867.
	Gould, James H. (See Pollard, Wm. H., assignor.)	
71, 478	Gould, John C., Oxford, N. J. Gate and door spring.....	Nov. 26, 1867.
67, 292	Gould, John H., Newburyport, Mass. Bottle stopper.....	July 30, 1867.
72, 020	Gould, Joseph, Grinnell, Iowa. Corn shelter.....	Dec. 10, 1867.
	Gould Machine Comp'ny. (See Fitts, Benuiah, assignor.)..... (Design.)	
69, 797	Gould, Marcus, New York, N. Y. Apparatus for cooling liquids.....	Oct. 15, 1867.
	Gould, Roscoe J., and J. N. Dennison. (See Dennison & Gould.)	
	Gould, Seward F., et al. (See Stace & Baker, assignors.)	
	Gould, W., et al. (See Reese, Gould & Lake)..... (Reissue.)	
62, 027	Gould, W. B., New York, N. Y. Stair rod.....	Feb. 12, 1867.
	Gould, W. C., et al. (See Wadgymer, Arthur, assignor.)	
	Gould, William W., and Ezra Staples. (See Staples & Gould.)	
70, 995	Goulding, Henry, Silver City, Nevada. Furnace for roasting ores.....	Nov. 19, 1867.
	Goulding, John. (See Knapp, Thomas K., assignor.)	
72, 021	Goulding, Lewis, assignor to self and James E. Carpenter, Medfield, Mass. Knife cleaner.....	Dec. 10, 1867.
60, 716	Gove, John C., Cleveland, Ohio. Preserving house.....	Jan. 1, 1867.
70, 085	Govern, William A., Norwalk, Conn. Process of removing burrs and other substances from wool.....	Oct. 22, 1867.
62, 263	Gow, Alexander N., Mt. Vernon, Ohio. Combined corn planter and cultivator.....	Feb. 19, 1867.
	Gowell, John W., and George Jelley. (See Jelley and Gowell.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Gowen, J. E., and N. Ames. (See Ames & Gowen.)	
69, 798	Grabner, John, Warsaw, Ind. Heat-radiating attachment for stove pipes	Oct. 15, 1867.
67, 040	Grabo, Christian G., Detroit, Mich. Potato digger	July 23, 1867.
60, 717	Grace, Frederick J., Fort Lee, N. J. Printing press	Jan. 1, 1867.
72, 288	Gracey, Robert, Pittsburg, Pa. Bolt-heading machine	Dec. 17, 1867.
64, 094	Grader, George W., and Matthias H. Baldwin, Memphis, Tenn. Street pavement	Apr. 23, 1867.
63, 035	Graef, H. A., Brooklyn, N. Y. Portable tree box	Mar. 19, 1867.
66, 485	Graeff, H. A., Birdsboro', Pa. Corn sheller	July 9, 1867.
	Graeme, J. jr., and Charles Richardson. (See Richardson & Graeme.)	
67, 041	Graham, A. B., assignor to self, William B. and Cyrus A. Werden, Waukegan, Ill. Harvester	July 23, 1867.
64, 970	Graham, A. E., Richland, Ind. Bridle rein. (Antedated Nov. 21, 1866)	May 21, 1867.
	Graham, Charles, Kingston, Pa. Hydrostatic press	Aug. 6, 1867.
68, 435	Graham, D. M., Evansville, Ind. Gas apparatus	Sept. 3, 1867.
72, 022	Graham, David M., Evansville, Ind. Portable fence post. (Antedated Nov. 29, '67)	Dec. 10, 1867.
2, 626	Graham, Edmund H., assignor to self and Wanton Rouse, Manchester, N. H. Picker-staff motion for looms	(Reissue) May 28, 1867.
70, 430	Graham, Hugh J., Monmouth, Ill. Cultivator	Nov. 5, 1867.
	Graham, James H., and Sidney Van Auken. (See Van Auken & Graham.)	
64, 308	Graham, James S., assignor to self and C. R. Tompkins, Rochester, N. Y. Tenoning cutter heads	Apr. 30, 1867.
64, 525	Graham, John, New York, N. Y. Loom	May 7, 1867.
70, 547	Graham, John, Ludlow, Vt. Bevel and try squares	Nov. 5, 1867.
70, 548	Graham, Orson, Lima, N. Y. Farm gate	Nov. 5, 1867.
68, 980	Graham, Simon P., Richland Centre, Ind. Construction of carriage bodies	Sept. 17, 1867.
62, 407	Grainger, Alfred J., Wilmington, Ill. Forging apparatus	Feb. 26, 1867.
60, 718	Grambo, Harrison, Philadelphia, Pa. Machine for manufacturing candles	Jan. 1, 1867.
71, 742	Same.....Apparatus for making paper articles	Dec. 3, 1867.
71, 296	Grandy, Charles A., Rutland, Vt. Lubricating composition	Nov. 26, 1867.
	Grandin, Frederick, et al. (See Gally, Merritt, assignor.)	
60, 880	Granger, Francis, Homer, Ill. Machine for raking and cocking hay	Jan. 1, 1867.
65, 210	Granger, Gideon S., and William Nortrop, Wayland, N. Y. Gate	May 28, 1867.
64, 309	Granger, J., Zanesville, Ohio. Boat-builders' platform	Apr. 30, 1867.
	Granier, Emile. (See Lewandowski, Charles, assignor.)	
	Same. (See Loewenberg, Henry, assignor.)	
	Same.....same.	
66, 522	Gransden, Henry, Dubuque, Iowa. Clothes dryer	July 9, 1867.
67, 293	Same.....Mangle	July 30, 1867.
67, 976	Grant, C. W., Iowa Island, N. Y. Plow	Aug. 20, 1867.
68, 733	Grant, G. L., Rockville, Conn. Steam-engine valve	Sept. 10, 1867.
	Grant, Joseph. (See Rundlett, S. C., assignor.)	
68, 499	Grant, J. S., Sidney Centre, Maine. Bed bottom	Sept. 3, 1867.
68, 500	Same.....Horse rake	Sept. 3, 1867.
	Grant, Nathaniel. (See Mathewson, Nathan F., assignor.)	
61, 417	Grant, W. G., Wakeman, Ohio. Director for uterine support	Jan. 22, 1867.
65, 903	Same.....Clyde, Ohio. Pessary	June 18, 1867.
68, 007	Grass, Henry, Olney, Ill. Churn dasher	Aug. 27, 1867.
64, 759	Gratten, E., Williamstown, Mich. Feed rack	May 14, 1867.
	Graves, Alonzo, et al. (See Edgett, Andrew J., assignor.)	
	Graves, A. G., and H. P. Ball. (See Ball & Graves.)	
60, 881	Graves, George F., Mt. Upton, N. Y. Lifting jack	Jan. 1, 1867.
	Graves, Joshua B. (See Havkins, Westel E., assignor.)	
	Graves, Lewis. (See Orr, James H., assignor.)	
62, 408	Graves, Noble W., Winnebago, Ill. Machine for sawing wagon felloes	Feb. 26, 1867.
63, 880	Graves, Robert C., Barnesville, Ohio. Ventilating apparatus for railroad cars	Apr. 16, 1867.
66, 583	Graves, Robert K., Montgomery, Ala. Gang plow	July 9, 1867.
64, 971	Gray, Adelbert W., Bennington, Ohio. Churn	May 21, 1867.
70, 713	Gray, Alfred A., and W. C. Hyde, Detroit, Mich. Device for the adjustment of looking glasses in dressing cases	Nov. 19, 1867.
65, 562	Gray, Arthur, Naples, Maine. Joiners' plane	June 11, 1867.
71, 381	Gray, Arthur, Reiley, Ohio. Beehive	Nov. 26, 1867.
	Gray, B. F. (See Brown, Worcester & Griswold, assignors.)	
64, 009	Gray, Dexter, Upper Sandusky, Ohio. Sheep rack and shelter	Apr. 23, 1867.
69, 424	Gray, Elisha, Oberlin, Ohio. Telegraph apparatus	Oct. 1, 1867.
	Gray, E. H., and D. J. Kirkman. (See Kirkman & Gray.)	
	Same.....same.	
	Same.....same.	
61, 006	Gray, George, Temperanceville, Pa. Artificial fuel	Jan. 8, 1867.
67, 645	Gray, Harvey, assignor to Albert J. Sessions, Bristol, Conn. Manufacture of trunk rollers	Aug. 13, 1867.
68, 183	Gray, James, Newark, N. J. Sadiron	Aug. 27, 1867.
	Gray, J. A., and B. R. Platt. (See Platt & Gray.)	
63, 503	Gray, James L., assignor to F. M. Hay, M. L. and M. A. Gray, Baltimore, Md. Dies for making cans	Apr. 2, 1867.
63, 504	Same.....Soldering machine	Apr. 2, 1867.
63, 505	Same.....Preserve cans	Apr. 2, 1867.
	Gray, James S., and Alonzo W. Porter. (See Porter & Brown, assignors.)	
	Gray, Job S., and John S. Watson. (See Hunt, George W., assignor.)	
70, 199	Gray, John, Litchfield, Ill. Ratchet drill	Oct. 29, 1867.
70, 198	Gray, John, Dubuque, Iowa. Ventilating mill stones	Oct. 29, 1867.
60, 719	Gray, John, East Aurora, N. Y. Wear plates for the soles and heels of boots and shoes	Jan. 1, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 734	Gray, John, Milwaukee, Wis. Clothes dryer	Sept. 10, 1867.
66, 702	Gray, Robert, Litchfield, Ill. Helipic springs	July 16, 1867.
	Gray, Robert W., and Wm. A. Earseman. (See Earseman & Gray.)	
70, 996	Gray, Solomon S., Boston, Mass. Apparatus for molding collars	Nov. 19, 1867.
63, 036	Gray, Thomas, England. Manufacture of bleaching powder	Mar. 19, 1867.
71, 871	Gray, William M., Brooklyn, N. Y. Ratchet bed key	Dec. 10, 1867.
67, 191	Gray, William S., Worcester, Mass. Bread cutter	July 30, 1867.
	Gray, W. S., and J. J. Riddle. (See Riddle & Gray.)	
64, 415	Gray, William T., Galesburg, Ill. Stove-pipe damper	May 7, 1867.
66, 703	Greacen, John, jr., New York, N. Y. Smoke conductor for railroad locomotives. Antedated July 5, 1867.	July 16, 1867.
61, 418	Greacen, Stephen B., Norwich, Conn. Peat machine	Jan. 22, 1867.
	Greecley, Moses R., and Lucian D. Newell. (See Lariviere, F. C., assignor.)	
	Green, Alexis. (See Pelton & Barrow, assignors.)	
62, 409	Green, David, Brookfield township, Ohio. Composition for roofing	Feb. 26, 1867.
66, 322	Green, David N., Cold Water, Mich. Hand scoop	July 2, 1867.
63, 037	Green, E. C., Plainfield, Ind. Hay elevator	Mar. 19, 1867.
	Green, G. F., and B. Banister. (See Banister & Green.)	
70, 549	Green, Isaiah M., sr., Clinton, Ill. Fence	Nov. 5, 1867.
63, 240	Green, Jacob, Norristown, Pa. Melting and smelting furnaces	Mar. 26, 1867.
63, 241	Same.....Glass furnace	Mar. 26, 1867.
70, 200	Same.....Furnaces for steam boilers	Oct. 29, 1867.
72, 845	Green, John B., assignor to self and J. A. Reed, Darien, Conn. Padlock	Dec. 31, 1867.
63, 038	Green, J. Deloss, Antrim, Ohio. Seed planter	Mar. 19, 1867.
	Green, J. Deloss, and J. K. Andrews. (See Andrews & Green.)	
64, 526	Green, Jonathan H., Christiansburg, Iowa. Heating stove	May 7, 1867.
66, 704	Green, J. M., West Bloomfield, N. Y. Potato digger	July 16, 1867.
69, 800	Green, J. T., Marquette, Wis. Combined door plate and letter box	Oct. 15, 1867.
	Green, R. J., and E. F. Morris. (See Morris & Green.)	
62, 839	Green, R. M., Baltimore, Md. Machine for bending cable links	Mar. 12, 1867.
62, 028	Green, Ransom W., Bradford, Pa. Car coupling. (Antedated Feb. 10, 1867.)	Feb. 12, 1867.
64, 269	Green, Robert D., Columbia, Mo. Gate	May 21, 1867.
68, 871	Green, Seth, Rochester, N. Y. Device for hatching the spawn of fishes	Sept. 17, 1867.
64, 310	Green, Thomas, Brooklyn, N. Y. Water meter	Apr. 30, 1867.
72, 192	Green, Virgil D., assignor to self and E. M. Hall, Watertown, Wis. Steam safety valve	Dec. 17, 1867.
67, 294	Green, Wellington, Kinzua, Pa. Washing machine	July 30, 1867.
69, 400	Green, William, Holly, Mich. Lifting jack	Oct. 1, 1867.
	Green, William C. (See Mathewson, Nathan F., assignor.)	
64, 311	Greenamyer, P. S., Smithville, Ohio. Supporter	Apr. 30, 1867.
	Greenawalt, J., and William Henderson. (See Henderson & Greenawalt.)	
70, 550	Greene, Albert J., Sterling, Mass. Hay rake	Nov. 5, 1867.
72, 023	Greene, A. S., Washington, D. C. Steam gauge	Dec. 10, 1867.
70, 086	Greene, D. M., assignor to Maria N. Greene, Washington, D. C. Steam generator indicator	Oct. 22, 1867.
67, 646	Greene, J. Durrell, Cambridge, Mass., and John A. Kay, Columbia, S. C. Reverberatory and cupola furnace	Aug. 13, 1867.
	Greene, John F., and C. W. Swett. (See Smith, Henry D., assignor).....(Reissue.)	
69, 799	Greene, J. G., Port Henry, N. Y. Panel table	Oct. 15, 1867.
	Greene, Samuel W., and S. A. Hannen. (See Hannen, Henry, assignor.)	
	Same.....same	
67, 748	Greene, Stephen, Philadelphia, Pa., and Walter H. Forbush, Buffalo, N. Y., assignors to Henry G. Leisenring. Railroad ticket printing press	Aug. 13, 1867.
65, 211	Greene, Sylvester, Rome, N. Y. Separating cheese curd from whey	May 28, 1867.
65, 375	Greene, William A., Troy, N. Y. Cooking stove	June 4, 1867.
2, 451	Greenhalgh, Jas., assignor to Geo. Crompton, Worcester, Mass. Loom.....(Reissue.)	Jan. 15, 1867.
68, 735	Greenhalgh, James, jr., Glendale, R. I. Clothes dryer	Sept. 10, 1867.
65, 070	Greenleaf, Jos. H., New Haven, Conn. Mode of forming the edge of water-proof soles	May 28, 1867.
65, 071	Same.....Apparatus for forming the edges of water-proof soles.	May 28, 1867.
65, 072	Greenleaf, Joseph H., assignor to self and O. F. Case, New Haven, Conn. Chair and bedstead	May 28, 1867.
70, 024	Greenman, Thomas S., assignor to George W. Packer, jr., Mystic Bridge, Conn. Machine for wall building and stump extracting	Dec. 10, 1867.
	Greenough, John James, New York, N. Y. Machine for pegging boots and shoes.	
	Same.....Machine for pegging boots and shoes.....(Extension of 698)	Mar. 23, 1867.
	Same.....same.....(Extension of 699)	Mar. 23, 1867.
	Same.....same.....(Extension of 700)	Mar. 23, 1867.
	Same.....same.....(Extension of 701)	Mar. 23, 1867.
	Same.....same.....(Extension of 702)	Mar. 23, 1867.
	Same.....same.....(Extension of 703)	Mar. 23, 1867.
66, 832	Greenside, Burton, Fort Dodge, Iowa. Gate	July 16, 1867.
72, 193	Greenwald, John, Cincinnati, Ohio. Medical compound	Dec. 10, 1867.
60, 882	Greenwalt, A. B., Baltimore, Md. Tatting shuttles	Jan. 1, 1867.
61, 934	Greenwood, James, Clinton, Mass. Machine for straightening the webst or figures of textile fabrics	Feb. 12, 1867.
	Greenwood, John. (See Benton, George N., assignor.)	
65, 485	Greenwood, J. T., and J. Wilson, Beloit, Wis. Soap for cleaning and polishing wood, metals, and other materials	June 4, 1867.
	Greenwood, M., & Co. (See Ritter, Henry M., assignor.)	
	Same.....same	
	Same.....same	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
67, 042	Greenwood, W. M., Cincinnati, Ohio. Training hopple	July 23, 1867.
	Greer, Harry C., and Thomas D. Arkle. (See Arkle & Greer.)	
72, 194	Greffet, Joseph A., deceased, by Emily S. Greffet, administratrix, St. Louis, Mo. Reel oven for bakers	Dec. 17, 1867.
62, 127	Gregg, Abraham, Forest City, Cal. Railway car	Feb. 19, 1867.
61, 534	Gregg, Henry P., Roscoe, Ohio. Seeding machine	Jan. 29, 1867.
66, 486	Gregg, Isaac, Philadelphia, Pa. Mode of drying bricks	July 9, 1867.
66, 487	Same..... Apparatus for heating clay	July 9, 1867.
66, 488	Same..... Apparatus for treating clay	July 9, 1867.
	Gregory, Charles A. (See Durfee, Sidney S., assignor.)	
63, 792	Gregory, G., and F. B. Morse, assignors to selves and W. H. Cooper, New Haven, Conn. Joints for carriage-top braces	Apr. 16, 1867.
2, 784	Gregory, Geo. W., Watertown, N. Y. Pulley attachment for raising weights. (Reissue). Same..... (See Perry & Marshall, assignors.)	Oct. 22, 1867.
61, 063	Gregory, John, Marion, Ohio. Medical compound	Jan. 8, 1867.
65, 212	Greif, J. V., Paducah, Ky. Plow and cotton scraper	May 28, 1867.
64, 217	Grenell, Silas, Mokena, Ill. Seed sower	Apr. 30, 1867.
66, 323	Gresiuschua, C., and L. Jarchow, New York, N. Y. Apparatus for rectifying dis- tilled liquids	July 2, 1867.
	Greve, Jacob, and George Arnold. (See Arnold & Greve.)	
	Grey, James Graham. (See Needham, Joseph and George Henry, assignors.)	
71, 606	Grey, Thomas, assignor to self and Henry Lapp, Clarence, N. Y. Grinding mill.....	Dec. 3, 1867.
	Gribben, John. (See Kane, Charles, assignor.)	
63, 629	Gridley, H. H., Auburn, N. Y., and Mary L. Gridley, Burlington, N. J. Fruit basket.	Apr. 9, 1867.
62, 483	Gridley, James H., Washington, D. C. Locking washer for nuts	Feb. 26, 1867.
	Gridley, N. C. (See Kasson, A. C., assignor.)	
	Same..... same..... (Reissue.)	
2, 712	Grier, Isaac, and Mark Moorhead. (See Moorhead & Grier.)	
	Grier, W. W., and R. H. Boyd, Hulton, Pa. Machine for making augers (Reissue) ..	Aug. 6, 1867.
	Griffen, J. F., and J. E. Winants. (See Winants & Griffen.)	
64, 760	Griffeth, William, Northeast, Pa. Propagating grape vines from the single bud in the open fields	May 14, 1867.
67, 532	Griffeth, William A., Boston, Mass. Mosquito-net frame	Aug. 6, 1867.
63, 881	Griffin, Alva, J., Lowell, Mass. Hydrocarbon burner	Apr. 16, 1867.
67, 749	Griffin, Anson D., Titusville, Pa. Packing for deep wells	Aug. 13, 1867.
67, 647	Griffin, Benjamin, Lawrence, Mass. Bed bottom	Aug. 13, 1867.
67, 872	Griffin, G. B., Madison, Wis. Clothes-line reel	Aug. 20, 1867.
	Griffin, George W., et al. (See Witsil, George L., assignor.)	
65, 376	Griffin, H. C., Franklin, N. H. Magic arrow toy	June 4, 1867.
	Griffin, James F. (See Brown, Franklin H., assignor.)	
	Griffin, John F. (See Winants, J. E., assignor.)	
71, 743	Griffin, Lucia T., New York, N. Y. Medicated balsam	Dec. 3, 1867.
	Griffin, M. P., and A. F. Johnson. (See Johnson & Griffin.)	
72, 731	Griffin, Patrick H., Albany, N. Y. Apparatus for cooling beer and other liquids.....	Dec. 31, 1867.
71, 382	Griffin, Robert B., Jr., Baltimore, Md. Button fastener	Nov. 26, 1867.
65, 904	Griffin, Thomas, Roxbury, Mass. Floor cloth	July 18, 1867.
62, 840	Griffing, C. S. S., Geneva, Ohio. Fence	Mar. 12, 1867.
64, 095	Same..... Combined fence and gate	Apr. 23, 1867.
66, 705	Same..... Ashtabula county, Ohio. Portable field fence	July 16, 1867.
	Griffing, Leonard B., et al. (See Seekins, H. G., assignor.)	
72, 025	Griffith, Amos W., Roxbury, Mass. Window screen	Dec. 10, 1867.
	Griffith, Charles, New York, N. Y. Trade mark	Oct. 22, 1867.
72, 229	Griffith, Ebenezer V. W., Utica, N. Y. Potato digger	Dec. 17, 1867.
65, 213	Griffith, R. H., Baltimore, Md. Boat-detaching tackle	May 28, 1867.
67, 750	Griffith, Seth, Aurora, Ill. Composition for granulating sorghum sirup	Aug. 13, 1867.
66, 324	Griggs, Henry C., assignor to Holmes, Griggs & Smith, Waterbury, Conn. Buckle.	July 2, 1867.
66, 234	Grilley, C. T., assignor to the Grilley Company, New Haven, Conn. Capping pad screws	July 2, 1867.
65, 073	Grimes, Benjamin F., Dawsonville, Md. Corn planter and fertilizer combined.....	May 28, 1867.
67, 977	Grimes, James, Portsmouth, Ohio. Top of cooking stoves	Aug. 20, 1867.
70, 201	Grimes, Joseph, assignor to self and F. A. Reed, Alexandria, Va. Bag tie	Oct. 29, 1867.
72, 026	Grimes, William C., Ladiesburg, Md. Fertilizer	Dec. 10, 1867.
64, 972	Grimshaw, William D., Newark, N. J. Reciprocating engine	May 21, 1867.
67, 751	Same..... Machine for manufacturing chain cable	Aug. 13, 1867.
68, 362	Same..... Drilling machine. (Antedated August 18, 1867)	Sept. 3, 1867.
	Griswold & Sheldon. (See De La Mar, Joseph, assignor.)	
	Same..... (See Sheldon, Julius, assignor.)	
67, 295	Griswold, A. M., Momenca, Ill. Cultivator	July 30, 1867.
	Griswold, Abram M., et al. (See Brown, Worcester & Griswold.)	
61, 825	Griswold, Catharine A., Williamtown, Conn. Corset	Feb. 5, 1867.
61, 335	Griswold, Ellen M., Hagerstown, Md. Support for window sash	Jan. 22, 1867.
67, 043	Griswold, L., Portland, and G. Caul, York, Wis. Cut-off valve	July 23, 1867.
70, 551	Griswold, Maufred M., Columbus, O. Photographic process. (Antedated Nov. 1, 1867). Griswold, W. C. (See Sheldon, Julius, assignor.)	Nov. 5, 1867.
	Same..... (See Labiaux, John L., assignor.)	
70, 832	Groel, Nicholas, Newark, N. J. Traveling bag and valise	Nov. 12, 1867.
70, 833	Groshans, J. J., Buffalo, N. Y. Drying attachment for paper rulling machinery.....	Nov. 12, 1867.
2, 682	Grosjean, Florian, New York, N. Y. Spoons and forks	July 16, 1867.
63, 506	Gross, Henry, and Jesse B. Rumsey, Tiffin, Ohio. Flour bolt	Apr. 2, 1867.
70, 552	Gross, Henry, and George S. Yingling, Tiffin, Ohio. Annunciator	Nov. 12, 1867.
	Gross, Henry A., et al. (See Hain, Gross & Hain)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 072	Gross, John, and John C. Tunison, Decatur, Ill. Cultivator	Dec. 10, 1867.
	Gross, J. Mason. (See Brown, Ira S. and Charles N., assignors.)	
	Same..... same.	
	Same..... same.	
68, 299	Grossius, John, Cincinnati, Ohio. Heating stoves	Aug. 27, 1867.
71, 872	Grosvenor, Cyrus P., McGrawville, N. Y. Mode of preventing explosion of lamps.....	Dec. 10, 1867.
63, 507	Grotz, Remig, Chicago, Ill. Bridge.....	Apr. 2, 1867.
2, 549	Grout, John R., Detroit, Mich. Reverberatory and other metallurgic furnaces. (Reissue)	Apr. 9, 1867.
	Groves, William, and John Farrar. (See Farrar & Groves.)	
63, 882	Gruger, Adam P., Lancaster, Pa. Device for cutting washers	Apr. 16, 1867.
69, 338	Grunman, George B., Ridgefield, Conn. Machine for cutting ice into blocks for storing.....	Oct. 1, 1867.
64, 010	Grummon, R. S., Newark, N. J. Top prop for carriages.....	Apr. 23, 1867.
63, 508	Grundmann, Theodor, Milwaukee, Wis. Apparatus for making vinegar	Apr. 2, 1867.
71, 744	Grundmann, Theodore, Cleveland, Ohio. Distilling apparatus	Dec. 3, 1867.
71, 479	Gruneberg, John D., Spring Mills, N. J. Alloy for making plates and sheets	Nov. 26, 1867.
70, 834	Grushus, A., St. Paul, Minn. Tag holder	Nov. 12, 1867.
70, 431	Gruber, James I., and Ambrose D. Wiggins, New Market, Ohio. Churn	Nov. 5, 1867.
63, 242	Gshwind, Charles, and Charles Reichardt, Union Hill, N. J. Lock for trunks, &c.....	Mar. 26, 1867.
66, 489	Gudehus, Charles, and F. Staake, Philadelphia, Pa. Foot scraper and umbrella stand.	July 9, 1867.
	Guedin, Jaques. (See Roque, Adolphe, assignor.)	
62, 410	Guernsey, William B., Norwich, N. Y. Butter box	Feb. 26, 1867.
62, 411	Same..... Packing and preserving butter	Feb. 26, 1867.
65, 377	Guenther, George, New York, N. Y. Mode of drying glue	June 4, 1867.
70, 553	Guerrant, John C., and B. J. Field, Leaksville, N. C. Engraving machine.....	Nov. 5, 1867.
65, 214	Guffin, Newell F., Governor's Corners, N. Y. Hop trellis	May 28, 1867.
71, 383	Guignon, Wm. H., and Wm. D. McDonald, Warren, Pa. Kiln for charring wood, &c.....	Nov. 26, 1867.
67, 873	Guid, H. M., Springfield, Mass. Mop head	Aug. 20, 1867.
64, 663	Guid, J. H., Rupert, Vt. Float valve	May 14, 1867.
68, 562	Guilford, R. H., West Cheshire, Conn. Button	Sept. 3, 1867.
	Guillaudeau, Louis. (See Peake, John L., assignor.)	
66, 325	Guinand, Oliver, Vicksburg, Miss. Instrument for perforating cigars	July 2, 1867.
62, 193	Gulick, Samuel, Kline's Grove, Pa. Lifting jack	Feb. 19, 1867.
63, 718	Gullmann, C., Poughkeepsie, N. Y. Carpet fastener	Apr. 9, 1867.
67, 110	Gunderson, G., Chicago, Ill. Skate fastening. (Antedated July 11, 1867.)	July 23, 1867.
68, 736	Gunn, Edwin F., Charleston, S. C. Breech-loading fire-arm	Sept. 10, 1867.
	Gunner, Charles, and Charles Peterson. (See Peterson & Gunner.)	
69, 801	Guptail, Dan., assignor to self and H. N. Moseley, Elgin, Ill. Cultivator	Oct. 15, 1867.
67, 296	Gurnee, Edward W., Haverstraw, N. Y. Fruit picker	July 30, 1867.
	Gurnay, D. B. (See Whiting, Ralph V., assignor.)	
61, 826	Guthrie, Alfred and Wardell, and Thomas L. Humes, Chicago, Ill. Water indicator	
	for boilers	Feb. 5, 1867.
70, 554	Guthrie, Richard, and John Shearer, New York, N. Y. Ornamenting glass shades	
	and globes	Nov. 5, 1867.
69, 657	Guthrie, Thomas D., Galva, Ill. Baling press.....	Oct. 8, 1867.
	Guyer, J. D. & Company. (See Esselen, Mitchel, assignor.)	
72, 846	Gwathmey, R. R., Middletown, Ky. Cotton ginning machine	Dec. 31, 1867.
62, 326	Gwinupp, Charles S., Milroy, Ind. Cultivator	Feb. 26, 1867.
61, 619	Gwyer, Frederick S., assignor to self and Levi H. Mace, New York, N. Y. Meatsafe.....	Jan. 29, 1867.
2, 797	Gwynn, Stuart, New York, N. Y. Trade mark	Oct. 1, 1867.
2, 623	Gwynn, Stuart, assignor to D. L. Bartlett and G. H. Hunt, Baltimore, Md. Opaque	
	pigments	May 28, 1867.
	Same..... Manufacture of opaque pigments. (Division A., reissue.)	May 28, 1867.
2, 624	Same..... Manufacture of opaque pigments. (Division B., reissue.)	May 28, 1867.
65, 743	Haase, Ferdinand, and William Rost, Oak Park, Ill. Method of unloading railroad	
	cars.....	June 11, 1867.
72, 483	Same..... Proviso, Ill. Skate	Dec. 24, 1867.
72, 028	Haase, John A., Philadelphia, Pa. Hose shield.....	Dec. 10, 1867.
66, 490	Haasz, D. F., Philadelphia, Pa. Spring for beds.....	July 9, 1867.
72, 484	Haberland, G., Pontiac, Ill. Combined horse and wagon brake.....	Dec. 24, 1867.
71, 297	Habermehl, John, Wheeling, West Va. Fire back for grates and stoves	Nov. 26, 1867.
62, 128	Hackert, Julius, New York, N. Y. Composition called artificial ivory	Feb. 19, 1867.
65, 563	Same..... Metal compound or alloy	June 11, 1867.
68, 563	Hackett, Patrick, New Genesee, Ill. Seed sower and corn planter	Sept. 3, 1867.
2, 597	Hadden, John L., Philadelphia, Pa. Water cooler	Mar. 19, 1867.
69, 069	Haddleton, Joseph, assignor to self and John Snow, Rochester, N. Y. Animal trap.....	Sept. 24, 1867.
	Hadesty, J. M. (See Fetherolf, B. L., assignor.)	
70, 087	Hadfield, George, Cincinnati, Ohio. Surgical cup	Oct. 22, 1867.
70, 088	Same..... same.....	Oct. 22, 1867.
63, 883	Same..... Medical vacuum apparatus	Jan. 1, 1867.
72, 631	Hadfield, John G., Cincinnati, Ohio. Medical vacuum apparatus	Dec. 24, 1867.
72, 029	Hadfield, John W., Newtown, N. Y. Skyrocket	Dec. 10, 1867.
72, 030	Same..... same.....	Dec. 10, 1867.
	Hadley, A. N., and George Hoover. (See Hoover & Hadley.)	
	Same..... same.....	
62, 742	Hadley, Aaron S., Boston, Mass. Dusting brush.....	Mar. 12, 1867.
65, 564	Hadley, George, Buffalo, N. Y. Still.....	June 11, 1867.
	Hadley, George, et al. (See Clarke, Hadley & Clifford.)	
66, 326	Hadley, George D., Cincinnati, Ohio. Stop cock	July 2, 1867.
67, 752	Hadley, Horace W., assignor to John G. Folsom, Winchendon, Mass. Sewing ma-	
	chine	Aug. 13, 1867.
63, 243	Hadley, N. B., assignor to the International Screw Company, Providence, R. I. Ma-	
	chinery for nicking screws	Mar. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 607	Hadley, Samuel, assignor to self, James C. Owen, and A. D. Shaw, Cape Vincent, N. Y. Railroad snow plow.....	Dec. 3, 1867.
	Hadley, T. G., et al. (See Geer, George, assignor.)	
68, 068	Haeffel, John C., New York, N. Y. Meat cutter.....	Aug. 27, 1867.
	Hafer, George L. (See Nace, Warren J., assignor.)	
62, 953	Hafer, John, Bedford, Pa. Steam generator.....	Mar. 19, 1867.
65, 805	Hafer, John, and James A. Henderson, Bedford, Pa. Cigar-making machine.....	June 18, 1867.
71, 298	Hagadorn, Francis L., Baltimore, Md. Packing ammunition in chests and boxes.....	Nov. 26, 1867.
63, 381	Hage, Jacob, Shiloh, Ill. Plow.....	Apr. 2, 1867.
72, 391	Hagerty, William, Monongahela, Pa. Ram for vessels.....	Dec. 17, 1867.
67, 753	Haggerty, James R., Hillsdale, Mich. Hammer for sewing machines.....	Aug. 13, 1867.
68, 737	Haggerty, John, East Springfield, Pa. Cock eye.....	Sept. 10, 1867.
68, 184	Hagmann, Victor, Washington, D. C. Vegetable cutter.....	Aug. 27, 1867.
	Hagny, Adam, and James L. Bess. (See Bess & Hagny.)	
62, 412	Hague, David, Balville Township, Ohio. Gate.....	Feb. 26, 1867.
62, 641	Hague, John, Providence, R. I. Steam trap.....	Mar. 12, 1867.
71, 480	Haigh, Fred., Methen, Mass. Loom.....	Nov. 26, 1867.
64, 011	Haigh, Thomas, England, and Robert Adam Robertson, Philadelphia, Pa., assignors to E. F. Prentiss, William D. Philbrick, and William J. Parsons. Apparatus for boiling, cooling, and fermenting malt liquors. (Antedated April 9, 1867).....	Apr. 23, 1867.
	Haight, William H., and G. W. Harris. (See Harris & Haight.)	
66, 833	Haight, William S., Waterford, N. Y. Process of "hopping" beer, ale, &c.....	July 16, 1867.
72, 195	Hails, William, Albany, N. Y. Bail for kettles.....	Dec. 17, 1867.
68, 738	Halles, W., and P. Finkle, assignors to Peter Finkle, Albany, N. Y. Stove pipe.....	Sept. 10, 1867.
65, 806	Hain, David, Henry A. Gross, and Martin Hain, Gasconade county, Mo. Sorghum stripper.....	June 18, 1867.
72, 392	Hain, F., Gasconade county, Mo. Machine for feeding nail plates.....	Dec. 17, 1867.
	Hain, William T., and Jacob Silvius. (See Silvius & Hain.)	
64, 096	Haines, Jacob B., Millersville, Pa. Fruit gatherer.....	Apr. 23, 1867.
62, 842	Haines, Joel, West Middleburg, Ohio. Dinner bucket.....	Mar. 12, 1867.
67, 754	Same.....Fruit cans.....	Aug. 13, 1867.
63, 183	Haines, M. J., assignor to R. R. and J. H. Whitehead, England. Driving belt.....	Apr. 16, 1867.
64, 312	Haines, Robert E., assignor to the Boston Silver Glass Company, Cambridge, Mass. Glassware mold.....	Apr. 30, 1867.
	Hains, Henry R. (See Adams, Charles, assignor.)	
63, 630	Hains, L. C., Bedford, Ohio. Cheese vat.....	Apr. 9, 1867.
71, 299	Hainsworth, William, assignor to self and Amos Gartside, Philadelphia, Pa. Loom.....	Nov. 26, 1867.
62, 264	Hake, Lewis F., Salem, Ohio. Land conveyance.....	Feb. 19, 1867.
62, 265	Same.....Grate for stoves.....	Feb. 19, 1867.
72, 393	Hale, Albert W., New York, N. Y. Machine for cutting and working fibrous substances.....	Dec. 17, 1867.
62, 413	Hale, C. P., Calhoun, Ky. Cane and sorghum stripper.....	Feb. 26, 1867.
68, 623	Hale, David, Boston, Mass. Driving bit.....	Sept. 10, 1867.
67, 874	Hale, David, assignor to self and Alfred Hale, Boston, Mass. Apparatus for attaching weights to submarine armor.....	Aug. 20, 1867.
70, 333	Hale, John, Scranton, Pa. Door holder.....	Oct. 29, 1867.
68, 624	Hale, Joseph, Somerville, Mass. Washer.....	Sept. 10, 1867.
60, 884	Hale, O. B., Chicopee, Mass. Converting wheel carriages into slogs.....	Jan. 1, 1867.
70, 555	Hale, Robert, Chicago, Ill. Head rest.....	Nov. 5, 1867.
60, 885	Hale, William B., assignor to Northampton Indelible Pencil Company, Northampton, Mass. Indelible pencil.....	Jan. 1, 1867.
69, 426	Haley, Jonathan, Cambridge, Mass. Glassware press.....	Oct. 1, 1867.
61, 419	Hall, Albert, New York, N. Y. Toy gun.....	Jan. 22, 1867.
	Hall, Asa F. (See Harlow, Philander, assignor.)	
	Hall, A. T., et al. (See Allen & Campbell, assignors.)	
	Same.....same.....	
	Same.....(See Campbell, Luther W., assignor.)	
	Same.....same.....	
63, 509	Hall, A. W., New York, N. Y. Washing machine.....	Apr. 2, 1867.
67, 044	Same.....Door fastening and knife.....	July 23, 1867.
67, 775	Hall, B. M., South Bend, Ind. Graining machine.....	Aug. 13, 1867.
61, 420	Hall, Charles, New York, N. Y. Tool holder for planing machines.....	Jan. 22, 1867.
2, 470	Hall, C. H., Binghamton, New York. Apparatus for distilling petroleum and other liquids.....(Reissue).....	Jan. 29, 1867.
64, 973	Same.....Bed bottom.....	May 21, 1867.
72, 031	Hall, Charles T., Brooklyn, N. Y. Machine for refitting conical valves.....	Dec. 10, 1867.
63, 510	Hall, Daniel B., assignor to self and Howard Tilden, Bucksport, Maine. Bag tie.....	Apr. 2, 1867.
71, 608	Hall, Daniel L., Dowagiac, Mich. Grubbing machine.....	Dec. 3, 1867.
63, 511	Hall, Durell, New York, N. Y. Apparatus for carburetting gas and air.....	Apr. 2, 1867.
72, 847	Hall, Eliphalet, Dunnamora, N. Y. Peat and brick machine.....	Dec. 31, 1867.
	Hall, E., and George V. Farr. (See Farr & Hall.)	
67, 192	Hall, Edwin L., Utica, N. Y. Locomotive headlight.....	July 30, 1867.
	Hall, E. M. (See Green, Virgil D., assignor.)	
	Hall, Gaylon, and Albert Heth. (See Heth & Hall.)	
65, 378	Hall, George, assignor to self and William S. Waldron, Middletown, Ohio. Clap-board gauge.....	June 4, 1867.
72, 032	Hall, George C., Brooklyn, N. Y. Collecting oxide of zinc.....	Dec. 10, 1867.
63, 339	Hall, George W., Triangle, N. Y. Potato digger and weeder.....	Oct. 1, 1867.
69, 340	Hall, George W., New Haven, Mich. Double rotary harrow.....	Oct. 1, 1867.
68, 185	Hall, Henry G., Fayetteville, N. C. Ring for spinning.....	Aug. 27, 1867.
64, 974	Hall, H. G. and E. L., Putnam, Ohio. Plow.....	May 21, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Hall, H. M., and W. D. Harrell. (See Harrell & Hall.)	
65, 565	Hall, James, Monroe Township, N. Y. Machine for making cordage.....	June 11, 1867.
65, 074	Hall, J. A., Greenfield, Ind. Grain cleaner.....	May 28, 1867.
	Hall, J. E., and William Thompson. (See Thompson & Hall.)	
71, 745	Hall, James R., Georgetown, Ill. Sash stop.....	Dec. 3, 1867.
63, 719	Hall, James T., assignor to self, John T. and Isaac Pierce, and H. T. Fowler, Trenton, N. Y. Horse hay fork.....	Apr. 9, 1867.
71, 162	Hall, John, assignor to self and Charles S. Locke, Watertown, Mass. Toy pistol.....	Nov. 19, 1867.
66, 584	Hall, John C., Monroe, Wis. Harvester rake.....	July 9, 1867.
	Hall, John Turner, and Howard Busby Fox. (See Fox & Hall.)	
	Hall, Joseph, jr., and William W. Wilcox. (See Brown, William, assignor.)	
	Hall, J. Darrah, and James Depeu. (See Depeu & Hall.)	
67, 045	Hall, Joseph L., Cincinnati, Ohio. Safe.....	July 23, 1867.
67, 046	Same.....Connecting doors and casings of safes.....	July 23, 1867.
70, 202	Same.....Safe.....	Oct. 29, 1867.
	Hall, J. T., et al. (See Parker, Hall & Pierce.)	
2, 550	Hall, Luther, assignor through mesne assignments to Alfred B. Ely, Newton, Mass. Pegging machine..... (Reissue).....	Apr. 9, 1867.
64, 761	Hall, Luther, assignor to Alfred B. Ely Boston, Mass. Eyeletting machine.....	May 14, 1867.
	Hall, L. H. (See Humiston, Willis, assignor.)	
64, 097	Hall, Manley, Livonia, Mich. Potato digger.....	Apr. 23, 1867.
72, 290	Hall, Moses, jr., Osborn, Ohio. Ash house.....	Dec. 17, 1867.
62, 327	Hall, Samuel, New York, N. Y. Machine for bending metals.....	Feb. 26, 1867.
68, 186	Hall, Samuel G., Norwich, Conn. Rotary steam engine.....	Aug. 27, 1867.
67, 533	Hall, S. Z., Camden, N. J. Feed attachment for cotton gins. (Antedated July 22, 1867).....	Aug. 6, 1867.
63, 039	Hall, Thomas, Bergen, N. J. Connecting rods for machinery.....	Mar. 19, 1867.
65, 807	Same.....Typographic machine.....	June 18, 1867.
64, 098	Hall, Thomas, Boston, Mass. Vokate bracelet.....	Apr. 23, 1867.
68, 300	Hall, Thomas F., and Geo. Eckel, Richmond, Ind. Cover for cooking-stove boilers.....	Aug. 27, 1867.
64, 395	Hall, Thomas G., assignor to self, Lewis Strayer, and Peter S. Boose, York, Pa. Water wheel.....	Apr. 30, 1867.
64, 664	Hall, Thomas G., assignor, through mesne assignments, to self and E. Harvey Gifford, New York, N. Y. Nippers.....	May 14, 1867.
62, 414	Hall, Thomas S., Stamford, Conn. Railroad switch alarm.....	Feb. 26, 1867.
63, 793	Hall, William, Dubuque, Iowa. Machine for forming tubes of sheet metal.....	Apr. 16, 1867.
70, 203	Hall, William H., Chicago, Ill. Lightning arrester for telegraphs.....	Oct. 29, 1867.
63, 322	Hall, William M., and John Johnson, Barrington, N. Y. Hay loader.....	Apr. 2, 1867.
65, 665	Hall, William Smith, Quincy, Mass. Treadle mechanism for sewing machines.....	June 11, 1867.
63, 720	Halladay, Samuel A., Marilla, N. Y. Stove-pipe drum.....	Apr. 9, 1867.
65, 215	Hallas, John, New York, N. Y. Apparatus for tempering steel wire.....	May 28, 1867.
61, 827	Haller, William L., Carlisle, Pa. Fruit jar.....	Feb. 5, 1867.
	Hallett, W. G., and E. P. Porter. (See Porter & Hallett.)	
	Same.....same.....	
68, 531	Hallett, R. W., Hudson City, N. J. Apparatus for raising sunken vessels.....	Sept. 3, 1867.
66, 327	Hallidie, A. S., San Francisco, Cal. Suspension bridge.....	July 2, 1867.
70, 835	Halligan, Thomas J., New York, N. Y. Treadle for sewing machines. (Antedated November 1, 1867).....	Nov. 12, 1867.
2, 441	Hallock, Nicholas, Flushing, N. Y. Fruit box..... (Reissue).....	Jan. 1, 1867.
63, 512	Hallock, Samuel, New York, N. Y. Surface conductor for electrotyping.....	July 2, 1867.
65, 075	Hallowell, Albert, assignor to self and Horace R. Baker, Lowell, Mass. Steam cock.....	May 28, 1867.
2, 687	Hallowell, Albert, and H. R. Barker, Lowell, Mass. Steam cock..... (Reissue).....	July 16, 1867.
	Halske, J. G., and W. Siemens. (See Siemens & Halske.)	
2, 585	Halsted, G. B., New York, N. Y. Handle for tea and coffee pots..... (Reissue).....	Apr. 30, 1867.
70, 836	Same.....Stove-pipe damper.....	Nov. 12, 1867.
63, 513	Hamann, J. A., New York. Watch pendant key.....	Apr. 2, 1867.
69, 427	Same.....Watch.....	Oct. 1, 1867.
71, 746	Hamar, Alexander, New York, N. Y. Street pavement.....	Dec. 3, 1867.
	Hamblet, James, jr., and B. F. Edmunds. (See Edmunds & Hamblet.)	
70, 204	Hamblin, Nelson, Flatbush, N. Y. Try square.....	Nov. 5, 1867.
65, 905	Hamblin, Reubin, Mishawaka, Ind. Clothes dryer.....	June 18, 1867.
62, 954	Hambtner, E., Detroit, Mich. Caster for furniture.....	Mar. 19, 1867.
63, 140	Same.....Buckle.....	Mar. 19, 1867.
68, 436	Same.....Lock for car seats.....	Sept. 3, 1867.
68, 437	Same.....Stove pipe to promote combustion.....	Sept. 3, 1867.
70, 556	Hamburger, Mathias, New York, N. Y. Reversible chair seat.....	Nov. 5, 1867.
60, 720	Hamel, George, Abington, Pa. Safety pocket.....	Jan. 1, 1867.
69, 658	Hamer, William, England. Sliver car for cotton, &c.....	Oct. 8, 1867.
60, 886	Hamilton, Charles, New York, N. Y. Shoe brush and case, combined.....	Jan. 1, 1867.
67, 648	Same.....Self-supplying mucklage brush. (Antedated August 1, 1867).....	Aug. 13, 1867.
71, 163	Hamilton, Ezra M., Minneapolis, Minn. Machine for pressing peat, clay, &c.....	Nov. 19, 1867.
67, 875	Hamilton, H. M., New York, N. Y. Miners' pick. (Antedated August 1, 1867).....	Aug. 20, 1867.
68, 187	Same.....Die for forming the eyes of picks.....	Aug. 27, 1867.
69, 090	Same.....Machine for forming the eyes of picks, &c.....	Sept. 24, 1867.
	Hamilton, James, et al. (See Wolf, Leopold, assignor.)	
66, 706	Hamilton, J. R., Portland, Oregon. Air bed.....	July 16, 1867.
68, 188	Hamilton, Jonathan R., Portland, Oregon. Fumigator for destroying vermin.....	Aug. 27, 1867.
61, 535	Hamilton, John Y., assignor to George Crompton, Clinton, Mass. Shuttle for narrow-ware looms.....	Jan. 29, 1867.
69, 637	Hamilton, Joseph O., assignor to Margaret Hamilton, Jerseyville, Ill. Obstetrical bandage.....	Oct. 8, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 848	Hamilton, L. B., Boston, Mass. Corn harvester	Dec. 31, 1867
62, 484	Hamilton, Robert, Franklin, Ind. Head rest for railway cars	Feb. 26, 1867.
	Hamilton, William, <i>et al.</i> (See Geer, George, assignor.)	
65, 808	Hammel, Oscar, Jersey City, N. J. Electric apparatus for lighting gas engines	June 18, 1867.
	Hammett, T. M., and E. H. Chapman. (See Chapman & Hammett.)	
65, 666	Hammill, R., Mineral Point, Wis. Extension hose	June 11, 1867.
60, 721	Hammitt, James M., and Henry T. Miller, Toledo, Iowa. Plow carriage	Jan. 1, 1867.
60, 722	Hammon, A. P., J. H. and S. Lincoln, and T. W. Hammon, Montfort, Wis. Cultivator	Jan. 1, 1867.
	Hammon, A. P., <i>et al.</i> (See Tucker, John E., assignor.)	
62, 955	Hammond, A. F., Houston, Ohio. Garden syringe	Mar. 19, 1867.
2, 586	Hammond, David, Canton, Ohio. Bridge	Apr. 30, 1867.
3, 701	Hammond, David, and W. R. Reeves, Canton, Ohio. Bridges	July 30, 1867.
62, 627	Hammond, George H., Oneonta, N. Y. Stove-pipe drum	Mar. 5, 1867.
61, 007	Hammond, Henry, Hartford, Conn. Back sight for fire-arm	Jan. 8, 1867.
62, 415	Same..... Cartridge pouch	Feb. 26, 1867.
70, 997	Same..... Die for swaging hammers. (Antedated October 22, 1867)	Nov. 19, 1867.
70, 998	Same..... Die for forming the claws of hammers. (Antedated Oct. 22, 1867)	Nov. 19, 1867.
72, 849	Same..... Cartridge ejector for breech-loading fire-arms	Dec. 31, 1867.
69, 660	Hammond, James, Adams Center, N. Y. Chimney cap	Oct. 8, 1867.
67, 297	Hammond, Joshua F., Providence, R. I. Floor clamp	July 30, 1867.
67, 534	Hammond, Joshua F., assignor to Henry Staples & Company, Providence, R. I. Knife cleaner	Aug. 6, 1867.
71, 747	Hammond, T. C. Nicolaus, Cal. Grading and excavating machine	Dec. 3, 1867.
	Hammond, William. (See Morrison, Duncan, assignor.)	
67, 535	Hancock, Henry J., New York, N. Y. Sewing machine	Aug. 6, 1867
61, 421	Hancock, William, Saco, Maine. Reversible butt hinge. (Antedated Jan. 14, 1867)	Jan. 22, 1867
60, 887	Handforth, Benjamin, Chicago, Ill. Propeller	Jan. 1, 1867.
62, 129	Same..... Churn	Feb. 19, 1867.
63, 721	Handy, Homer M., Niles, Mich. Bolt cutter	Apr. 9, 1867.
	Hansen, E., <i>et al.</i> (See Neilsen, Hansen & Wagner.)	
67, 978	Hanford, Melancthon, Boston, Mass. Rotary engine	Nov. 20, 1867.
70, 837	Hankins, Marion McDonald, Vandalia, Ill. Loom	Aug. 12, 1867.
62, 029	Hankinson, W. H., New York, N. Y. Carpet beater and cleaner	Feb. 12, 1867.
63, 363	Hanks, O., Cincinnati, Ohio. Bag holder	Apr. 2, 1867.
68, 189	Hanks, Oscar, Cincinnati, Ohio. Curtain fixture	Aug. 27, 1867.
60, 888	Hanlon, John, Bridgeport, Conn. Feeding device for sewing machines	Jan. 1, 1867.
64, 762	Hanly, John Luke, San Francisco, Cal. Anchor stock	May 14, 1867.
72, 485	Hanly, Patrick, New York, N. Y. Horseshoe	Dec. 24, 1867.
68, 981	Hanna, David, Hornellsville, N. Y. Washing machine	Sept. 17, 1867.
70, 089	Hannaford, F. A., New York, N. Y. Safety bridle	Oct. 22, 1867.
62, 130	Hannen, Henry, assignor to Samuel W. Greene and S. A. Hannen, Philadelphia, Pa. Manufacture of carbonate of lead	Feb. 19, 1867.
64, 763	Hannen, Henry, assignor to S. A. Hannen, and S. W. Greene, Philadelphia, Pa. Manufacture of carbonate of lead	May 14, 1867.
69, 661	Hannimann, J. B., Detroit, Mich. Water closet	Oct. 8, 1867.
62, 843	Hannum, Lewis, Cortland, N. Y. Wringer for clothes and mops	Mar. 12, 1867.
64, 665	Hanson, Freeman, Buxton, Maine. Turn table	May 14, 1867.
69, 091	Hanson, Henry L., Portland, Maine. Lamp	Sept. 24, 1867.
	Hanson, Henry L., <i>et al.</i> (See Skillin & Reed, assignors.)	
66, 707	Hanson, John L., Boston, Mass. Coal stove	July 16, 1867.
66, 019	Hanson, William, Willoughby, Ohio. Sorghum evaporator	June 25, 1867.
65, 076	Hanson, William H., Albion, N. Y. Washing machine	May 28, 1867.
62, 844	Hanvey, Thomas, Elma, N. Y. Machine for making cheese boxes	Mar. 12, 1867.
62, 956	Same..... Lancaster, N. Y. Preparing and preserving wood	Mar. 19, 1867.
62, 416	Happersett, D. Jones, Coatesville, Pa. Heating stove	Feb. 26, 1867.
	Harbster, William, and John G. Baker. (See Baker & Harbster.)	
64, 527	Hardeastle, Robert Anthony, England. Differential pulley block	May 7, 1867.
68, 190	Hardbrook, Richard, Bath, N. Y. Grape plow	Aug. 27, 1867.
63, 042	Hardgrove, O. J., Canton, Ohio. Horse hay fork. (Antedated March 10, 1867)	Mar. 19, 1867.
61, 733	Hardin, Mark B., New York, N. Y. Mode of taking copies of manuscripts, &c.	Feb. 5, 1867.
67, 756	Hardin, William E., Bowling Green, Mo. Plows	Aug. 13, 1867.
63, 722	Harding, Abner S., and Nicholas Reed, Otisville, N. Y. Combination padlock	Apr. 9, 1867.
66, 020	Harding, David, Lowell, Mass. Machine for beating and picking cotton	June 25, 1867.
62, 266	Harding, Gustavus P., England. Manufacture of ordnance	Feb. 19, 1867.
72, 196	Harding, John, Great Britain. Lock fastener for lamps	Dec. 17, 1867.
68, 069	Harding, Smith T., Morrison, Ill. Compound for preserving wood	Aug. 27, 1867.
69, 929	Harding, Thomas, Springfield, Ohio. Bag holder	Oct. 22, 1867.
	Harding, Thomas, <i>et al.</i> (See Lighter, Harding & Curtis.)	
	Harding, William W. (See Van Velthoven & Hazzard, assignors.)	
	Hardman, Lyman, <i>et al.</i> (See Winsler, Campbell & Hardman.)	
63, 884	Hardy, Charles, Biddeford, Maine. Machine for grinding top cards and the workers, strippers, and lickens in cylinders of carding machines	Apr. 16, 1867.
70, 205	Hardy, Cyrus H., Charlestown, Mass. Machine for cutting soap	Oct. 29, 1867.
64, 099	Hardy, Cyrus H., assignor to self and George Jaques, Charlestown, Mass. Apparatus for the manufacture of soap	Apr. 23, 1867.
64, 528	Same..... Bed bottom	May 7, 1867.
66, 148	Hardy, H. C., Muncie, Ind. Table	June 25, 1867.
72, 850	Hardy, P. H., assignor to self and E. M. Hardy, Terre Haute, Ind. Sash adjuster	Dec. 31, 1867.
67, 738	Hardy, Pierre J., New York, N. Y. Chair and lounge	Aug. 13, 1867.
67, 759	Same..... Folding chair	Aug. 13, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Hardy, Thomas P., <i>et al.</i> (See Bechtel, Strahan & Hardy.)	
67, 979	Hare, C. C., Louisville, Ky. Sadiron	Aug. 20, 1867.
71, 748	Hare, C. C. and S. J., Louisville, Ky. Hinging tea-kettle lids	Dec. 3, 1867.
	Hare, John H., and John Mulligan. (See Hitchcock, Robert, assignor.)	
63, 041	Hare, William J., New York, N. Y. Trunk lock	Mar. 19, 1867.
70, 557	Hargur, David, Des Moines, Iowa. Furnace	Nov. 5, 1867.
66, 328	Hargrave, T. C., Boston, Mass. Railway chair	July 2, 1867.
67, 047	Hargrave, T. C., assignor to self, F. F. and R. W. B. bber, Boston, Mass. Boat detaching tackle	July 23, 1867.
65, 667	Harker, S. T., Milwaukee, Wis. Steam heating apparatus	June 11, 1867.
71, 384	Harlan, A. S., Bloomington, Ill. Rotary steam engine	Nov. 26, 1867.
	Harlan, James. (See Davis, W. H., assignor.)	
72, 197	Harlan, Jesse H., and Thomas Pomeroy, assignors to selves and Wm. H. Harlan, Denver City, Colorado. Machine for cutting out gloves	Dec. 17, 1867.
66, 834	Harlan, John J., Cincinnati, Ohio. Scrubber and mop holder	July 16, 1867.
65, 077	Harlow, C. F., Boston, and E. H. Perry, Roxbury, Mass. Machine for cutting hair, grass, &c.	May 28, 1867.
61, 935	Harlow, Phlander, assignor to self and Asa F. Hall, Hudson, Mass. Belt clasp	Feb. 12, 1867.
68, 191	Harman, John, McConnellsville, Ohio. Sheep rack and mow combined	Aug. 27, 1867.
68, 982	Harmon, W. R., Unionport, Ohio. Shovel plow	Sept. 17, 1867.
71, 164	Harner, David S., ass'r to self and Whiteley, Fassler & Kelly, Xenia, Ohio. Harvester.	Nov. 19, 1867.
	Harner, James M. (See Hill & Lohnes, assignor.)	
	Harner, Solomon K., <i>et al.</i> (See Welsh, J. A., assignor.)	
64, 861	Harnish, M. S., and H. H. (See Lindeman, Elias W., assignor.)	
	Harnly, Christian H., and Joseph H., Penn Township, Pa. Manure drag	May 21, 1867.
	Harper, Amos R., and John Cupps. (See Cupps & Harper.)	
66, 329	Harper, Chas. A., Rahway, N. J. Boiler for heating water. (Antedated June 24, 1867)	July 2, 1867.
2, 806	Same. Water boiler. (Reissue)	Nov. 26, 1867.
69, 207	Harper, C. A., and John A. Partridge, Rahway, N. J. Seed dropper	Sept. 24, 1867.
71, 481	Harper, Charles A., and Isaac A. Crane, Rahway, N. J. Detachable oven and drum	Nov. 26, 1867.
71, 609	Harper, H. W., Berlinsville, Pa. Machine for dressing the frames of slates	Dec. 3, 1867.
	Harper, J. M., and A. Corey. (See Corey & Harper)	
62, 131	Harper, James W., Xenia, Ohio. Instrument for digging post holes	Feb. 19, 1867.
71, 165	Harper, John H., Pittsburg, Pa. Cider press	Nov. 19, 1867.
71, 610	Harper, John M., assignor to self and A. Corey, Philadelphia, Pa. Device for arranging type in rows	Dec. 3, 1867.
	Harpam, James A., and Wm. Hill. (See Hill & Harpam.)	
68, 070	Harster, Samuel, Center Hall, Pa. Corn planter	Aug. 27, 1867.
	Harrah, W. D., and C. N. Ackerson. (See Atkerson & Harrah.)	
69, 802	Harrell, W. D., and H. M. Hall, Osgood, Ind. Self-acting fly fan	Oct. 15, 1867.
69, 911	Harrigan, Dennis, Charlestown, Mass. Wrench	Oct. 15, 1867.
70, 838	Harrigan, John, East Boston, Mass. Medical compound	Nov. 12, 1867.
66, 080	Harriman, Charles, New York, N. Y. Vacuum for sugar-boiling apparatus	June 25, 1867.
62, 628	Harriman, C. C., ass'r to self and John Davis, 3d, Warner, N. H. Corn-cake machine	Mar. 5, 1867.
61, 536	Harrington, Augustus, Warsaw, N. Y. Pipe for wells	Jan. 29, 1867.
	Harrington, H., and J. Cummings. (See Cummings & Harrington.)	
61, 422	Harrington, John, Menomonee, Wis. Machine for pulling flax	Jan. 22, 1867.
67, 048	Harrington, John R., assignor to George W. Chipman, Brooklyn, N. Y. Manufacture of carpet lining	July 23, 1867.
70, 558	Harris, Benjamin B., assignor to self, F. G. Harris, and Seneca Sly, Lockport, Ill. Machine for stamping and shaping leather	Nov. 5, 1867.
	Harris, Benjamin G. (See Pattison, G. C., assignor.)	
2, 606	Harris, C., and P. W. Zoiner, Cincinnati, Ohio. Parlor stove. (Design)	Mar. 26, 1867.
63, 885	Same. Fire-place	Apr. 16, 1867.
65, 936	Same. Convertible stove door and fender	June 18, 1867.
2, 844	Same. Cook stove. (Design)	Dec. 3, 1867.
70, 256	Same. Water reservoir for cooking stoves	Oct. 29, 1867.
69, 803	Harris, Camrels A., Austin, Ark. Garden cultivator plow	Oct. 15, 1867.
	Harris, D. H., and George H. Clinton. (See Clinton & Harris.)	
66, 149	Harris, Edward S., and Sylvanus S. Robinson, Morison, Ill. Apparatus for drawing and weighing liquids	June 25, 1867.
2, 463	Harris, Elbridge, assignor through mesne assignments to William W. Lyman, West Meriden, Conn. Sealing fruit jars. (Reissue)	Jan. 22, 1867.
70, 559	Harris, T. G., Willsborough, N. Y. Composition for tempering steel	Nov. 5, 1867.
	Harris, George W., and Joshua Harrison. (See Harrison & Harris.)	
	Same. Same.	
	Harris, George W., and Mosely S. Curtis. (See Curtis & Harris.)	
66, 081	Harris, G. W., and William H. Haight, assignors to Wm. H. Haight, New York, N. Y. Chuck	June 25, 1867.
69, 912	Harris, G. W., and George Elliot, Aurora, Ind. Railroad crossing	Oct. 15, 1867.
2, 610	Harris, Horace, Newark, N. J. Inkstand. (Design)	Apr. 2, 1867.
68, 739	Same. Mosquito guard. (Antedated Sept. 7, 1867)	Sept. 10, 1867.
67, 536	Harris, H. A. M., Philadelphia, Pa. Needles for sewing machines	Aug. 6, 1867.
69, 092	Same. Pump	Sept. 24, 1867.
72, 198	Same. Harvester rake	Dec. 17, 1867.
72, 199	Same. Same	Dec. 17, 1867.
63, 886	Harris, James, Kansas, Ill. Bridle	Apr. 16, 1867.
	Harris, James, <i>et al.</i> (See Taylor, Charles, assignor.)	
71, 301	Harris, James, Santa Clara county, Cal. Gang plow	Nov. 26, 1867.
63, 514	Harris, James H., Virginia, Ill. Car coupling	Apr. 2, 1867.
70, 560	Harris, John, assignor to John S. Vine, Marquette, Wis. Car wheel	Nov. 5, 1867.

List of patentees of inventions; designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 566	Harris, John J., and Isaac H. Mosher, Greene, N. Y. Door holder.....	June 11, 1867.
62, 132	Harris, John K., Madison, Ind. Apparatus for unhitching horses from vehicles.....	Feb. 19, 1867.
64, 666	Same..... Attaching and detaching horses, &c.....	May 14, 1867.
71, 873	Harris, Joseph, Dorchester, Mass. Car axle box.....	Dec. 10, 1867.
63, 155	Harris, Joseph A., Philadelphia, Pa. Apparatus for regulating the exhauster in gas works.....	Mar. 26, 1867.
71, 300	Harris, J. B., Mason county, Ky. Packing for smoke and hot air flues.....	Nov. 26, 1867.
	Harris, Moses. (See Dinsmore, John V., assignor.)	
61, 734	Harris, Robert A., assignor to self and B. S. Harris, Philadelphia, Pa. Refrigerator.....	Feb. 5, 1867.
67, 049	Harris, R. S., Dubuque, Iowa. Snow plow.....	July 23, 1867.
64, 100	Harris, Samuel and Daniel A., Shippensburg, Pa. Horse hay fork.....	Apr. 23, 1867.
68, 192	Harris, Sandy, assignor to self and David Bevan, Philadelphia, Pa. Sash weight.....	Aug. 27, 1867.
67, 429	Harris, I. E., Green Bay, Wis. Punching apparatus.....	Aug. 6, 1867.
69, 804	Harris, Thomas S., Lockport, Ill. Wagon jack.....	Oct. 15, 1867.
72, 486	Harris, William, Rush Run, Ohio. Nut fastening.....	Dec. 24, 1867.
61, 537	Harris, William and Clinton Browning, Rush Run, Ohio. Nut.....	Jan. 29, 1867.
61, 620	Same..... Nut fastener.....	Jan. 29, 1867.
62, 328	Harris, William H., Corry, Pa. Hair restorative.....	Feb. 26, 1867.
64, 975	Harris, William J. and J. W., Newport, N. Y. Door lock.....	May 21, 1867.
65, 379	Harris, William S., Eckford township, Mich. Wool-packing table.....	June 4, 1867.
2, 685	Harrison, B. J., and J. Condie, New York, N. Y. Folding chair..... (Design).....	June 25, 1867.
71, 711	Same..... Folding steps.....	Dec. 3, 1867.
	Harrison, Charles. (See Miller, Charles H., assignor.)	
69, 428	Harrison, Edward, Springfield, Ohio. Bee hive.....	Oct. 1, 1867.
67, 537	Harrison, James, New York, N. Y. Mode of ringing bells.....	Aug. 6, 1867.
2, 782	Harrison, John S., Canton, Ohio. Soldier's memorial..... (Design).....	Sept. 24, 1867.
67, 538	Harrison, Joseph G., New York, N. Y. Safety steam valve.....	Aug. 6, 1867.
66, 835	Harrison, Joshua, Brooklyn, and George W. Harris, New York, N. Y., assignors to selves and Charles H. Hudson. Clothes wringer.....	July 16, 1867.
60, 836	Same..... same.....	July 16, 1867.
62, 743	Harrison, Josiah, Frederick, Md. Truss.....	Mar. 12, 1867.
62, 030	Harrison, Theophilus, assignor to self and William C. Buchanan, Belleville, Ill. Horse power.....	Feb. 12, 1867.
68, 740	Harrison, Thomas B., Maquoketa, Iowa. Power hammer.....	Sept. 10, 1867.
	Harsha, James, and C. J. Crum. (See Crum & Irwin, assignors.)	
70, 999	Harsha, Mortimer S., Batavia, Ill., assignor to self, and Lavias F. Dow, Cortland, N. Y. Concrete brick machine.....	Nov. 19, 1867.
	Harshaw, S. A. (See Turney, G. L., assignor.)	
67, 649	Hart, A. H., Stockbridge, Wis. Bee hive.....	Aug. 13, 1867.
65, 907	Hart, C. B., and G. W., Victor, N. Y. Combined rack, milk, and fruit dryer.....	June 18, 1867.
64, 218	Hart, C. H. (See Darrow, McDowell, assignor.)	
67, 539	Hart, D. B., Mentor, Ohio. Potato digger.....	Apr. 30, 1867.
	Same..... Nut and washer.....	Aug. 6, 1867.
	Hart, D. B., and Marshall Haskins. (See Haskins & Hart.)	
63, 384	Hart, George D., Lycoming county, Pa. Cultivator.....	Apr. 2, 1867.
72, 487	Hart, H. C., and J. R. Blakelee, assignors to H. C. Hart, and Luther T. Moses, Unionville, Conn. Tapping nuts.....	Dec. 24, 1867.
72, 033	Hart, H. F., New York, N. Y. Register for odometers.....	Dec. 10, 1867.
64, 416	Hart, James, Colony of Victoria. Apparatus for crushing and amalgamating ores.....	May 7, 1867.
68, 672	Hart, J. and S., and J. Reesman, Farmington, Iowa. Spinning machine.....	Sept. 17, 1867.
69, 990	Hart, James M., Des Moines, Iowa. Hand spinning machine.....	Oct. 22, 1867.
62, 744	Hart, John P., Chicago, Ill. Car truck.....	Mar. 12, 1867.
62, 745	Same..... Railway frog.....	Mar. 12, 1867.
60, 723	Hart, L. M., Philadelphia, Pa. Making steel-headed rails.....	Jan. 1, 1867.
64, 313	Hart, L. M., assignor to self and Charles S. Hinchman, Philadelphia, Pa. Machine for pressing tuyeres.....	Apr. 30, 1867.
67, 757	Hart, S. L., Milwaukee, Wis. Wood-turning lathe.....	Aug. 13, 1867.
65, 078	Hart, Walter, Philadelphia, Pa. Indicating apparatus for stills, oil and other.....	May 28, 1867.
62, 133	Hart, William H., Medford, Mass. Receptacle for ice water.....	Feb. 19, 1867.
72, 034	Hart, William H., jr., Philadelphia, Pa. Neck tie.....	Dec. 10, 1867.
72, 632	Hartford, D. Frank, Boston, Mass. Stringing bow drill stocks.....	Dec. 24, 1867.
68, 071	Hartford, D. Frank, assignor to self and Edmund Tarbell, Boston, Mass. Bow drill stock.....	Aug. 27, 1867.
72, 488	Hartley, Howard, Pittsburg, Pa. Method of lining hose.....	Dec. 24, 1867.
63, 631	Hartley, William G., Saxtonville, Mass. Looms for weaving piled fabrics.....	Apr. 9, 1867.
64, 764	Hartman, Andrew, Canton, Ohio. Railroad switch. (Antedated May 5, 1867).....	May 14, 1867.
65, 079	Same..... Car coupling.....	May 28, 1867.
72, 394	Hartman, Benjamin J., assignor to self and George Liggett, jr., Wooster, Ohio. Trace fastening.....	Dec. 17, 1867.
	Hartman, H. C., and John R. Fish. (See Fish & Hartman.)	
64, 314	Hartman, John, jr., Philadelphia, Pa. Skate. (Antedated October 30, 1866).....	Apr. 30, 1867.
63, 632	Hartman, Joseph V., Marathon, Ohio. Churn power.....	Apr. 9, 1867.
65, 216	Hartman, S. B., Millersville, Pa. Safety bridle.....	May 28, 1867.
64, 219	Hartman, William H., and A. K. M. Pickert, Fostoria, Ohio. Attaching thills to carriages.....	Apr. 30, 1867.
	Hartshorn, B. H., and B. F. Wymau. (See Wymau & Hartshorn.)	
62, 485	Hartshorn, Sheldon S., deceased, by Stephen E. Booth, administrator, West Haven, Conn. Buckle.....	Feb. 26, 1867.
64, 101	Hartshorn, Stewart, New York, N. Y. Window shade roller.....	Apr. 23, 1867.
2, 756	Same..... Shade fixture..... (Reissue).....	Aug. 27, 1867.
68, 502	Same..... same.....	Sept. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 561	Hartsuff, John H., assignor to self, R. W. Cunningham, and R. C. Dunlap, Newcastle, Pa. Curb for water wheels	Nov. 5, 1867.
61, 735	Hartree, Andrew, Pittsburg, Pa. Steam engine air pump. (Antedated January 20, 1867)	Feb. 5, 1867.
72, 395	Hartwell, Edson, Hubbardston, Mass. Rocking chair	Dec. 17, 1867.
61, 538	Harvey, C. R., New York, N. Y. Frame, &c., for hot-air registers	Jan. 29, 1867.
63, 887	Harvey, Charles T., Tarrytown, N. Y. Car-coupling apparatus	Apr. 16, 1867.
63, 888	Same..... Method of propelling cars	Apr. 16, 1867.
64, 862	Same..... Method of propelling cars, &c.	May 21, 1867.
65, 908	Same..... Elevated railway	June 18, 1867.
65, 909	Same..... same	June 18, 1867.
66, 330	Same..... Propelling cables for railway guides	July 2, 1867.
	Harvey, Edward. (See Paterson, James, assignor)	(Design)
63, 385	Harvey, Hayward A., New York, N. Y. Wire staple	Apr. 2, 1867.
64, 976	Same..... Window sash weight	May 21, 1867.
66, 331	Same..... Nails	July 2, 1867.
56, 585	Same..... Screws	July 9, 1867.
71, 166	Same..... Screw nail	Nov. 19, 1867.
72, 633	Same..... Orange, N. J. Wood screw	Dec. 24, 1867.
71, 422	Harvey, Hosea B., West Meriden, Conn. Forging cutlery	Nov. 26, 1867.
71, 000	Harvey, James T., Murrysville, Pa. Straw cutter	Nov. 19, 1867.
72, 489	Harvey, John M., Buchanan, Va. Steam generator	Dec. 24, 1867.
66, 586	Harvey, Joseph, assignor to Harvey & Ford, Philadelphia, Pa. Bone handles for canes, &c.	July 9, 1867.
68, 983	Harvey, L. D., Harvey, Mich. Wagon	Sept. 17, 1867.
71, 001	Harwood, George S., Boston, Mass. Feeder for carding machines	Nov. 19, 1867.
65, 668	Harwood, Harvey J., Utica, N. Y. Wood screw	June 11, 1867.
65, 567	Harwood, Harvey J., assignor, through mesne assignments, to himself, Utica, N. Y. Screw machine	June 11, 1867.
72, 490	Harwood, H. J., and William H. Mickle, assignors to Harvey J. Harwood and John P. Seymour, Utica, N. Y. Machine for threading screws	Dec. 24, 1867.
69, 093	Harwood, John, assignor to self and C. L. G. Blessing, Cobleskill, N. Y. Rotary churn	Sept. 24, 1867.
2, 700	Harwood, Luther W., assignor to Fuller, Warren & Co., Troy, N. Y. Stove plate	(Design)
68, 072	Same..... Cooking stove	July 9, 1867.
62, 417	Hasecoster, George, Richmond, Ind. Window shade	Aug. 27, 1867.
67, 760	Hasetline, John, Warren, N. H. Composition for stuffing leather belts	Feb. 26, 1867.
2, 543	Hasetline, John, assignor, through mesne assignments, to Samuel Adlam, Charlestown, Mass. Shoe pad for horses' feet	Aug. 13, 1867.
		(Reissue)
2, 691	Hasenbuhler, Stephen, assignor to H. A. Oesterle & Co., Philadelphia, Pa. Blind binding	Apr. 9, 1867.
		(Design)
68, 438	Haskell, Almore, Harrison, Maine. Swift	July 2, 1867.
69, 913	Haskell, A. L., Amity, Pa. Horse rake	Sept. 3, 1867.
62, 329	Haskell, Jairus, Lisbon, Maine. Cultivator	Oct. 15, 1867.
69, 991	Haskell, J. H., Baltimore, Md. Leather punching machine	Feb. 26, 1867.
63, 043	Haskell, James R., New York, N. Y. Mode of reducing vegetable fibrous substances	Oct. 22, 1867.
63, 044	Same..... Mode of treating and separating vegetable fibers	Mar. 19, 1867.
71, 874	Haskell, Job H., assignor to self and Horace Taplin, Lowell, Mass. Washing machine. (Antedated November 23, 1867)	Mar. 19, 1867.
		Dec. 10, 1867.
61, 736	Haskin, Henry P., Roscoe, Ill. Apparatus for handling hogs in slaughtering	Feb. 5, 1867.
69, 662	Haskins, Charles, Penn Yan, N. Y. Universal coupling	Oct. 8, 1867.
71, 385	Haskins, Charles H., St. Louis, Mo. Railroad car ventilator	Nov. 26, 1867.
70, 207	Haskins, David G., Cambridge, Mass. Gas cooking apparatus	Oct. 29, 1867.
70, 432	Same..... Gas cooking range	Nov. 5, 1867.
71, 002	Same..... Gas heating apparatus	Nov. 19, 1867.
70, 433	Haskins, David Greene, and Joseph Winlock, Cambridge, Mass. Method of lighting rooms	Nov. 5, 1867.
67, 298	Haskins, John, Roxbury, Mass. Rubber fabric	July 30, 1867.
61, 936	Haskins, Joseph W., Charlestown, Mass. Edible preparation from Indian corn	Feb. 12, 1867.
66, 491	Haskins, Marshall, and D. B. Hart, Mentor, Ohio. Cultivator	July 9, 1867.
67, 111	Haskins, W. E., New York, N. Y. Envelope	Oct. 23, 1867.
70, 334	Haskins, William P., Mendota, Ill. Ball and socket joint	July 29, 1867.
65, 380	Haslam, James, assignor to M. J. Coleman, Philadelphia, Pa. Nut machine	Oct. 29, 1867.
71, 612	Haslett, John, jr., assignor to self, George W. Fahnestock, and J. L. Schwartz, Allegheny, Pa. Machine for mixing and feeding white lead	June 4, 1867.
65, 217	Hassenpflug, Henry, assignor to self and Edward Hassenpflug, Huntingdon, Pa. Sawing machine	Dec. 3, 1867.
	Same.....	May 28, 1867.
65, 669	Same.....	June 11, 1867.
69, 663	Hastings, Albert M., Rochester, N. Y., and Stoughton Pettebone, Niagara Falls, N. Y. Treating straw, wood, and other materials for the manufacture of paper	Oct. 8, 1867.
	Hastings, Albert M., and Isaac C. Colton. (See Colton & Hastings.)	
	Same..... same	
	Hastings, C., et al. (See Hoar, John S., assignor.)	
62, 267	Hatch, Anson, New Haven, Conn. Apparatus for tapering measures	Feb. 19, 1867.
68, 503	Hatch, George, Pomeroy, Ohio. Oil can	Sept. 3, 1867.
64, 417	Hatch, G. W., Garrettsville, Ohio. Fence post pedestal	May 7, 1867.
64, 667	Hatch, James, Lynn, Mass. Apparatus for destroying insects on trees. (Antedated May 1, 1867)	May 14, 1867.
62, 486	Hatch, Jonathan, South Windham, Conn. Paper trimmer	Feb. 26, 1867.
71, 302	Hatch, Pascal, East Corinth, Vt. Saw-filing machine	Nov. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 208	Hatch, Warren D., assignor to self and Lewis Babbitt, South Antrim, N. H. Planing machine	Oct. 29, 1867.
67, 050	Hatfield, C. B., assignor to Norman M. Kerr and B. W. Beesley, Philadelphia, Pa. Machine for making paper boxes	July 23, 1867.
67, 051	Same	July 23, 1867.
61, 828	Hatfield, G. W., Holton, Ind. Cultivator plow	Feb. 5, 1867.
63, 910	Hatfield, James, Cleveland, Ohio. Carriage	June 18, 1867.
	Hatfield, Theodore. (See Tears, L. H., assignor.)	
67, 540	Hathaway, Alfred, Charlestown, Mass. Album	Aug. 6, 1867.
63, 218	Hathaway, B. G. H., Rock Stream, N. Y. Harvester	May 28, 1867.
63, 219	Hathaway, B. G. H., and George M., Rock Stream, N. Y. Harvester	May 28, 1867.
2, 686	Hathaway, David, assignor to Fuller, Warren & Co., Troy, N. Y. Plates of a stove	June 25, 1867.
2, 746	Same	(Design) Aug. 13, 1867.
2, 752	Same	(Design) Aug. 20, 1867.
66, 332	Hathaway, James D., Medford, Mass. Screw clamp for planking vessels	July 2, 1867.
	Hathaway, K. S., et al. (See Wolf, Leopold, assignor.)	
64, 263	Hatheway, H. H., Clackville, N. Y. Horse hay fork	May 21, 1867.
71, 167	Hattabough, Isaac J., Santa Clara county, Cal. Horse hay fork	Nov. 19, 1867.
71, 749	Same	Dec. 3, 1867.
61, 191	Hatten, H. C., and J. P. Angleberger, New Carlisle, Ohio. Machine for soldering eaves troughs	Jan. 15, 1867.
	Hauberger, Thomas E. (See Witsil, George L., assignor.)	
2, 631	Hauck, Charles J., Brooklyn, N. Y. Tobacco box	(Design) Apr. 23, 1867.
	Hauck, George, and Samuel Eberly. (See Eberly & Hauck.)	
	Hauck, Samuel, and Samuel Eberly. (See Eberly & Hauck.)	
	Hauer, Henry, executor, &c. (See Bauhofer, Louis.)	
	Same	same.
	Hauff, W. (See Steger, Joseph, assignor.)	
67, 761	Hause, Peter A., Catonsville, Md. Trace coupler	Aug. 13, 1867.
	Hauxhurst, J. W. (See Olds, A. M., assignor.)	
61, 423	Havell, George, Newark, N. J. Travelling-bag frame	Jan. 22, 1867.
66, 150	Same	June 25, 1867.
61, 424	Haven, James L., Cincinnati, Ohio. Meat cutter	Jan. 22, 1867.
2, 747	Same	(Design) Aug. 13, 1867.
	Haven, James L. & Co. (See Darrow, George P., assignor.)	
	Havens, J., and D. Catchpole. (See Catchpole & Havens.)	
67, 980	Havermale, George W., La Harpe, Ill. Washing machine	Aug. 20, 1867.
68, 873	Haverstick, Levi, Manor township, Pa. Horse hay fork	Sept. 17, 1867.
60, 889	Haviland, B. S., Fort Dodge, Iowa. Fence post	Jan. 1, 1867.
64, 864	Haviland, B. S. and E. H., Fort Dodge, Iowa. Beehive	May 21, 1867.
71, 750	Haviland, C. Augustus, Davenport, Iowa. Fence	Dec. 3, 1867.
63, 889	Hawes, Charles L., Titusville, Pa. Hotel register	Apr. 16, 1867.
	Hawes, Walter E., et al. (See Spofford, Charles, assignor.)	
63, 515	Hawk, George W., Chicago, Ill. Churn	Apr. 2, 1867.
2, 807	Hawkes, Gilbert, Lynn, Mass. Manufacture of boots and shoes	(Reissue) Nov. 26, 1867.
	Hawkes, William B., et al. (See Feyh, Henry, assignor.)	
71, 875	Hawkey, John V., assr to self and Israel T. Sheffer, Greensburg, Pa. Horse rake	Dec. 10, 1867.
71, 751	Hawkins, George H., New York, N. Y. Pill and other boxes	Dec. 3, 1867.
65, 568	Hawkins, Horace R., Akron, Ohio. Lathe for turning wood	June 11, 1867.
72, 035	Same	Dec. 10, 1867.
66, 082	Hawkins, John E., Lansingsburg, N. Y. Cracker machine	June 25, 1867.
64, 765	Hawkins, Joseph, West Windsor, N. J. Hinged gun rest	May 14, 1867.
63, 045	Hawkins, Moses, Birmingham, Conn. Steam-engine oil cup	Mar. 9, 1867.
69, 664	Hawkins, M. C., assignor to self and Alonzo Peery, Edenboro', Pa. Metal tip for suspending brooms, &c.	Oct. 8, 1867.
	Hawkins, Moses C., and Alonzo Peery. (See Peery & Hawkins.)	
66, 333	Hawkins, Reason, Palestine, Ind. Grain screen	July 2, 1867.
	Hawkins, Richard F. (See Howard, Henry, assignor.)	
61, 425	Hawkins, Samuel K., Lansingsburg, N. Y. Apparatus for automatically weighing spirits and other liquids	Jan. 22, 1867.
	Hawkins, Samuel K., and Jacob C. Horton. (See Horton & Hawkins.)	
	Same	same.
72, 732	Hawkins, T. W., assignor to self and Moses Hawkins, New Haven, Conn. Fan	Dec. 31, 1867.
70, 209	Hawkins, Westel E., assignor to Joshua B. Graves, New York, N. Y. Construction of cruet casters	Oct. 29, 1867.
71, 613	Hawkins, William H., Cleveland, Ohio. Elastic carriage-curtain knob	Dec. 3, 1867.
	Hawkins, W. H. (See Whitworth, John, assignor.)	
	Hawks, Cornelia. (See Warner, George L., assignor.)	
64, 102	Hawks, Elizabeth, Troy, N. Y. Air-chamber for stoves	Apr. 23, 1867.
66, 334	Hawley, B. R., assignor to self, E. Washburn, and C. A. Montross, Normal, Ill. Sorghum evaporator	July 2, 1867.
69, 208	Hawley, C. P., Mosherville, N. Y. Wagon spring	Sept. 24, 1867.
61, 192	Hawley, J. B., New Haven, Conn. Buckle	Jan. 15, 1867.
	Hawley, James H., and George W. Earl. (See Earl & Hawley.)	
66, 335	Hawley, James M., Holton, Ind. Plow	July 2, 1867.
68, 625	Same	Belt tightener Sept. 10, 1867.
67, 299	Hawley, J. S., Virginia City, Nevada. Tobacco pipe	July 30, 1867.
66, 235	Hawley, O., and J. W. Ward, Wheeling, W. Va. Churn	July 2, 1867.
	Hawley, Samuel R., et al. (See Stout & Richardson, assignors.)	
68, 193	Hawley, William H., Utica, N. Y. Elevating block	Aug. 27, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 874	Hawley, William H., Utica, N. Y., Elevating block	Sept. 17, 1867.
69, 992	Same..... Grappling iron	Oct. 22, 1867.
71, 303	Same..... Apparatus for elevating by horse power	Nov. 26, 1867.
63, 633	Haworth, John, Frankford, Pa. Photographic camera stand	Apr. 9, 1867.
68, 504	Haworth, Reuben, South New Market, N. H. Centering tool	Sept. 3, 1867.
	Hawse, Joseph, and W. H. Wells. (See Wells & Hawse.)	
61, 829	Hawthorn, Jared, Coshocton, Ohio. Device for converting motion	Feb. 5, 1867.
	Hay, F. M., et al. (See Gray, James L., assignor.)	
	Same..... same.	
	Same..... same.	
65, 080	Hay, George R., assignor to self and J. R. Seely, Edgerton, Ohio. Machine for joining staves	May 28, 1867.
65, 744	Hay, William, assignor to Robert Hay, Scotland. Scale rule	June 11, 1867.
61, 004	Hay, William John, England. Composition for coating ships' bottoms	Jan. 8, 1867.
68, 5, 5	Hayden, Charles, Newark, N. J. Trace fastener	Sept. 3, 1867.
70, 210	Hayden, Charles T. J., Versailles, Mo. Composition for hardening steel	Oct. 29, 1867.
2, 548	Hayden, Henry H., assignor to Holmes, Booth & Hayden, New York, N. Y. Handle of a fork or spoon	Jan. 15, 1867.
	(Design)	
67, 541	Hayden, P., Pittsburg, Pa. Brick machine	Aug. 6, 1867.
62, 194	Hayden, William B., Columbus, Ohio. Wire rein snap	Feb. 19, 1867.
63, 156	Same..... Bridle bit	Mar. 26, 1867.
69, 562	Same..... Trace buckle	Oct. 8, 1867.
67, 300	Hayden, William F., Brookfield, Mass. Heating top plates of waxed thread sewing machines	July 30, 1867.
62, 195	Hayes, Charles E., Lancaster, Pa. Money drawer	Feb. 19, 1867.
	Hayes, Isham H. (See Young, Isaac, assignor.)	
	Hayes, John W., et al. (See Crockett, Jacob G., assignor.)	
70, 562	Hayes, Lorenzo B., and William Morris, Greene, N. Y. Barn door and gate fastening	Nov. 5, 1867.
61, 539	Hayes, Oren T., Hastings, Minn. Carpenters' square	Jan. 29, 1867.
	Hayes, T. W., and G. Symmes. (See Symmes & Hayes.)	
62, 746	Hayes, William, Fall River, Mass. Preventing the lapping of belts on shafting	Mar. 12, 1867.
69, 429	Haymaker, James G., Salem Crossroads, Pa. Horse collar	Oct. 1, 1867.
66, 589	Haynes, E. K., Hanover, N. H. Tobacco cutter	July 9, 1867.
71, 168	Same..... Lamp shade	Nov. 19, 1867.
72, 036	Same..... Instrument for hatch-lining drawings	Dec. 10, 1867.
71, 614	Haynes, J. P., assignor to self and Samuel C. Forsaith, Bedford, N. H. Head block for saw mills	Dec. 3, 1867.
68, 073	Haynes, J. R., Newport, Ky., and A. F. Worthington, Cincinnati, Ohio, assignors to Smith & Worthington. Medicine case	Aug. 27, 1867.
69, 993	Haynes, Thomas, St. Louis, Mo. Knife sharpener	Oct. 22, 1867.
64, 280	Haynie, William Macey, Sacramento county, Cal. Kilns for drying and curing hops	Apr. 30, 1867.
72, 491	Hays, Nathan, William Duncan, and E. H. Bowen, Vinton, Iowa. Tool for sharpening horseshoe calks	Dec. 24, 1867.
2, 770	Hayward, Daniel E., assignor, through mesne assignments, to Alfred B. Ely and Charles Wild, trustees, Brooklyn, N. Y. Heel stiffener	Oct. 8, 1867.
2, 771	Same..... (Division A. Reissue)	Oct. 8, 1867.
71, 169	Hayward, E. S., Roxbury, Mass. Spring for beds	Nov. 19, 1867.
71, 170	Hayward, H., Brooklyn, N. Y., and John S. Pendleton, New Brighton, N. Y. Mode of cleaning wool	Nov. 19, 1867.
68, 194	Hayward, Henry M., Boston, Mass. Buck saw frame	Aug. 27, 1867.
62, 845.	Hayworth, L. O., New Cumberland, Ind. Grain register. (Antedated Feb. 28, 1867.)	Mar. 12, 1867.
61, 830	Hazard, T., and J. M. Richardson, Wilmington, Ohio. Door stop	Feb. 5, 1867.
	Hazel, Henry, and John E. Wootten. (See Wootten & Hazel.)	
	Hazelhurst, T., and J. Strayer. (See Strayer & Hazelhurst.)	
69, 209	Hazen, Isaac D., and Jonathan Hitchcock, Grand Rapids, Mich. Stump extractor	Sept. 24, 1867.
61, 336	Hazen, Jasper, Bethlehem, N. Y. Beehive	July 2, 1867.
72, 037	Hazzard, D., Milton, Del. Platform scales	Dec. 10, 1867.
	Hazzard, Joseph H., and Richard Van Velthoven. (See Van Velthoven & Hazzard.)	
65, 381	Heacock, Joel, Marlboro', Ohio. Beehive	June 4, 1867.
65, 670	Same..... Field fence	June 11, 1867.
65, 486	Heald, John L., Boston, Mass. Winch or capstan	June 4, 1867.
62, 629	Healy, George, East Woburn, Mass. Machine for peeling willow	Mar. 5, 1867.
65, 569	Healy, Azro, Kalamazoo, Mich. Lifting jack	June 11, 1867.
68, 074	Healy, Edward, Chicago, Ill. Mechanical movement for working saws, &c.	Aug. 27, 1867.
70, 434	Healy, Nathan T., Medina, N. Y. Harness	Nov. 5, 1867.
	Hearn, Fleming G., and William Bisbee. (See Bisbee & Hearn.)	
66, 151	Heath, George, Little Falls, N. Y. Canal lock	June 25, 1867.
63, 244	Heath, George W., Burlington, Pa. Horse hay fork	Mar. 26, 1867.
63, 634	Same..... same	Apr. 9, 1867.
65, 745	Heath, John E., Niles, Mich. Device for shearing metals	June 11, 1867.
70, 563	Same..... Tool for cutting bolts	Nov. 5, 1867.
66, 337	Heath, Laban, Boston, Mass. Mode of detecting counterfeited bank notes, &c.	July 2, 1867.
	Heath, Lunan, and William Dixon. (See Dixon & Heath.)	
66, 021	Heath, William Edwin, assignor to Joseph Weatherby Bartlett, Great Britain. Torch for lighting gas	June 25, 1867.
66, 338	Heaton, Charles, New York, N. Y. Mode of treating bamboo, cane, and other fibrous plants	July 2, 1867.
68, 363	Same..... Preparing and treating vegetable fibers	Sept. 3, 1867.
71, 003	Heaton, Edward, New Haven, Conn. Shank springs for boots and shoes	Nov. 19, 1867.
64, 766	Heaton, Edward, assignor to C. B. Whittlesey, New Haven, Conn. Suspensory bandages	May 14, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Heaton J., et al. (See Stouffer, Heaton & Bushong.)	
67, 762	Heaton, John, England. Process of converting cast iron into bar iron and steel.....	Aug. 13, 1867.
63, 635	Heaton, Thomas, Cornwall, N. Y. Check rein.....	Apr. 9, 1867.
69, 805	Heaton, Thompson, Farmington, Ill. Carriage tongue-holder.....	Oct. 15, 1867.
2, 664	Hebbard, Alonzo, New York, N. Y. Spoon or fork handle..... (Design)	June 4, 1867.
2, 780	Hebbard, Alonzo, assignor to Edward Corning and J. W. Dominick, New York, N. Y. Spoon handle..... (Design)	Sept. 10, 1867.
	Hebbard, Ira A. (See Sebring, T. C., assignor.)	
65, 570	Heberd, A. E., Homer, N. Y. Well tube.....	June 11, 1867.
71, 752	Heckel, Joseph, Decatur, Ill. Composition for coating wooden structures.....	Dec. 3, 1867.
	Heckert, G. A., and H. E. Passmore. (See Passmore & Heckert.)	
	Heckert, William, and James H. Frey. (See Frey & Heckert.)	
2, 488	Hedden, Benjamin F., assignor to Orlando Kelsey and Joshua F. Bailey, New York, N. Y. Piston for steam engines..... (Reissue)	Feb. 19, 1867.
67, 193	Hedden, David B., Newark, N. J. Step ladder.....	July 30, 1867.
70, 564	Heddon, John, Elkhart, Ind. Photographic printing frame.....	Nov. 5, 1867.
61, 426	Hedger, T. D., and W. A., Meadow Lake, Cal. Revolving sluice for saving metals.....	Jan. 22, 1867.
	Hedien, Thomas, et al. (See Valkmar, jr., Charles, assignor.)	
63, 157	Hedrich, Gustave Franz, Buffalo, N. Y. Sash fastener.....	Mar. 26, 1867.
62, 075	Heebner, Josiah D., assignor to self, D. S. and I. D. Heebner, Norritonville, Pa. Horse rake.....	Aug. 27, 1867.
66, 339	Heed, Jacob, Temperanceville, Ohio. Chimney.....	July 2, 1867.
	Heely, Lawrence A. (See Cox, Frederick W., assignor)..... (Reissue)	
63, 516	Heermance, Henry S. Claverack, N. Y. Wagon.....	Apr. 2, 1867.
63, 517	Same..... Umbrella supporter.....	Apr. 2, 1867.
61, 831	Heermance, Herman, Claverack, N. Y. Matting for carpet lining, &c.....	Feb. 5, 1867.
	Hefferman, William C., and Thomas B. Estep. (See Estep & Hefferman.)	
72, 851	Heffron, J. L., Marathon, N. Y. Sled brake.....	Dec. 31, 1867.
67, 112	Heffron, William P., assignor to self and George H. Sayre, Chicago, Ill. Boiler tube cleaner.....	July 23, 1867.
69, 430	Heeson, George, Tecumseh, Mich. Chair seat.....	Oct. 1, 1867.
64, 668	Heflin, A. T., Monmouth, Ill. Cultivator.....	May 14, 1867.
	Hegarty, John, Jersey City, N. J. Portable fountain. (Antedated Oct. 17, 1867).....	Oct. 22, 1867.
64, 103	Hegeman, John, Vischer's Ferry, N. Y. Pontoon boat.....	Apr. 23, 1867.
2, 561	Heidelberg, August, New York, N. Y. Trade mark..... (Design)	Jan. 22, 1867.
71, 753	Heilbrun, Alexander, Cincinnati, Ohio. Stereoscope.....	Dec. 3, 1867.
72, 733	Heimerle, Henry, Buffalo, N. Y. Beer cooler.....	Dec. 31, 1867.
	Heinemann, B., and Henry Pemberton. (See Pemberton & Heinemann.)	
2, 633	Heinigke, Otto, and Moritz Laemmel, Bay Ridge, N. Y. Method of producing mosaic veneers..... (Reissue)	June 4, 1867.
67, 430	Heisey, Samuel L., West Donegal, Pa. Cultivator.....	Aug. 6, 1867.
61, 065	Helfricht, William, Philadelphia, Pa. Passenger register.....	Jan. 8, 1867.
63, 245	Same..... same.....	Mar. 26, 1867.
68, 984	Hellen, Clifton, Washington, D. C. Egg cup and tongs.....	Sept. 17, 1867.
69, 665	Same..... Egg cup.....	Oct. 8, 1867.
64, 529	Hellen, W. F., Washington, D. C. Skate sharpener.....	May 7, 1867.
66, 492	Same..... Egg tongs.....	July 9, 1867.
69, 806	Hellings, N., Philadelphia, Pa. House for preserving fruits and other articles.....	Oct. 15, 1867.
65, 571	Helm, Henry, Pittsburg, Pa. Feed cutter.....	June 11, 1867.
67, 650	Helms, Charles H., Poughkeepsie, N. Y. Heel-press for boots. (Antedated April 1, 1867).....	Aug. 13, 1867.
72, 038	Helmstaedter, Adam, Newark, N. J. Piano lock.....	Dec. 10, 1867.
60, 724	Helton, Michael W., and James H. Redfield, Bloomington, Ind. Grinding mill.....	Jan. 1, 1867.
61, 066	Hemenway, Jason, Deerfield, Mich. Water wheel.....	Jan. 8, 1867.
65, 671	Hempel, Herrman, New York, N. Y. Button-hole cutter.....	June 11, 1867.
	Henderson, F., and W. Steele. (See Steele & Henderson.)	
62, 418	Henderson, Isaac, Philadelphia, Pa. Fire escape ladder.....	Feb. 26, 1867.
	Henderson, James A., and John Hafer. (See Hafer & Henderson.)	
70, 090	Henderson, James L., Covington, Ky. Frame-work for fireplaces.....	Oct. 22, 1867.
2, 458	Henderson, Joseph C., Albany, N. Y. Cooking stove..... (Division A. Reissue)	Jan. 15, 1867.
2, 459	Same..... Heating and other stoves..... (Division B. Reissue)	Jan. 15, 1867.
63, 246	Henderson, Richard B., Warren county, N. C. Cotton cultivator.....	Mar. 26, 1867.
64, 104	Henderson, Thos. N., ass'or to Henderson & Cooley, Jackson, Mich. Horse hay fork.....	Apr. 23, 1867.
66, 022	Henderson, William, and J. Greenawalt, Pittsburg, Pa. Abdominal supporter.....	June 25, 1867.
66, 708	Henderson, W. H., Litchfield, Ill. Sorghum evaporator.....	July 16, 1867.
63, 564	Henderson, William H., Franklin, Ind. Boiler for culinary purposes.....	Sept. 3, 1867.
65, 914	Henderson, William M., Philadelphia, Pa. Steam pump.....	June 18, 1867.
71, 004	Hendrick, E. E., Carbondale, Pa. Method of drying gunpowder.....	Nov. 19, 1867.
69, 431	Hendrick, John H., assignor to self and James O'Donald, Clinton, Ill. Beehive.....	Oct. 1, 1867.
61, 483	Hendricks, Peter, Floris, Iowa. Bridge.....	Nov. 26, 1867.
61, 193	Hendricks, William W., assignor to the Cooper Fire-arms Manufactory, Philadelphia, Pa. Skate.....	Jan. 15, 1867.
64, 012	Hendrickson, David W., New York, N. Y. Blast furnace.....	Apr. 23, 1867.
71, 754	Same..... Manufacture of iron.....	Dec. 3, 1867.
68, 565	Hendrickson, David W., and James P. McLean, assignors to David W. Hendrickson, New York, N. Y. Blast furnace for making iron.....	Sept. 3, 1867.
63, 046	Hendrickson, E. M., Brooklyn, N. Y. Construction of safes.....	Mar. 19, 1867.
54, 315	Hendrickson, Stephen C., New York, N. Y. Telegraph insulator. (Antedated April 24, 1867).....	Apr. 30, 1867.
	Henry, John, and Alexander Clow. (See Clow, Alexander, assignor.)	
	Hendry, T. C., et al. (See Wortham, Notley W., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Hendryx, A. B., and H. A. Shipman. (See Shipman & Hendryx.)	
62, 419	Heneage, Robert, Buffalo, N. Y. Propelling car brake.....	Feb. 26, 1867.
68, 875	Same..... Car brake and starter.....	Sept. 17, 1867.
61, 554	Heneage, Robert, George Milson and Henry Spendelow, Buffalo, N. Y. Combined pulley and cable.....	Jan. 29, 1867.
68, 439	Henfield, George Hardy, San Francisco, Cal. Car coupling.....	Sept. 3, 1867.
62, 330	Heninger, George, Lena, Ill. Suspending pendulums of clocks.....	Feb. 26, 1867.
63, 047	Henkel, Curran W., Washington Court House, Ohio. Corn planter.....	Mar. 19, 1867.
72, 734	Hennessey, Edward, Washington county, D. C. Bricks for curved masonry work.....	Dec. 31, 1867.
62, 031	Henney, Thomas, Dubuque, Iowa. Heating stove.....	Feb. 12, 1867.
71, 171	Same..... Hot air stove.....	Nov. 19, 1867.
64, 866	Henry, B. T., New Haven, Conn. Carriage spring.....	May 21, 1867.
69, 432	Henry, James W., Peconica, Ill. Hay raker and loader.....	Oct. 1, 1867.
62, 032	Henry, John, Jersey City, N. J. Printing press.....	Feb. 12, 1867.
67, 542	Henry, John C., Point Douglas, Minn. Plow.....	Aug. 6, 1867.
68, 195	Henry, J. S., and A. H. Reist, Manheim, Pa. Horse hay fork.....	Aug. 27, 1867.
72, 735	Henry, John T., Hamden, Conn. Sheep shears.....	Dec. 31, 1867.
71, 386	Henry, R. P., Akron, Ohio. Roofing.....	Nov. 26, 1867.
	Henry, R. W., and E. K. Wood. (See Wood & Henry.)	
67, 194	Henshall, William H., Philadelphia, Pa. Tube hole cutter.....	July 30, 1867.
69, 433	Honshaw, Foster, Washington, D. C. Filter.....	Oct. 1, 1867.
2, 634	Heppenstall, William, assignor through mesne assignments to J. E. Lucas, J. P. Arey, and Charles G. Howard, Springfield, Mass. Skirt..... (Reissue)	June 4, 1867.
62, 487	Hepperly, John H., Elmira, Ill. Combined hedge trimmer and mower.....	Feb. 26, 1867.
70, 714	Herbster, E., assignor to self, T. Tripp, and E. F. Brown, Chicago, Ill. Sash fastener.....	Nov. 12, 1867.
69, 563	Herde, August, Baltimore, Md. Instrument for wrenching bungs out of barrels.....	Oct. 8, 1867.
66, 023	Herman, Conrad, Baltimore, Md. Device for closing bottles.....	June 25, 1867.
62, 196	Hernance, Charles, Schuylerville, N. Y. Gate hinge.....	Feb. 19, 1867.
60, 890	Hernance, Charles W., Albany, N. Y. Manufacture of soap.....	Jan. 1, 1867.
69, 914	Hernance, L., Hudson, N. Y. Gate.....	Oct. 15, 1867.
	Hernance, Robert. (See Downing, George, assignor.)	
62, 268	Hernance, William G., Albany, N. Y. Lifting jack.....	Feb. 19, 1867.
2, 713	Hermann, August, New Haven, Conn. Apparatus for discharging bilge water from vessels' holds..... (Reissue)	Aug. 6, 1867.
66, 960	Hermann, Frederick, Grafton, Mich. Cross head for saw mills.....	July 23, 1867.
	Hermann, L., and R. M. Webb. (See Webb & Hermann.)	
	Herold, Charles. (See Morganstern, William, assignor.)	
70, 435	Heron, George H., assignor to self and Samuel E. Day, Washington, D. C. Mode of preparing fish for food. (Antedated Oct. 26, 1867.)	Nov. 5, 1867.
	Herrick, B. B., and J. Thompson. (See Thompson & Herrick.)	
63, 386	Herrick, C. F., Independence, Iowa. Curtain support.....	Apr. 2, 1867.
67, 876	Same..... Curtain fixture.....	Aug. 20, 1867.
	Herrick, Gardner. (See Brown, Anson R., assignor.)	
66, 236	Herrick, George E., Lynn, Mass. Seed planter.....	July 2, 1867.
63, 124	Herrick, Hiram, Boston, Mass. Piano-forte action.....	Feb. 19, 1867.
	Herrick, H. F., and H. G. Pope. (See Pope & Herrick.)	
67, 195	Herrick, Seth W., and Charles G. Gilbert, jr., Salem, N. J. Machinery for preparing floor oil cloth.....	July 30, 1867.
66, 340	Herrick, Stephen H., Grinnell, Iowa. Cultivator.....	July 2, 1867.
60, 725	Herrick, Webster, Northampton, Mass. Saw mill.....	Jan. 1, 1867.
2, 577	Herriet, Julius, ass't to David Wolfe Bruce, New York, N. Y. Printers' type..... (Design)	Feb. 12, 1867.
2, 578	Same..... same..... (Design)	Feb. 12, 1867.
2, 832	Same..... same..... (Design)	Nov. 19, 1867.
70, 211	Herring, George W., Bangor, Me. Water wheel.....	Oct. 29, 1867.
2, 639	Herrington, E. F. and J., assignors through mesne assignments to Charles C. More, Pittstown, N. Y. Mowing machine..... (Reissue)	June 4, 1867.
68, 876	Herrinton, David B., Detroit, Mich. Hanging grindstones.....	Sept. 17, 1867.
62, 747	Herrmann, Francis, Newport, Ky. Spring hinge.....	Mar. 12, 1867.
68, 741	Herschchaft, Christopher, Brooklyn, N. Y. Feed regulator for spinning machines.....	Sept. 10, 1867.
64, 865	Hersee, jr., Thompson, Buffalo, N. Y. Attaching thills to vehicles.....	May 21, 1867.
	Hersey, Charles H., and Charles Spofford. (See Spofford & Hersey.)	
	Hersey, Charles H., and Francis E., et al. (See Spofford, Charles, assignor.)	
62, 846	Hersey, Edmund, Hingham, Mass. Machine for cutting beads and bottoms of wooden boxes.....	Mar. 12, 1867.
69, 094	Hershey, B., Erie, Pa. Wagon spring.....	Sept. 24, 1867.
63, 387	Hershey, P. J., Clarence, N. Y. Well tube.....	Apr. 2, 1867.
66, 837	Herthal, August, Bridgeport, Conn. Knife and scissors sharpener.....	July 16, 1867.
71, 484	Herthal, jr., George P., St. Louis, Mo. Truss bridge.....	Nov. 26, 1867.
	Herthal, jr., George P., and Henry Flad. (See Flad & Herthal.)	
	Hervey, Horace L., and John M. Crawford. (See Crawford & Hervey.)	
62, 331	Hess, David, Pittsburg, Pa. Washing fluid.....	Feb. 26, 1867.
64, 867	Hess, Frederick, Baltimore, Md. Fastening for shirt collars.....	May 21, 1867.
72, 852	Hess, George H., Chicago, Ill. Weeding machine.....	Dec. 31, 1867.
66, 083	Hesse, F. C., Cincinnati, Ohio. Hot air furnace.....	June 25, 1867.
69, 564	Hesse, Frederick G., San Francisco, Cal. Amalgamator.....	Oct. 8, 1867.
70, 839	Same..... same.....	Nov. 12, 1867.
65, 809	Hesselbacher, Oswald, and Henry Moesta, Detroit, Mich. Lemon squeezer.....	June 18, 1867.
66, 084	Hessler, Jacob J., Reading, Pa. Curtain fixture.....	June 25, 1867.
69, 210	Hester, J. G., Raleigh, N. Y. Burning fluid.....	Sept. 24, 1867.
63, 220	Heth, Albert, and Gaylon Hall, Adams, N. Y. Clutch.....	May 28, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 961	Heuermann, John, Davenport, Iowa. Fire escape	July 23, 1867.
60, 726	Heuser, Louis, Boston, Mass. Machine for embossing consecutive numbers	Jan. 1, 1867.
	Hewett, E. M., and A. J. Mills. (See Mills & Hewett.)	
62, 269	Hewitt, Frederic, Newark, N. J. Windmill	Feb. 19, 1867.
	Hey, jr., Isaac. (See Messmer, Henri, assignor.)	
62, 332	Hayden, A. V., Milwaukee, Wis. Bag holder	Feb. 26, 1867.
63, 247	Heydrick, W. H. H., Chestnut Hill, Pa. Steam gang plow	Mar. 26, 1867.
	Heydt, George. (See Schafer, Joseph, assignor.)	
71, 755	Heyen, D. H., New York, N. Y. Life preserver	Dec. 3, 1867.
62, 506	Heyl, Carl Otto, assignor to Rudolph Sieg, Prussia. Apparatus for extracting oil from animal and vegetable substances	Sept. 3, 1867.
63, 794	Heyl, John A., Boston, Mass. Railway switch	Apr. 16, 1867.
62, 197	Heywood, Charles L., Boston, Mass. Railway safety guard	Feb. 19, 1867.
72, 291	Heywood, Levi, Gardner, Mass. Machine for splitting ratan	Dec. 17, 1867.
72, 292	Same.....Machines for bending wood	Dec. 17, 1867.
72, 293	Same.....same	Dec. 17, 1867.
72, 634	Heywood, Levi, ass'r to Heywood Brothers & Co., Gardner, Mass. Wooden chair seat	Dec. 24, 1867.
72, 635	Same.....Revolving chair	Dec. 24, 1867.
61, 832	Hibbard, Jerome, Prospect Lake, Michigan. Gate	Feb. 5, 1867.
	Hibbert, James, assignor to Walter Aiken, Franklin, N. H. Knitting-machine needle	Sept. 30, 1867.
	(Disclaimer)	
	Hibbs, A. J., and R. M. Holland. (See Holland & Hibbs.)	
67, 651	Hibler, Benjamin H., assignor to self and the Pittsburg & McKeesport Car Company, McKeesport, Pa. Tuyere for blast furnaces	Aug. 13, 1867.
71, 485	Hickel, Sanford A., Spencer, Pa. Enamel for leather	Nov. 26, 1867.
68, 742	Hickman, Gibbons G., Coatesville, Pa. Washer for bolts. (Antedated Sept. 7, 1867)	Sept. 10, 1867.
69, 341	Hickman, G. G., assignor to self, Francis H. Wright, and John Criswell, Coatesville, Pa. Device for preventing horses from cribbing	Oct. 1, 1867.
70, 715	Hiekkok, W. O., Harrisburg, Pa. Paper ruling machine	Nov. 12, 1867.
	Same.....(See Francis, Lewis, assignor.)	
63, 248	Hicks, Edward, North Hempstead, N. Y. Elevator	Mar. 26, 1867.
69, 434	Same.....Suspension hook for horse hay forks	Oct. 1, 1867.
61, 937	Hicks, Horatio F., Grand View, Ind. Steering apparatus	Feb. 12, 1867.
2, 802	Hicks, Isaac, Hartford, Wis. Stump extractor	Nov. 19, 1867.
66, 588	Hicks, L. S., Omro, Wis. Carpet fastener	July 9, 1867.
63, 636	Hicks, Thomas R., New Britain, Conn. Vent plug	Apr. 9, 1867.
72, 636	Hicks, William C., New York, N. Y. Apparatus for grinding and polishing cylindrical concave surfaces	Dec. 24, 1867.
2, 777	Hicks, William S., New York, N. Y. Pen and pencil case	Feb. 12, 1867.
	Same.....(See Ryne, Richard H., assignor.)	
	Same.....same.	
	Hicks, Wolfe & Company. (See Pramer, Nelson, assignor.)	
70, 436	Hidden, Enoch, New York, N. Y. Side light for ships	June 20, 1867.
64, 669	Hiestand, Jesse, Palestine, Ill. Beehive	Nov. 5, 1867.
70, 565	Higbie, John, Rondout, N. Y. Manufacture of vinegar	May 14, 1867.
70, 006	Higdon, Philip, Lewisport, Ky. Hoisting apparatus	Nov. 5, 1867.
70, 566	Higginbotham, Theophilus, assignor to self, John Parsons, and Eberhard Faber, Her- nando, Fla. Fibrous material	Nov. 19, 1867.
71, 005	Higgins, C. W., Waukesha, Wis. Children's carriage and cradle	Nov. 5, 1867.
	Higgins, John M., deceased, by W. B. Cubertson, administrator, St. Louis, Mo. Lighting gas by electricity	Nov. 19, 1867.
68, 626	Higgins, Marchand & Company. (See Marchand, Charles E., assignor) .. (Design.)	
2, 460	Higgins, Matthew T. (See Driggs, Jehiel C., assignor.)	
	Same.....(See Neale, James, assignor.)	
	Higgins, Oscar T., et al. (See Mason, J. M., assignor.)	
	Highbarger, John, Sharpsburg, Md. Washing machine	Sept. 10, 1867.
62, 198	Higley, Aaron, South Bend, Ind. Method of braking and starting railway cars	Jan. 15, 1867.
62, 199	Same.....Car brakes	Feb. 19, 1867.
62, 247	Same.....same	Feb. 19, 1867.
62, 651	Same.....same	Mar. 12, 1867.
72, 294	Higley, O., and S. Toothaker, Fredonia, Ohio. Wagon-tongue supporter	Mar. 5, 1867.
72, 994	Higuatt, J. E., Denton, Md. Cinder shovel	Dec. 17, 1867.
64, 105	Hilbert, Benjamin, Cincinnati, Ohio. Lubricator for machinery	Apr. 23, 1867.
66, 538	Hilbert, B., New York, N. Y. Device for making centers for watch cases	July 16, 1867.
65, 672	Hilbright, F. L., and F. Reynolds, Newark, N. J. Rosette	June 11, 1867.
	Hildenbrand, Henry, and August Schrick. (See Schrick & Hildenbrand.)	
	Hildreth, Edwin A., and George E. Burt. (See Burt & Hildreth.)	
	Hildreth, H. A. (See Johnson, W. J., assignor.)	
61, 194	Hildreth, H. A., and W. J. Johnson. (See Welch, Dan., assignor.)	
	Hildreth, H. R., and W. H. Smith, assignors to H. R. Hildreth, G. B. Hobbs, and John Dibblee, Dutch Flat, Cal. Material for stuffing mattresses and for other purposes	Jan. 15, 1867.
67, 543	Hiler, William, Branchport, N. Y. Straw carrier	Aug. 6, 1867.
68, 743	Hilgar, George, Brownington, Pa. Sheep shears	Sept. 10, 1867.
66, 589	Hill, Albert V., Limestone, N. Y. Tug trimmer	July 9, 1867.
	Hill, Ambrose. (See Polley, Starr, assignor.)	
61, 427	Hill, Cyrus, Dover, Maine. Composition for roofing	Jan. 22, 1867.
61, 540	Hill, Edward A., Chicago, Ill. Apparatus for instruction in telegraphing	Jan. 22, 1867.
2, 502	Same.....Galvanic battery	Mar. 12, 1867.
67, 052	Hill, Edward J., Milwaukee, Wis. Mode of putting up matches	July 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 637	Hill, Edward J., Milwaukee, Wis. Manufacture of matches. (Antedated Aug. 10, 1867)	Dec. 24, 1867.
72, 492	Hill, Edwin A., Quincy, Mass. Machine for punching rubber inner soles.	Dec. 24, 1867.
70, 567	Hill, F. B., Cleveland, O., and W. H. McCoy, Des Moines, Iowa. Lamp extinguisher.	Nov. 5, 1867.
64, 670	Hill, George A., and Conrad Lohnes, assignors to selves and James M. Harner, Springfield, Ohio. Seed planter.	May 14, 1867.
	Hill, George B., and Lewis Thierry. (See Thierry & Hill.)	
71, 486	Hill, Henry, and L. E. P. Bush, Lexington, Ky. Apparatus for killing insects	Nov. 26, 1867.
67, 301	Hill, H. N., Pontiac, Mich. Corn husker	July 30, 1867.
61, 336	Hill, Increase S., Boston, and Andrew Burnham, Chelsea, Mass., assignors to Louis Osborne. Apparatus for detaching boats	Jan. 22, 1867.
71, 876	Hill, James B., Allegheny City, Pa. Apparatus for draining sugar	Dec. 10, 1867.
71, 877	Same. Centrifugal machine for draining sugar	Dec. 10, 1867.
70, 716	Hill, Jason, England. Wrapper for needles	Nov. 12, 1867.
68, 507	Hill, J. D., Fort Scott, Kansas. Gathering and husking corn	Sept. 3, 1867.
71, 387	Hill, John J., Sodus Point, N. Y. Clamp for planking ship sides or floors	Nov. 26, 1867.
64, 013	Hill, Lucian, North Brookfield, Mass. Fan	Apr. 23, 1867.
62, 848	Hill, Lucian, assignor to Lawson M. Hill, North Brookfield, Mass. Corset clasp	Mar. 12, 1867.
71, 615	Hill, Lysander, Alexandria, Va. Automatic cleat for sail boats	Dec. 3, 1867.
61, 833	Hill, Philip, assignor to self and W. B. Curry, Philadelphia, Pa. Damping apparatus. (Antedated Jan. 28, 1867)	Feb. 5, 1867.
72, 295	Hill, Robert F., Philadelphia, Pa. Burial case	Dec. 17, 1867.
71, 878	Hill, Samuel L., Brooklyn, N. Y. Card holder	Dec. 10, 1867.
2, 528	Hill, Samuel L., assignor to self, Albert Palmer, and A. Sidney Doane, Williamsburg, N. Y. Spelling block (Reissue)	Mar. 26, 1867.
62, 630	Hill, Sylvester B., assignor to self and F. E. Drake, Chicopee, Mass. Wrench	Mar. 5, 1867.
	Hill, Wallace, and H. J. Cox. (See Cox & Hill.)	
68, 196	Hill, Warren S., Manchester, N. H. Sewing machine	Aug. 27, 1867.
	Hill, William, et al. (See Myers & Hill.)	
70, 335	Hill, William, and James A. Harpham, Havana, Ill. Corn harvester	Oct. 29, 1867.
71, 616	Hillebrand, L., assignor to self, E. Liebrich, and D. Wolf, Philadelphia, Pa. Door spring	Dec. 3, 1867.
70, 840	Hillegass, W. G., Philadelphia, Pa. Pencil holder for compasses	Nov. 12, 1867.
72, 200	Hillman, A., assignor to Thomas R. and Samuel S. Fuller, and James S. McMurray, England. Car coupling	Dec. 17, 1867.
	Hills, L. S., and C. L. W. Baker. (See Baker & Hills.)	
69, 995	Hilt, Mary Ann, Syracuse, N. Y. Medical compound. (Antedated Oct. 12, 1867)	Oct. 22, 1867.
66, 709	Hilton, A. J. H., assignor to Joseph A. Robbins and William L. Thompson, Boston, Mass. Breech-loading fire-arms	July 16, 1867.
	Hilton, Brice, and Ephraim and Zedekiah Dawson. (See Dawson & Hilton.)	
	Hilton, B. S. (See Thirault, Alexis, assignor.)	
71, 007	Hilton, Richard H., assignor to Mitchell, Allen & Co., Newbern, N. C. Air chamber of pumps	Nov. 19, 1867.
	Hilton, Samuel K. (See Martin, John R., assignor.)	
	Hilton, William D. (See Paine, Calvin H., assignor.)	
	Same. same.	
	Same. same.	
69, 342	Hilts, Anthony, jr., Springdale, Ohio. Harvester	Oct. 1, 1867.
71, 879	Hiltz, Martin, Gloucester, Mass. Fishing-line swivel	Dec. 10, 1867.
72, 039	Himbery, John B., Frederick City, Md. Tuyere	Dec. 10, 1867.
2, 821	Himes, Elizabeth, New Albany, Ind. Reflector (Design)	Nov. 5, 1867.
	Hinchman, Charles S. (See Hart, L. M., assignor.)	
70, 212	Hindermyer, Anthony J., Rohrerstown, Pa. Method of piling, heating, and fluxing ragots for railroad rails	Oct. 29, 1867.
65, 221	Hindle, Charles, Brooklyn, N. Y. Governor	May 28, 1867.
61, 428	Hindman, J., Olathe, Kansas. Corn husker	Jan. 22, 1867.
61, 195	Hindmarsh, John, Henry, Ill. Corn plow	Jan. 15, 1867.
64, 671	Hinds, William H., Groton, Mass. Flame regulator and extinguisher for lamps. (Antedated May 6, 1867)	May 14, 1867.
67, 113	Hines, D. S., Brooklyn, N. Y. Hydraulic crane	July 23, 1867.
63, 249	Hines, Dauphin S., assignor to John J. Crooke, Brooklyn, N. Y. Manufacture of lead foil covered with tin	Mar. 26, 1867.
64, 531	Same. Making tin-coated foil	May 7, 1867.
	Hines, Washington I., and Benjamin K. Dorwart. (See Dorwart & Hines.)	
63, 979	Hinkle, Philip, assignor to self and Charles S. Capp, San Francisco, Cal. Machine for grinding and amalgamating ores	Apr. 16, 1867.
66, 024	Hinkley, Charles, Williamsville, N. Y. Lime kiln	June 25, 1867.
72, 040	Hinks, James and Joseph, England. Lamp for burning petroleum	Dec. 10, 1867.
	Hinman, Egbert, and Eli H. Lord. (See Lord & Hinman.)	
2, 751	Hinman, N. D., Stepney Depot, Conn. Elevator (Reissue)	Aug. 20, 1867.
70, 715	Same. Clutch for hay elevators	Nov. 12, 1867.
70, 437	Hinman, Portius M., Rochester, N. Y. Mode of preventing tin-ware from rusting	Nov. 5, 1867.
68, 568	Hipp, G. F., and J. B. Fast, Nova, Ohio. Hay elevator	Sept. 3, 1867.
70, 841	Hirlinger, John M., Red Rock, Pa. Steam engine	Nov. 12, 1867.
73, 842	Same. Pump	Nov. 12, 1867.
72, 041	Same. Device for lashing and binding	Dec. 10, 1867.
63, 890	Hirschy, John F., and William M. McDonald, assignors to selves and A. McDonald, Wooster, Ohio. Harvester rake	Apr. 16, 1867.
64, 671	Hirzel, H. Inrich, Saxony. Apparatus for producing gas from petroleum	May 14, 1867.
60, 891	Hise, Henry, Ottawa, Ill. Conductors' ticket box	Jan. 1, 1867.
63, 048	Hiserodt, Edward, Washington, Ill. Railroad crossing	Mar. 19, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 440	Hisert, Benjamin F., assignor to self and George W. King, Norton Hill, N. Y. Cultivator teeth.	Sept. 3, 1867.
	Hisner, John, and Wilson M. Baker. (See Baker & Hisner.)	
61, 938	Hitchcock, Alonzo, New York, N. Y. Machine gearing. (Antedated Jan. 30, 1867)	Feb. 12, 1867.
2, 544	Hitchcock, David K., Boston, Mass. Medal. (Design)	Jan. 8, 1867.
2, 545	Same. same. (Design)	Jan. 8, 1867.
	Hitchcock, Harmon, et al. (See Loomis, Wells, Hitchcock & Stryker.)	
	Hitchcock, James R. (See Hughes, John, assignor.)	
	Hitchcock, Jonathan, and Isaac D. Hazen. (See Hazen & Hitchcock.)	
71, 172	Hitchcock, J. Warren, and James K. Deys, Morrisville, N. Y. Corn planter.	Nov. 19, 1867.
	Hitchcock, Luke R., and T. Rice. (See Rice & Hitchcock.)	
67, 877	Hitchcock, Robert, Springfield, Mass. Car ventilator.	Aug. 20, 1867.
64, 316	Hitchcock, Robert, assignor to John Mulligan and John H. Hare, Springfield, Mass. Guide for axle boxes.	Apr. 31, 1867.
64, 221	Hitchens, James, Nevada City, Cal. Quartz mill.	Apr. 30, 1867.
67, 053	Hitchings, Charles F., New York, N. Y. Boiler for heating buildings.	July 23, 1867.
61, 067	Hittell, John S., San Francisco, Cal. Washing machine.	Jan. 8, 1867.
	Hittinger, Michael. (See Rawson, George W., assignor.)	
63, 891	Hoadley, Robert, assignor to N. C. Stiles, S. S. Wilcox, E. N. Crocker, F. O. and W. W. Tucker, Ansonia, Conn. Spinning top.	Apr. 16, 1867.
67, 054	Hoag, John B., Oxford, Ill. Horse rake.	July 23, 1867.
	Hoag, W. H. (See Teller & Savage, assignors.)	
67, 302	Hoagland, G. H., Port Jervis, N. Y. Steam-engine slide valve.	July 30, 1867.
69, 435	Same. Chair.	Oct. 1, 1867.
66, 493	Hoagland, H. R., Montezuma, N. Y. Thill attachment.	July 9, 1867.
68, 744	Hoagland, J. P., and George E. Moser, Centralia, Pa. Combined corn sheller and fanning mill.	Sept. 10, 1867.
61, 429	Hoar, John S., West Acton, Mass. Bench vise.	Jan. 22, 1867.
2, 606	Same. Vise. (Reissue)	May 14, 1867.
63, 081	Hoar, John S., assignor to self, C. Hastings, and N. C. Cutter, West Acton, Mass. Vise.	May 28, 1867.
	Hoard, J. W. (See Brayton, George B., assignor.)	
	Hoard, J. W. (See Young, Solomon W., assignor.)	
	Hoard, J. W., et al. (See Young, Solomon W., assignor.)	
	Same. same.	
	Same. (See Brayton, George B., assignor.)	
	Hoard, J. W., and S. W. Young. (See Young & Hoard.)	
	Hobart, Joseph. (See Rollin, Daniel G., assignor) (Reissue)	
64, 532	Hobbs, Alfred, West Cambridge, Mass. Steam-engine slide valve.	May 7, 1867.
67, 544	Hobbs, A. C., Bridgeport, Conn. Sewing machine.	Aug. 6, 1867.
	Hobbs, G. B., et al. (See Hildreth & Smith, assignors.)	
	Hobbs, J. H., Brockunier & Company, (See Reighard, J. H., assignor.)	
62, 230	Hobson, W. J., Savannah, Mo. Corn planter.	Feb. 19, 1867.
	Same. (See Southard, A. M., assignor.)	
62, 631	Hochapfel, Jean and George, France. Tobacco pipe.	Mar. 5, 1867.
70, 843	Hockert, S. L., assignor to self and Jared Thompson, sr., Chicago, Ill. Menstrual receiver.	Nov. 12, 1867.
67, 114	Hodge, Hial, and Joseph P. Noyes, assignors through mesne assignments to Samuel S. White, Binghamton, N. Y. Automatic dental mallet.	July 23, 1867.
61, 939	Hodge, Thomas B., assignor to self and D. McCaine, Francistown, N. H. Harness clamp.	Feb. 12, 1867.
	Hodges, A. S. (See Smith, John R., assignor.)	
72, 638	Hodges, Charles M., assignor to self, William O. Capron, and Nathaniel Whitmore, Mansfield, Mass. Sythe. (Antedated June 10, 1867)	Dec. 24, 1867.
70, 091	Hodges, I. Wilson, Baltimore, Md. Horse shoe.	Oct. 23, 1867.
	Hodges, J. W., et al. (See Stayman, A. F., assignor.)	
67, 545	Hodgins, Samuel, assignor through mesne assignments to Samuel B. Tucker and M. James Barwick, St. Louis, Mo. Spiral fissure needle.	Aug. 6, 1867.
2, 745	Hodgkins, Christopher, Marlboro', N. H. Sewing machine. (Division A. Reissue)	Aug. 20, 1867.
2, 746	Same. Sewing machine. (Division B. Reissue)	Oct. 8, 1867.
69, 666	Same. same.	Nov. 19, 1867.
71, 008	Hodson, George P. and James L., Philadelphia, Pa. Shaft coupling.	Nov. 12, 1867.
70, 718	Hoe, Peter S., New York, N. Y. Pocket cutlery.	
	Hoe, R. & Co. (See Snow, George K., assignor) (Reissue)	
67, 763	Hoeing, Charles F., assignor to self and Daniel Gilcher, Hudson City, N. J. Medicine for cure of fever.	Aug. 13, 1867.
64, 418	Hoepfner, F. G., ass'or to self and Chas. Burchardt, New York, N. Y. Velocipede.	May 7, 1867.
65, 222	Hoert, Jacob, New York, N. Y. Bedstead.	May 28, 1867.
71, 756	Hofer, John J., New Orleans, La. Nozzle for fire engines.	Dec. 3, 1867.
68, 877	Hofer, T. G., St. Louis, Mo. Vegetable slicer and grater.	Sept. 17, 1867.
60, 892	Hoffeditz, J. C., Mercersburg, Pa. Cultivator.	Jan. 1, 1867.
60, 893	Same. Mode of attaching cultivator teeth.	Jan. 1, 1867.
2, 490	Hoffheins, Reuben, Dover, Pa. Harvester. (Division I. Reissue)	Feb. 19, 1867.
	Hoffman & Fersch. (See Fersch, Caspar, assignor) (Design)	
	Hoffman, Frederick B. (See White, Napoleon Bonaparte, assignor.)	
	Hoffman, Henry, Jenner's Cross roads, Pa. Coffin. (Design)	
2, 713	Hoffman, J. B., Philadelphia, Pa. Dry gas regulator.	July 30, 1867.
71, 757	Hoffman, Louis and Augustus A., Buffalo, N. Y. Boot heel.	Dec. 3, 1867.
63, 487	Hoffman, Peter, Jersey City, N. J. Tool for cutting off boiler tubes.	June 4, 1867.
63, 250	Hoffman, William Pitt, San Francisco, Cal. Window blind.	Mar. 26, 1867.
68, 076	Hoffmann, Fred. W., Morrisania, N. Y. Machine for cutting off the ends of cigars.	Aug. 27, 1867.
68, 441		Sept. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 436	Hoffmann, Peter, Constableville, N. Y. Lamp.....	Oct. 1, 1867.
68, 627	Hoffmann, Richard, New York, N. Y. Rocking chair.....	Sept. 10, 1867.
69, 727	Hofmann, Ernst F., Poughkeepsie, N. Y. Window latch.....	Jan. 1, 1867.
65, 382	Same.....Pessary.....	June 4, 1867.
66, 710	Hofmann, William F., Philadelphia, Pa. Window-shutter holder.....	July 16, 1867.
62, 849	Hofstetter, jr., T., New York, N. Y. Anger.....	Mar. 12, 1867.
66, 839	Hogeland, Israel, Lafayette, Ind. Washing and wringing machine.....	July 16, 1867.
	Hogg, William. (See Marsh, Augustus, assignor.)	
69, 807	Hoke, George H., and John A. Brown, Elizabeth, Ind. Baling press.....	Oct. 15, 1867.
68, 077	Hoke, Samuel, Mt. Pleasant township, Md. Machine for distributing fertilizers.....	Aug. 27, 1867.
70, 336	Hoke, Seth, assignor to self and Val. Thompson, Union City, Ind. Animal trap.....	Oct. 29, 1867.
71, 009	Holbrook, E. A., John E. Dodge, and G. H. Marshall, Watertown, N. Y. Window-blind fastener.....	Nov. 19, 1867.
	Holbrook, Frank F. (See Matthews, Elbridge G., assignor.)	
69, 095	Holcomb, C. J., Macon, Mo. Hemming guide for sewing machines.....	Sept. 24, 1867.
66, 494	Holcomb, Henry, Painesville, Ohio. Automatic feed for steam pans.....	July 9, 1867.
	Holcomb, Judson, and M. V. Nobles. (See Nobles & Holcomb.)	
66, 025	Holden, D. L., New Orleans, La. Petroleum gas burner for heating purposes.....	June 25, 1867.
69, 667	Holden, Frank, Litchfield, Ill. Horse rake.....	Oct. 8, 1867.
65, 572	Holden, G. Wm., ass'r to self and James P. Upham, Claremont, N. H. Water wheel.....	June 11, 1867.
63, 049	Holden, Humphrey, assignor to self and Alozzo S. Barber, Hartford, Conn. Car coupling.....	Mar. 19, 1867.
66, 341	Holden, H. W., T. J. Mooers, D. H. Stratton, and G. Reynolds, Blossburg, Pa. Roof and clapping board bracket.....	July 2, 1867.
	Holden, James John, and Sealy James Best. (See Best & Holden.)	
71, 617	Same.....England. Gas and other retorts.....	Dec. 3, 1867.
61, 662	Holden, L. E., Cleveland, Ohio. Liquids for carburetting gas and air.....	Jan. 29, 1867.
64, 317	Holdredge, Windsor, Oxford, N. Y. Gate.....	Apr. 30, 1867.
	Holdridge, Arnold H., and Daniel E. Paris. (See Page, Wm. W., assignor.)	
70, 844	Holdridge, D. Cyrus, Lodi, Wis. Tube well.....	Nov. 12, 1867.
	Holgen, George W. (See Altick, James O., assignor.)	
62, 333	Holl, Henry, Philadelphia, Pa. Bottle stopper.....	Feb. 26, 1867.
66, 711	Holland, Robert M., Philadelphia, Pa. Railroad chair and sleeper.....	July 16, 1867.
65, 673	Holland, R. M., and A. J. Hibbs, Philadelphia, Pa. Elastic frame for mosquito-bar netting.....	June 11, 1867.
66, 685	Holland, William H., Chelsea, Mass. Rotary steam engine.....	June 25, 1867.
72, 296	Holden, William H. H., Postoria, Pa. Knitting machine.....	Dec. 17, 1867.
	Holliday, A. D., and L. C. Fisher. (See Fisher & Holliday.)	
64, 868	Hollinger, Jacob, Millersburg, Ohio. Cultivator.....	May 21, 1867.
65, 573	Hollingsworth, James, assignor to J. M. Wanzer, Chicago, Ill. Horse rake.....	June 11, 1867.
64, 869	Hollingsworth, J. W., Salom, Ind. Animal trap.....	May 21, 1867.
66, 342	Hollingsworth, Nathan, Rosetta, Ill. Graduating level.....	July 2, 1867.
63, 892	Hollingsworth, Robert J., Cincinnati, Ohio. Device for seaming sheet-metal cans.....	Apr. 16, 1867.
	Hollister, E. T., et al. (See Crandal, E. M., assignor.)	
	Hollister, W., et al. (See Sinclair, J. A., assignor.)	
61, 430	Hollwede, Charles, and Julius Brzeziusky, New York, N. Y. Muff.....	Jan. 22, 1867.
62, 632	Same.....Block former for muffs.....	Mar. 5, 1867.
64, 977	Holly, Birdsill, Lockport, N. Y. Turbine water wheel.....	May 21, 1867.
2, 738	Holly, George W., Low Moor, Iowa. Method of hanging doors..... (Reissue.)	Aug. 20, 1867.
61, 196	Holly, Henry W., and Sidney L. Geer, Norwich, Conn. Manufacture of artificial slates.....	Jan. 15, 1867.
65, 746	Holly, Solomon T., Rockford, Ill. Grain binders.....	June 11, 1867.
	Holman, Andrew J. (See Butterfield, J. S., assignor)..... (Reissue.)	
	Same.....same..... (Reissue.)	
	Same. (See Young, McClintock, jr., assignor)..... (Reissue.)	
72, 639	Holman, Calvin J., Chicago, Ill. Machine for sawing barrel heading.....	Dec. 24, 1867.
2, 471	Holman, Calvin J., assignor to Sparrow M. Nickerson, Chicago, Ill. Sawing machine..... (Reissue.)	Jan. 29, 1867.
65, 810	Holman, Charles T., Conneautville, Pa. Seed planter.....	June 18, 1867.
61, 431	Holman, D. S., Conneautville, Pa. Seed planter.....	Jan. 22, 1867.
66, 237	Holman, Edward D., Buffalo, N. Y. Fruit jar.....	July 2, 1867.
	Holmes, A. (See Doud, Bernard, assignor.)	
62, 334	Holmes, Arthur, Cortland, N. Y. Preserving wood from decay.....	Feb. 26, 1867.
	Same. (See Warner & Palmer, assignors.)	
63, 893	Holmes, A. J., ass'r to Wells L. Robbins, Saratoga Springs, N. Y. Window cornice.....	Apr. 16, 1867.
	Holmes, Booth & Hayden. (See Hayden, Henry H., assignor)..... (Design.)	
	Same. (See Atwood, L. J., assignor.)	
2, 753	Holmes, B. P., Philadelphia, Pa. Ink bottle..... (Design.)	Aug. 20, 1867.
70, 214	Holmes, Christian, Washington, D. C. Lifting jack.....	Oct. 29, 1867.
63, 158	Holmes, Edwin, New York, N. Y. Electric circuit-breaking clock.....	Mar. 26, 1867.
	Holmes, Elisha H., et al. (See Potter, Henry T., assignor.)	
	Holmes, Griggs & Smith. (See Griggs, Henry C., assignor.)	
	Holmes, Henry, et al. (See Tyler, Samuel W., assignor.)	
61, 098	Holmes, Ira, Moscow, N. Y. Inhaler.....	Jan. 8, 1867.
64, 673	Holmes, James G., Charleston, S. C. Portable water closets or anosmia.....	May 14, 1867.
61, 197	Holmes, John, New York, N. Y. Smoking stand.....	Jan. 13, 1867.
62, 633	Holmes, Josiah, and Charles W. Nickerson, Pittsburg, Pa. Burglar and fire alarm.....	Feb. 12, 1867.
64, 419	Holmes, K. W., McGrawville, and Andrew Albright, Dryden, N. Y. Mode of coating wood with rubber and gutta percha.....	May 7, 1867.
63, 915	Holmes, Nelson, Laona, N. Y. Straw cutter.....	Oct. 15, 1867.
69, 663	Holmes, Samuel R., Salem, Oregon. Washing machine.....	Oct. 8, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Holmes, Thomas. (See Briggs, William, assignor.)	
65, 811	Holmes, Thomas, Bristol, R. L. Water elevator.....	June 18, 1867.
64, 420	Holroyd, William and James, Waterford, N. Y. Machine for cutting screw taps.....	May 7, 1867.
64, 014	Holt, Gardiner L., assignor to self and Jas. M. Thompson, Springfield, Mass. Oiler.....	Apr. 23, 1867.
71, 304	Holt, Henry F., assignor to self, T. C. Abbott, and F. B. Parker, Fredonia, N. Y. Fastening tops for buggies.....	Nov. 26, 1867.
66, 343	Holt, Henry F., assignor to self and Thaddeus C. Abbott, Fredonia, N. Y. Shifting rail for carriages.....	July 2, 1867.
72, 042	Holt, Horace, New York, N. Y. Tool for opening fruit cans.....	Dec. 10, 1867.
63, 159	Holt, John, Lowell, Mass. Method of making dies for figures in press-dyed fabrics.....	Mar. 26, 1867.
61, 222	Holt, John, Chelsea, and Simon G. Cheever, Boston, Mass. Harness hames.....	Apr. 30, 1867.
70, 213	Holt, John P., Cleveland, Ohio. Steam gauge.....	Oct. 29, 1867.
	Holt, S. L., and H. K. Sears. (See Sears & Holt.)	
	Holt, S. W., et al. (See Kennedy, Holt & Gerlach.)	
63, 518	Holt, Thomas, Austria. Steam generator.....	Apr. 2, 1867.
64, 421	Holtzermann, Jacob D., Piqua, Ohio. Bitters.....	May 7, 1867.
67, 055	Holzman, J., New York, N. Y. Extension bedstead.....	July 23, 1867.
70, 845	Homfray, Alfred, England. Machine for making the links of cable and other chains.....	Nov. 12, 1867.
62, 335	Homfray, George, England. Machine for preparing rods for chain links.....	Feb. 26, 1867.
62, 488	Same.....Machine for cutting coiled bars for chain links.....	Feb. 26, 1867.
	Honowell, S. D., et al. (See Baughn, William D., assignor.)	
67, 303	Honrath, Alexander, New York, N. Y. Cork receptacle for bottles.....	July 30, 1867.
62, 748	Hood, A. K. and H. P., Lowell, Mass. Bench dog.....	Mar. 5, 1867.
61, 198	Hood, Phineas B., Milford, N. H. Sad iron.....	Jan. 15, 1867.
67, 546	Höök, Fridolf, San Francisco, Cal. Means for reefing topsails.....	Aug. 6, 1867.
	Hooker, John. (See Wilcox, John, assignor.)	
61, 109	Hooker, William D., assignor to self and Volney Cushing, San Francisco, Cal. Pump valve.....	Jan. 15, 1867.
62, 512	Hooper, John A., South Berwick, Maine. Nutmeg grater.....	Mar. 5, 1867.
68, 985	Hooper, William D., Liberty, Va. Cupping apparatus.....	Sept. 17, 1867.
	Hooper, William E., & Sons. (See Arnold, Benjamin.) (Reissue.)	
60, 728	Hoover, George, and A. N. Hadley, Richmond, Ind. Machine for twisting and reeling spinning.....	Jan. 1, 1867.
69, 211	Same.....Spinning machine.....	Sept. 24, 1867.
	Hoover, Reuben. (See Robison, Jacob, assignor.)	
71, 010	Hope, John, assignor to Hope & Co., Providence, R. I. Pantographic engravers.....	Nov. 19, 1867.
	Hopewell, John C. (See Ryner, William, assignor.)	
69, 669	Hopkins, A. H., Goshen, Ind. Buckle.....	Oct. 8, 1867.
69, 808	Hopkins, Archibald W., New York, N. Y. Metallic chair.....	Oct. 15, 1867.
72, 493	Hopkins, Edward A., Minneapolis, Minn. Door plate and letter box.....	Dec. 24, 1867.
	Hopkins, G. M., and H. B. Lyon. (See Lyon & Hopkins.)	
63, 745	Hopkins, George W. and Elisha, Brooklyn, N. Y. Steam valve for engines.....	Sept. 10, 1867.
2, 664	Hopkins, Harvey L., Eaton, N. Y. Harvester.....	July 2, 1867.
60, 729	Hopkins, H. W., Milford, N. H. Sad stone.....	Jan. 1, 1867.
60, 894	Same.....Butter mould.....	Jan. 1, 1867.
	Hopkins, J. B., and Eli S. Bitner. (See Bitner & Hopkins.)	
61, 200	Hopkins, James R., assignor to self and Jacob O. Joyce, Dayton, Ohio. Filtering, evaporating, and granulating saccharine liquids.....	Jan. 15, 1867.
70, 568	Hopkins, Nicholas, New York, N. Y. Register points for printing presses.....	Nov. 5, 1867.
62, 421	Hopkins, Obadiah, Hackensack, N. J. Road scraper.....	Feb. 26, 1867.
62, 439	Hopkins, Thomas, Cincinnati, Ohio. Cant hook.....	Feb. 26, 1867.
61, 237	Hopkins, William A., New York, N. Y. Can for paint, &c.....	Jan. 22, 1867.
72, 640	Hopkins, William E., Parkman, Ohio. Stave machine.....	Dec. 24, 1867.
69, 437	Hopper, Thomas and Hatfield, Newark, N. J. Steam car brake.....	Oct. 1, 1867.
68, 197	Hopper, W. L., Monmouth, Ill. Device for catching animals.....	Aug. 27, 1867.
62, 336	Hopson, O. L., Waterbury, and H. P. Brooks, Wolcottville, Conn. Machine for pointing and reducing wire. (Antedated February 15, 1867.)	Feb. 26, 1867.
70, 569	Horde, Kellis, assignor to T. H. Alexander, Washington, D. C. Toy.....	Nov. 5, 1867.
71, 011	Horn, Alfred, Silver City, Nevada. Amalgamator.....	Nov. 19, 1867.
65, 747	Horn, Edwin B., Boston, Mass. Stem-winding watches.....	June 11, 1867.
72, 641	Same.....same.....	Dec. 24, 1867.
70, 846	Hornaday, Nelson, West Elkton, Ohio. Door fastening.....	Nov. 12, 1867.
	Hornbeck, Green B., and William Lieb. (See Lieb and Hornbeck.)	
61, 068	Hornberger, William W., Chicago, Ill. Apparatus for forming boilers.....	Jan. 8, 1867.
65, 082	Horne, W. L., Batavia, Ill. Steam water elevator.....	May 28, 1867.
65, 574	Horner, Edwin J., Wilmington, Del. Car spring.....	June 11, 1867.
67, 304	Horner, Joseph, New Brunswick, N. J. Bedstead.....	July 30, 1867.
70, 719	Horner, William J., Cincinnati, Ohio. Scraper.....	Nov. 12, 1867.
68, 509	Hornshy, T. N., Simpsonville, Ky. Manufacture of cannon.....	Sept. 3, 1867.
72, 642	Horr, Otis W., Chicopee, Mass. Lap-seam guide for sewing machines.....	Dec. 24, 1867.
2, 597	Horsford, E. N., assignor, through mesne assignments, to the Rumford Chemical Works, Providence, R. I. Manufacture of phosphoric acid and phosphates for use in the preparation of food, and for other purposes.....	May 7, 1867.
	(Reissue.)	
69, 343	Horton, Augustine E., North Leominster, Mass. Mosquito frame for windows.....	Oct. 1, 1867.
61, 201	Horton, Benjamin F., Ithaca, N. Y. Seeding machine.....	Jan. 15, 1867.
	Horton, C. H. (See Tripp, L. A., assignor.)	
	Horton, Charles O. (See Poinier, Charles P., assignor.)	
70, 720	Horton, Frank, assignor to self and Albert Horton, Silver Creek, N. Y. Hay or cotton press.....	Nov. 12, 1867.
63, 519	Horton, G. W., Belvidere, Ill. Swift and reel.....	Apr. 2, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 748	Horton, Henry B., and M. L. Wood, assignors to the Ithaca Calendar Clock Company, Ithaca, N. Y. Calendar Clock	June 11, 1867.
63, 388	Horton, Jacob C., New York, and Samuel K. Hawkins, Lansingburg, N. Y. Apparatus for measuring fluids	Apr. 2, 1867.
68, 746	Same.....Liquid and fluid meters and mode of operating valves	Sept. 10, 1867.
	Horton, N. H., and John Ames. (See Ames & Horton.)	
66, 086	Hosford, John, Monroeville, Ohio. Harness pad	June 25, 1867.
72, 736	Hoskin, George W., Philadelphia, Pa. Wagon body	Dec. 31, 1867.
2, 633	Hoskin, Robert, assignor to Edward C. Sampson, Brooklyn, N. Y. Floor oil-cloth, or carpet pattern. (Antedated April 6, 1867)	(Design)..... Apr. 30, 1867.
2, 634	Same. (Antedated April 6, 1867)	(Design)..... Apr. 30, 1867.
65, 223	Hoskin, Robert, Brooklyn, N. Y. Floor cloth	May 28, 1867.
2, 785	Same.....Carpet pattern	(Design)..... Sept. 24, 1867.
	Hosmer, A. A., et al. (See Brown, J. Warren, assignor.)	
71, 173	Hoszek, Leonard, New York, N. Y. Ventilating apparatus	Nov. 19, 1867.
61, 621	Hotaling, J. M., Waterport, N. Y. Broom head	Jan. 29, 1867.
60, 730	Hotchkiss, Bennet, assignor to self and Charles Monson, New Haven, Conn. Peat machine	Jan. 1, 1867.
63, 160	Hotchkiss, Bennet, and S. C. Goodsell, New Haven, Conn. Ore crusher	Mar. 26, 1867.
61, 737	Hotchkiss, B. B., New York, N. Y. Snap hook	Feb. 5, 1867.
63, 161	Same.....Railway track	Mar. 26, 1867.
63, 162	Same.....Pavement	Mar. 26, 1867.
63, 894	Same.....Ox bow pin	Apr. 16, 1867.
72, 494	Same.....Combined time and percussion fuze for explosive shells	Dec. 24, 1867.
	Hotchkiss, B. B. (See Whipple, Milton, assignor)	(Reissuc.)
	Hotchkiss, Edward H. (See O'Kane, J., assignor.)	
64, 223	Hotchkiss, James, and Ezra Buss, Springfield, Ohio. Die for brick and tile machines	Apr. 30, 1867.
65, 333	Same.....Brick machine	June 4, 1867.
68, 986	Same.....Brick and tile machine	Sept. 17, 1867.
66, 962	Hotchkiss, S. C., Sylvania, Ohio. Lime kiln	July 23, 1867.
63, 520	Hotchkiss, Truman, assignor to Alfred B. Ely, Stratford, Conn. Friction wheel	Apr. 2, 1867.
71, 880	Houchin, T. W., Morrisiana, N. Y. Implement for lighting gas	Dec. 10, 1867.
66, 344	Houck, Nelson, Canton, Ohio. Railroad gate	July 2, 1867.
63, 895	Houget, Adrien, Belgium. Machine for raising a nap upon cloth	Apr. 16, 1867.
	Hough, David L. (See Burnham, John, assignor.)	
62, 957	Hough, Jacob B., assignor to self and Samuel Braden, Lebanon, Ohio. Doubletree	Mar. 19, 1867.
	Hough, James N. (See Richmond, Isaac C., assignor.)	
64, 224	Houghtelin, Jarvis W., Detroit, Mich. Car-starting apparatus	Apr. 30, 1867.
	Same.....(See Smith, Mortimer L., assignor.)	
64, 015	Houghton, George, Hudson, Mass. Shoe	Apr. 23, 1867.
65, 674	Houghton, H. L., Morrison, Ill. Composition for hardening and preserving wood	June 11, 1867.
64, 978	Houghton, J., New York, and G. Wingfield, Brooklyn, N. Y. Device for perforating cigars	May 21, 1867.
72, 853	House, James A. and Henry A., Bridgeport, Conn. Trunk	Dec. 31, 1867.
67, 652	House, James A. and Henry A., assignors to the Wheeler & Wilson Manufacturing Co., Bridgeport, Conn. Feeding device for sewing machines	Aug. 13, 1867.
67, 653	Same.....Tucking gauge for sewing machines	Aug. 13, 1867.
68, 198	House, J. Carroll, Lowellville, N. Y. Apparatus for agitation of milk in cheese vats	Aug. 27, 1867.
69, 670	Same.....Lamp heater for dental purposes. (Antedated September 25, 1867)	Oct. 8, 1867.
67, 981	Houston, David H., Cam'ria, Wis. Photographic apparatus	Aug. 20, 1867.
	Houston, S. F., and D. C. Bernhardt. (See Bernhardt & Houston.)	
	Houston, W. E., et al. (See Hubbell, George W., assignor.)	
64, 870	Houston, William E., assignor to self, George W. Hubbell, and J. R. Lattin, New Haven, Conn. Hoop skirt	May 21, 1867.
64, 871	Same.....Clasp for hoop skirts	May 21, 1867.
64, 872	Same.....Tape for hoop skirts	May 21, 1867.
64, 873	Same.....same	May 21, 1867.
66, 345	Houston, W. H., New York, N. Y. Boat-detaching apparatus	July 2, 1867.
61, 338	Hover, Joseph E., Philadelphia, Pa. Writing paper	Jan. 22, 1867.
63, 896	Same.....Printing paper	Apr. 16, 1867.
71, 174	Same.....Paste	Nov. 19, 1867.
62, 201	Hover, Lewis, Chicago, Ill. Sad-iron holder	Feb. 19, 1867.
67, 547	Same.....Boat-detaching tackle	Aug. 6, 1867.
62, 423	Hovey, A. E., West Waterford, Vt. Truck	Feb. 26, 1867.
	Hovey, C. F., and D. T. Perkins. (See Perkins & Hovey.)	
	Hovey, C. M., et al. (See Needham, Daniel, assignor.)	
	Hovey, Charles T., and Duane T. Perkins. (See Perkins & Hovey.)	
63, 731	Hovey, F. W., Boston, Mass. Ladder	Jan. 1, 1867.
67, 548	Hovey, William H., Springfield, Mass. Brick machine	Aug. 6, 1867.
67, 764	How, Woodbury Storer, Cincinnati, Ohio. Toilet stand	Aug. 13, 1867.
65, 224	Howard, Adolphus, Wellsville, N. Y., and George F., Chicago, Ill. Machine for washing leather	May 23, 1867.
67, 305	Howard, Charles, Bearsville, N. Y. Horse rake	July 30, 1867.
	Howard, Charles G., et al. (See Heppenstall, William, assignor.)	(Reissuc.)
70, 215	Howard, D. W., Detroit, Mich. Rudder	Oct. 23, 1867.
63, 671	Howard, Edmund, Flushing, and W. H. Jackson, New York, N. Y. Sewing machine for working button holes	Oct. 8, 1867.
64, 874	Howard, Edward, Boston, Mass. Method of making balance wheels for watches, &c	May 21, 1867.
70, 721	Howard, Edward, England. Mode of preventing the explosion of lamps	Nov. 12, 1867.
66, 963	Howard, Edward F., assignor to self and D. W. Howard, Boston, Mass. Steering apparatus	July 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 738	Howard, George C., Philadelphia, Pa. Dressing grindstones.....	Feb. 5, 1867.
62, 135	Howard, George H., South Braintree, Mass. Cap for coffin screws.....	Feb. 19, 1867.
68, 987	Howard, Henry, Springfield, Mass. Apparatus for heating water and generating steam.....	Sept. 17, 1867.
60, 732	Howard, Henry, assignor to self and Richard F. Hawkins, Springfield, Mass. Hot water heating apparatus.....	Jan. 1, 1867.
66, 590	Howard, James, and E. Tenney Bousfield, England. Steam generator. (Patented in England Jan. 11, 1867).....	July 9, 1867.
71, 175	Same.....Harvester. (Patented in England November 20, 1866).....	Nov. 19, 1867.
67, 196	Howard, James L., New York, N. Y. Clothes line.....	July 30, 1867.
70, 216	Same.....Hartford, Conn. Railroad car ventilator.....	Oct. 29, 1867.
	Same. (See Imbach, Martin G., assignor.).....	
70, 570	Howard, Leonard D., St. Johnsbury, Vt. Bevel.....	Nov. 5, 1867.
69, 912	Howard, R. W., Warwick, R. I. Amalgamator.....	June 18, 1867.
61, 834	Howard, William B., Baltimore, Md. Shutter fastening.....	Feb. 5, 1867.
2, 910	Howard, William J., Petersburg, Ky. Caster covering..... (Design.)	July 23, 1867.
63, 897	Howarth, David, Portland, Me. Folding chair.....	Apr. 16, 1867.
71, 305	Same.....Dinner pail.....	Nov. 26, 1867.
64, 767	Howdon, Robert, assignor to Crane, Breed & Company, Cincinnati, O. Mode of securing wood to metal.....	May 14, 1867.
70, 847	Same.....Molding facing machine.....	Nov. 12, 1867.
70, 848	Howe, Arah H., Brookfield, Vt. Self-adjusting thill.....	Nov. 12, 1867.
66, 840	Howe, Benjamin D., Hanover, N. H. Device for preventing horses from biting and crib-biting.....	July 16, 1867.
	Howe, Edward B. (See Melvin, Jerome B., assignor.).....	
69, 438	Howe, jr., Elias, and George S. Darling. (See Darling & Howe.).....	Oct. 1, 1867.
65, 913	Howe, Francis E., and Leonard Washburn, Stafford, Conn. Cam for looms.....	June 18, 1867.
72, 297	Howe, Henry, Oneonta, N. Y. Bolt trimmer.....	Dec. 17, 1867.
63, 500	Same.....Cultivator.....	Mar. 19, 1867.
68, 878	Howe, Henry, assignor to self and E. R. Ford, Oneonta, N. Y. Cultivator.....	Sept. 17, 1867.
71, 881	Howe, Joel A., Bangor, Me. Cant hook.....	Dec. 10, 1867.
	Howe, J. W., and J. K. Barton, Worcester, Mass. Corn popper.....	
64, 318	Howe, M. V. B., and G. C. Winchester. (See Winchester & Howe.).....	Apr. 30, 1867.
62, 958	Howe, Parley, Staffordville, Conn. Hand spring for machinery.....	Mar. 19, 1867.
	Howe, Robert L., Westbrook, Me. Self-adjusting guide roll for paper mills.....	
	Howe Scale Company. (See Reynolds, W. W., assignor)..... (Design.)	
	Same.....same..... (Design.)	
	Same.....same.....	
	Same.....same.....	
	Howe, Thomas J., and Michael F. Lowth. (See Lowth & Howe.).....	
68, 078	Howe, Zadok, Lowell, Mich. Bed bottom.....	Aug. 27, 1867.
72, 043	Same.....Mop wringer.....	Dec. 10, 1867.
60, 841	Howell, C. G., Ccrring, N. Y. Apparatus for distilling and refining petroleum.....	July 16, 1867.
	Howell, Daniel. (See Worden, W. W., assignor.).....	
66, 238	Howell, David, Louisville, Ky. Nut machine.....	July 2, 1867.
68, 199	Howell, Edward, Ashtabula, Ohio. Carriage curtain button.....	Aug. 27, 1867.
70, 849	Howell, George, Philadelphia, Pa. Machine for filling marshes.....	Nov. 12, 1867.
69, 212	Howell, James P., New York, N. Y. Hitching ring.....	Sept. 24, 1867.
69, 439	Same.....Lamp chimney cleaner.....	Oct. 1, 1867.
65, 575	Howell, John S., and Charles W. Carter, Portsmouth, N. H. Lozenge machine.....	June 11, 1867.
63, 898	Howell, Matthias H., New York, N. Y. Soap frame. (Antedated March 27, 1867).....	Apr. 16, 1867.
	Howell, Richard G., et al. (See Springer & McDonald, assignors.).....	
61, 432	Howell, R. L., assignor to self, E. M. Wilkins, and W. S. Browning, Baltimore, Md. Burner for vapor stoves.....	Jan. 22, 1867.
67, 431	Howell, Theodore R., and Charles P. Oliver, Essex county, N. J. Machine for stretching hides.....	Aug. 6, 1867.
72, 854	Howell, Thomas N., Circleville, Ohio. Lighter and alarm.....	Dec. 31, 1867.
63, 637	Howell, Wm. W., assignor to self and M. Marshall, Philadelphia, Pa. Rolling mill.....	Apr. 9, 1867.
71, 882	Howes, Benjamin George, Worcester, Mass. Copy book.....	Dec. 10, 1867.
	Howland, Gardner, and J. B. Palser. (See Palser & Howland)..... (Reissue.)	
	Same.....same..... (Reissue.)	
	Same.....same..... (Reissue.)	
63, 251	Howland, George L. and William M., Topsham, Me. Hoisting apparatus.....	Mar. 26, 1867.
69, 213	Howland, Henry W., Calhoun, Ill. Churn.....	Sept. 24, 1867.
	Howland, Thomas, and R. W. Russell. (See Russell & Howland.).....	
65, 225	Howlett, Chas., assignor to self and Wm. Freeborn, New York, N. Y. Cartridge box.....	May 28, 1867.
	Howlett, E. J., and Susan M. Kirk. (See Kirk & Howlett.).....	
63, 252	Hoxie, Elias, Montezuma, N. Y. Carriage clip.....	Mar. 26, 1867.
65, 384	Same.....Securing wagon seats.....	June 4, 1867.
65, 385	Same.....Wheel for vehicles.....	June 4, 1867.
72, 044	Hoxsie, David K., Providence, R. I. Machine for making eyelets.....	Dec. 10, 1867.
	Hoyt, A. J., and William F. Browne. (See Browne & Hoyt.).....	
	Hoyt, C. F. (See Hume, James M., assignor.).....	
71, 758	Hoyt, C. R., New York, N. Y. Apparatus for ironing clothes.....	Dec. 3, 1867.
60, 733	Hoyt, Edwin, Stamford, Conn. Tobacco pipe.....	Jan. 1, 1867.
62, 850	Hoyt, Edwin, and Edward P. Whitney, Stamford, Conn. Step attachment for berths.....	Mar. 12, 1867.
	Hoyt, Edwin, et al. (See Searles, Charles E., assignor.).....	
	Hoyt, N. O., and A. C. Baker. (See Baker & Hoyt.).....	
	Hoyt, Theodore. (See Kellogg, E. C. C., assignor.).....	
66, 842	Hubbard, F. M., Ripon, Wis. Dish holder.....	July 16, 1867.
63, 386	Hubbard, Moses G., Syracuse, N. Y. Running gear for harvesters. (Antedated May 26, 1867).....	June 4, 1867.

List of patents of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 440	Hubbard, Richard, Cadiz, Ind. Washing machine	Oct. 1, 1867.
63, 795	Hubbard, Walter, Meriden, Conn. Table cutlery	Apr. 16, 1867.
67, 115	Hubbard, W. W., Edinburgh, Ind. Corn planter	July 23, 1867.
71, 012	Hubbard, William W., Philadelphia, Pa. Bolt machine	Nov. 19, 1867.
61, 541	Hubbe, B., New York, N. Y. Rotary lard press	Jan. 29, 1867.
	Hubbell, A. F., and G. Lattin. (See Lattin & Hubbell.)	
	Hubbell, A. F., and A. T. Woolsey. (See Woolsey & Hubbell.)	
69, 344	Hubbell, Arthur Y., Elmira, N. Y. Sad iron	Oct. 1, 1867.
64, 319	Hubbell, David T., Bethel, Conn. Device for suspending lamps	Apr. 30, 1867.
63, 253	Hubbell, George W., assignor to self, W. E. Houston, and J. R. Lattin, Birmingham, Conn. Skirt wire	Mar. 26, 1867.
	Hubbell, George W., et al. * (See Houston, William E., assignor.)	
	Same..... same.	
	Same..... same.	
	Same..... same.	
2, 839	Hubbell, Henry S. and Alfred S., Buffalo, N. Y. Stove plate..... (Design)	Nov. 26, 1867.
68, 364	Hubbell, John, Buffalo, N. Y. Boot heel. (Antedated August 25, 1867)	Sept. 3, 1867.
66, 152	Hubbell, Joseph, Zanesville, Ohio. Head block for saw mills	June 25, 1867.
	Hubbell, N. C. (See Boardman, Alphonso, assignor.)	
60, 996	Hubbell, William L., Brooklyn, N. Y. Can opener	Oct. 22, 1867.
65, 387	Hubbell, William Wheeler, Philadelphia, Pa. Mode of desulphurizing ores and extracting gold and silver	June 4, 1867.
69, 672	Same..... Amalgamator	Oct. 8, 1867.
65, 812	Hubbell, William Wheeler, assignor to self and James H. Orne, Philadelphia, Pa. Breech-loading fire-arms	June 18, 1867.
65, 675	Hubbell, W. W., and J. M. Patton, Philadelphia, Pa. Quartz mill	June 11, 1867.
67, 116	Hubert, George, Lancaster, Pa. Compound lock for doors	July 23, 1867.
72, 201	Hubert, H. Gengembre, New York, N. Y. Furnace for smelting precious metals	Dec. 17, 1867.
72, 643	Same..... Gas regulator	Dec. 24, 1867.
	Hubert, H. G., and W. Elmer. (See Elmer & Hubert.)	
62, 959	Hubert, P. Gengembre, New York, N. Y. Carte de visite exhibitor	Mar. 19, 1867.
66, 591	Huddart, Edmund, Prairie du Sac, Wis. Door holder	July 9, 1867.
71, 618	Hudson, B. W., Allentown, Pa. Steam slide valves	Dec. 3, 1867.
	Hudson, Charles H. (See Harrison & Harris, assignors.)	
	Same..... same.	
65, 226	Hudson, George S., Ellisburg, N. Y. Molding machine	May 28, 1867.
72, 298	Hudson, James B., Fayetteville, Pa. Automatic rain conductor	Dec. 17, 1867.
63, 723	Hudson, M. B., assignor to self, J. S. Robinson, and J. G. Hudson, Canandaigua, N. Y. Churn dasher	Apr. 9, 1867.
67, 892	Hudson, Richard Harvey, Scotland. Means to prevent ropes fouling ships' propellers	Aug. 20, 1867.
64, 875	Hudson, S. Terry, Success, N. Y. Sugar cane stripper	May 21, 1867.
68, 747	Hudson, Samuel W., Beaver Meadow, Pa. Steam engine	Sept. 10, 1867.
68, 748	Same..... Packer township, Pa. Steam engine	Sept. 10, 1867.
68, 879	Same..... Beaver Meadow, Pa. Steam engine slide valve	Sept. 17, 1867.
64, 320	Hudson, Thomas S., East Cambridge, Mass. Hand stamp	Apr. 30, 1867.
2, 637	Same..... Barometer instkand	May 14, 1867.
	Hudson, W. M., et al. (See Kirkup, Lancelot, assignor.)	
64, 533	Hudson, William S., Paterson, N. J. Locomotive truck	May 7, 1867.
66, 964	Same..... Piston packing	July 23, 1867.
66, 346	Huey, William, Galena, Md. Fruit box	July 2, 1867.
60, 835	Hufendeck, Henry, assignor to S. R. Fox, E. G. Pratt, and E. W. Fox, St. Louis, Mo. Drill. (Antedated December 12, 1866)	Jan. 1, 1867.
61, 940	Huff, A. D. and L. D., Clinton, Iowa. Sorghum stripper	Feb. 12, 1867.
68, 998	Huffer, Tilghman A., assignor to self and John F. Durfeld, Indianapolis, Ind. Rein holder	Sept. 17, 1867.
64, 106	Huffman, J. Dean, Springfield, Ohio. Stump extractor	Apr. 23, 1867.
65, 813	Huffman, P. M., Harvard, Ill. Cough mixture	June 18, 1867.
62, 202	Hugg, James S., Philadelphia, Pa. Broom head	Feb. 19, 1867.
	Huggins, Ambrose L., et al. (See Gillingham, H. R., assignor.)	
	Hughes, Bernard, Rochester, N. Y. Trip hammer	(Extension)
72, 255	Hughes, Edward I., Pittsburg, Pa. Kite	Oct. 18, 1867.
64, 876	Hughes, George R., Centralia, Mo. Washing machine	Dec. 31, 1867.
66, 844	Hughes, Hugh, Utica, N. Y. Door spring	May 21, 1867.
	Hughes, James, and J. W. Mauzy. (See Mauzy & Hughes.)	
65, 914	Hughes, John, Edgewater, N. Y. Furnace for burning pyrites for the manufacture of sulphuric acid and for other purposes	July 16, 1867.
65, 227	Hughes, John, assignor to self and James R. Hitchcock, Brooklyn, N. Y. Apparatus for concentrating sulphuric acid and other liquids	June 18, 1867.
69, 214	Hughes, Joseph C., Robinson, Ill. Portable fence	May 28, 1867.
	Hughes, J. Mong. (See West, David N., assignor.)	
61, 069	Hughes, Richard, Virginia City, Nevada. Punch	Sept. 24, 1867.
	Hughes, R., and J. Wilson. (See Wilson & Hughes.)	
69, 565	Hughes, Richard, Virginia City, Nevada. Punch	Jan. 8, 1867.
	Hughes, R., and J. Wilson. (See Wilson & Hughes.)	
69, 565	Hughes, William, Brandon, Wis. Spring seat for vehicles	Oct. 8, 1867.
	Hughes, W. B., and J. F. Connelly. (See Connelly & Hughes.)	
64, 975	Hughes, William G., Hebron, Ind. Broom head. (Antedated May 8, 1867)	May 21, 1867.
61, 202	Hughes, Wm. W., and Jas. C. Adams, Philadelphia, Pa. Flooring for malt kilns	Jan. 15, 1867.
68, 679	Hughson, Benjamin F., Cold Spring, N. Y. Knife and fork cleaner	Aug. 27, 1867.
62, 851	Hugunjin, K. B., Cleveland, Ohio. Wringing machine	Mar. 12, 1867.
64, 674	Hulbert, E., Atlanta, Ga. Express money envelope	May 14, 1867.
64, 422	Hulbert, L. T., Painesville, Ohio. Mode of deflecting the bottoms of vessels made of sheet metal	May 7, 1867.

List of patents of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Huling, H. R., and I. M. Marston. (See Marston & Huling.)	
63, 365	Hull, David C., Chelsea, Mass. Rolling rubber into sheets and in applying the same to fabrics.	Sept. 3, 1867.
64, 877	Hull, D. H., Plantsville, Conn. Seed planter.	May 21, 1867.
71, 467	Hull, F., Birmingham, Conn. Hoop skirt.	Nov. 26, 1867.
	Hull, F., and Company, <i>et al.</i> (See Lattin, John R., assignor.)	
66, 026	Hull, Henry, Pattersonville, La. Machine for cleaning moss.	June 25, 1867.
64, 768	Hull, John S., Cincinnati, Ohio. Lamp.	May 14, 1867.
64, 769	Same. Generator for vapor lamps.	May 14, 1867.
72, 299	Hull, John W., Connorsville, Ind. Machine for trimming and cutting corn hedges.	Dec. 17, 1867.
61, 070	Hull, Liveras, Charlestown, Mass. Whip stock.	Jan. 8, 1867.
62, 270	Hull, Maurice C., New York, N. Y. Cooking range.	Feb. 19, 1867.
66, 366	Same. same. same.	Sept. 3, 1867.
71, 176	Same. Heating stoves.	Nov. 19, 1867.
	Hull, Thomas B., and G. Russell. (See Russell & Hull.)	
70, 217	Hull, Wesley, Fort Wayne, Ind. Wagon brake.	Oct. 29, 1867.
66, 347	Hulskamp, G. Henry, New York, N. Y. Violins, &c.	July 2, 1867.
70, 850	Humans, Wm., assignor to self and Charles Williams, jr., Boston, Mass. Automatic tight-rope dancer.	Nov. 12, 1867.
64, 878	Hume, Jas. M., assignor to self and C. F. Hoyt, Colchester, Ill. Cultivator.	May 21, 1867.
	Humes, P. H. (See Rentgen, W. C., assignor.) (Reissue.)	
	Humes, Thomas L., <i>et al.</i> (See Guthrie & Humes.)	
62, 337	Humiston, Willis, assignor to self and L. H. Hall, Meriden, Conn. Blind fastening.	Feb. 26, 1867.
2, 513	Hummel, Peter E., assignor to P. Jewell & Sons, Hartford, Conn. Machine for scouring leather.	Mar. 19, 1867.
	Same. Fence and trellis hook. (Reissue.)	Oct. 15, 1867.
69, 879	Humphrey, D. S., East Townsend, Ohio. Farm fence.	Dec. 31, 1867.
72, 856	Same. Fence and trellis hook.	Oct. 29, 1867.
70, 218	Humphrey, Henry, Adrian, Mich. Fastening for buttons.	
	Humphrey, James L., <i>et al.</i> (See Dodge, William J., assignor.)	
	Humphrey, John, <i>et al.</i> (See Westbrook, A. D., assignor.)	
67, 056	Humphrey, William H., Lansingburg, N. Y. Faucet.	July 23, 1867.
70, 219	Humphreys, William, Brooklyn, N. Y. Buggy spring.	Oct. 29, 1867.
64, 107	Humphreys, William, jr., Cold Spring, N. Y. Machine for blocking and stretching hat bodies.	Apr. 23, 1867.
71, 759	Humphreys, Joseph R., Pennsville, N. J. Tire-heating apparatus. (Antedated Nov. 23, 1867.)	Dec. 3, 1867.
67, 306	Humphries, Alex., and John Keethler, Mt. Oreb, Ohio. Wheel-spoking machine.	July 30, 1867.
61, 663	Hungerford, Henry, New York, N. Y. Carpet stretcher.	Jan. 29, 1867.
62, 749	Hungerford, Morgan, San Francisco, Cal. Ore concentrator.	Mar. 12, 1867.
68, 301	Hunkley, Martin, assignor to self and M. R. Ballantine, Rochester, N. Y. Power hammer.	Aug. 27, 1867.
68, 880	Hunt, Abel, and Spencer Mero, jr., Camden, Maine. Carriage curtain fixture.	Sept. 17, 1867.
68, 749	Hunt, Almon, Macomb, Ill. Cornstalk cutter.	Sept. 10, 1867.
	Hunt, A. L., and O. Reynolds. (See Snyder, Henry D., assignor.)	
63, 899	Hunt, Barnabas, Farmland, Ind. Broom head.	Apr. 16, 1867.
61, 009	Hunt, B. S., Philadelphia, Pa. Stone dresser.	Jan. 8, 1867.
71, 760	Hunt, Eli, Shelburn, Ind. Washing machine.	Dec. 3, 1867.
69, 215	Hunt, George G., Bridgeport, Conn. Steam generator.	Sept. 24, 1867.
71, 306	Same. Base-burning stove.	Nov. 26, 1867.
	Hunt, G. H., and D. L. Bartlett. (See Gwynn, Stuart, assignor.) (Reissue.)	
	Same. same. (Reissue.)	
72, 045	Hunt, George W., Hopkinton, Mass. Railway sleeping car.	Dec. 10, 1867.
65, 083	Hunt, George W., assignor to Job S. Gray and John S. Watson, Winchendon, Mass. Door strip.	May 28, 1867.
71, 388	Hunt, George W., assignor to Washington Whitney and I. J. Dunn, Winchendon, Mass. Stove-cover lifter. (Antedated Nov. 23, 1867.)	Nov. 26, 1867.
72, 495	Hunt, H., Delavan Wis. Gate.	Dec. 24, 1867.
69, 673	Hunt, Henry Dewain, Danville, Ill. Hand loom.	Oct. 8, 1867.
69, 810	Hunt, jr., John, West Hampton Township, N. J. Wagon jack.	Oct. 15, 1867.
61, 071	Hunt, Marshall J., Rising Sun, Md. Combined corn planter and cultivator.	Jan. 8, 1867.
68, 989	Hunt, Nathan, Salem, Ohio. Engine piston.	Sept. 17, 1867.
67, 117	Hunt, William D., Scott, N. Y. Fence.	July 23, 1867.
64, 534	Hunter, Andrew, San Francisco, Cal. Amalgamator.	May 7, 1867.
65, 084	Hunter, E., Cleveland, Ohio. Compound for silver plating.	May 28, 1867.
	Hunter, Jacob F., <i>et al.</i> (See Cole, William T., assignor.)	
	Hunter, Jacob F., and Peter P. Keller. (See Cole, William T., assignor.)	
66, 679	Hunter, John P., William port, Ind. Horse rake.	July 16, 1867.
65, 085	Hunter, John S., Hartford, Conn. Mosquito bar.	May 28, 1867.
	Hunter, J. S., and E. Blakeslee. (See Blakeslee & Hunter.)	
	Hunter, Marshall E. (See Dibble, F. J., assignor.)	
70, 092	Hunter, Nannie W., Elizabeth City, N. C. Manufacture of soap.	Oct. 22, 1867.
67, 549	Hunter, O. D., Terryville, Conn. Bolt.	Aug. 6, 1867.
63, 796	Hunter, Orange D., Terryville, Conn. Ox-bow pin.	Apr. 16, 1867.
71, 468	Hunter, Samuel C., East Hickory, Pa. Seed planter.	Nov. 26, 1867.
63, 521	Hunter, Swift McG., Terryville, Conn. Machine for coiling springs.	Apr. 2, 1867.
63, 724	Hunter, William, Hastings, Minn. Corn planter.	Apr. 9, 1867.
70, 851	Hunter, William, Detroit, Mich. Paddle wheel. (Antedated Nov. 4, 1867.)	Nov. 12, 1867.
67, 377	Huntingdon, Wm. S., assignor to Jos. Stillman, New York, N. Y. Fastening for lasts.	July 30, 1867.
72, 202	Huntington, F. A., San Francisco, Cal. Spring bed bottom.	Dec. 17, 1867.
69, 916	Huntington, Gideon, Norwichville, C. W. Bending machine.	Oct. 15, 1867.
71, 014	Huntington, H. L., Chicago, Ill. Spring bed bottom.	Nov. 19, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 750	Huntington, John, Cleveland, Ohio. Construction of stills for oils, &c	Mar. 12, 1867.
65, 086	Huntington, S. W., Augusta, Maine. Blind fastening	May 28, 1867.
67, 432	Same..... Inner sole for boots and shoes	Aug. 6, 1867.
69, 216	Same..... Vest	Sept. 24, 1867.
70, 571	Same..... Boot-blackening and polishing machine	Nov. 5, 1867.
2, 478	Huntington, Thomas, Rochelle, N. Y. Boat-detaching tackle (Reissue)	Feb. 12, 1867.
72, 396	Huntington, William, Howell, Mich. Animal trap	Dec. 17, 1867.
61, 203	Huntington, William S., assignor to self and C. P. Devereaux, Byron, Mich. Plow	Jan. 15, 1867.
63, 638	Huntton, La Fayette, Milford, Mass. Steam engine	Apr. 9, 1867.
71, 015	Huntton, Reuben K., assignor to self and J. Augustus Lynch, Boston, Mass. Governor for steam engines	Nov. 19, 1867.
71, 761	Huntton, Reuben K., assignor to self and Charles S. Lynch, Boston, Mass. Steam engine governors	Dec. 3, 1867.
65, 749	Huntress, G. C., Elkhorn, Wis. Buckle	June 11, 1867.
68, 367	Huot, Fleury, New York, N. Y. Manufacture of drying oils for paints. (Antedated Aug. 18, 1867)	Sept. 3, 1867.
63, 051	Huot, Fleury, assignor to self and John Rogers, Perth Amboy, N. J. Refining petroleum, &c. (Antedated Sept. 19, 1867)	Mar. 19, 1867.
71, 619	Same..... New York, N. Y. Mode of treating petroleum to remove the more volatile portions. (Antedated Nov. 15, 1867)	Dec. 3, 1867.
66, 844	Huppelsberg, F. W., New York, N. Y. Loom	July 16, 1867.
63, 797	Hurd, A. B., Watkins, N. Y. Method of uniting stove pipes, &c.	Apr. 16, 1867.
64, 108	Same..... Gate	Apr. 23, 1867.
67, 118	Same..... Churn dasher	July 23, 1867.
67, 878	Hurd, Hiram A., Seymour, Conn. Shaft coupling	Aug. 20, 1867.
66, 239	Hurd, Ivory A., Boston, Mass. Depth gauge	July 2, 1867.
70, 852	Hurd, John M., Auburn, N. Y. Paper flour sack	Nov. 12, 1867.
60, 490	Hurd, William C., New York, N. Y. Manufacture of paints	Feb. 26, 1867.
70, 572	Hurdman, George, assignor to Charles F. Clark, England. Sad-iron heater	Nov. 5, 1867.
67, 983	Hurlbut, Cornelius S. (See Morgan, John F., assignor.) Hurlbut, E. C., Middle Haddam, and E. H. Snow, Hartford, Conn. Boat-detaching tackle	Aug. 20, 1867. Mar. 26, 1867.
63, 254	Hurlbut, William H., Elgin, Ill. Converting motion	Aug. 13, 1867.
67, 654	Hursell, John C., Boston, Mass. Dovetail cutter	Apr. 2, 1867.
63, 639	Hurst, George W., Chestertown, Md. Churn	Sept. 24, 1867.
69, 060	Hurt, James J., and John H. Van Sandt. (See Van Sandt & Hurt.)	May 21, 1867.
64, 980	Husband, I. L., Philadelphia, Pa. Preventing incrustation of steam boilers	July 16, 1867.
66, 845	Huse, W. W., Brooklyn, N. Y. Tobacco-cutting machine	Feb. 12, 1867.
62, 134	Same..... Machine for compressing and cutting the filling for cigars	Mar. 5, 1867.
2, 500	Huson, Edgar, Ithaca, N. Y. Horse rake	Dec. 3, 1867.
71, 762	Same..... Wagon (Reissue)	Dec. 3, 1867.
2, 496	Hussey, Nathan W., and Clark M. Terrell. (See Terrell & Hussey.)	Feb. 26, 1867.
60, 734	Hussey, Roland C., Milford, Mass. Cutting board (Reissue)	Jan. 1, 1867.
69, 674	Husted, James T., et al. (See Clay, Robert J., assignor.)	Oct. 8, 1867.
69, 997	Same..... Same	Oct. 22, 1867.
65, 228	Huston, Arthur, Bristol, Maine. Brush clamp	May 28, 1867.
61, 339	Same..... Needle threader	Jan. 22, 1867.
65, 228	Huston, Charles, et al. (See Corbett, Sherman, Wolfe, & Huston.)	Apr. 16, 1867.
61, 339	Huston, J. E., and S. H. Blossom. (See Blossom & Huston.)	Nov. 19, 1867.
65, 228	Huston, R. H., Keokuk, Iowa. Car coupling	Sept. 10, 1867.
65, 930	Hustou, William, assignor to self and H. H. Wickersham, Wilmington, Del. Apparatus for obtaining and applying motive power	Mar. 19, 1867.
62, 633	Hutchins, John W., assignor to self and John H. Eyre, Bridgeport, Conn. Sash supporter	Dec. 3, 1867.
71, 177	Hutchins, A. B., Patchogue, N. Y. Churn dasher	Aug. 27, 1867.
68, 628	Hutchinson, Azariah, Monterey, Ohio. Stove-pipe thimble	Aug. 27, 1867.
63, 052	Hutchinson, C. B., Auburn, N. Y. Machine for setting staves in barrels	Aug. 27, 1867.
72, 377	Hutchinson, Dean W., Big Spring, Kansas. Four-wheeled vehicle	Aug. 27, 1867.
68, 080	Hutchinson, Elias, Baltimore, Md. Check valve for liquid meters	Aug. 27, 1867.
68, 081	Same..... Liquid and spirit meter	Aug. 27, 1867.
61, 739	Hutchinson, Elias S., and Hugh L. McAvoy, Baltimore, Md. Apparatus for carbureting air. (Antedated January 19, 1867)	Feb. 5, 1867.
64, 981	Hutchinson, Henry, Three Rivers, Mich. Seeding cultivator	May 21, 1867.
71, 429	Hutchinson, H. O., et al. (See Clinton, Prather & Hutchinson.)	Nov. 26, 1867.
66, 348	Hutchinson, James, and Newel Carpenter. (See Carpenter & Hutchinson.)	July 2, 1867.
72, 857	Hutchinson, John W., and H. D. Stover. (See Stover & Hutchinson.)	Dec. 31, 1867.
68, 881	Hutchinson, Patrick, Boston, Mass. Churn	Sept. 17, 1867.
70, 853	Hutchinson, Samuel, North Lewisburg, Ohio. Beehive	Nov. 12, 1867.
72, 300	Hutchinson, Samuel E. (See Reid, John C., assignor.)	Dec. 17, 1867.
60, 896	Hutchinson, William B., assignor to self and Mitchell, Allen & Co., Newbern, N. C. Well tube	Jan. 1, 1867.
67, 765	Hutchinson, Robert, Newark, N. J. Shoe spike	Aug. 13, 1867.
71, 016	Hutson, Ezra, Brockport, N. Y. Reel and swift	Nov. 19, 1867.
67, 765	Same..... Foot power	Nov. 19, 1867.
60, 896	Hutson, Henry A., Newburg, N. Y. Penman's assistant	Jan. 1, 1867.
67, 765	Hutson, jr., John, South Solon, Ohio. Hog ring	Aug. 13, 1867.
71, 016	Hutton, Archibald, St. Louis, Mo. Valve for steam engines	Nov. 19, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
60, 735	Hutton, Robert, Brooklyn, N. Y. Window sash fastening.	Jan. 1, 1867.
60, 736	Hutton, Robert, assignor to self and William Mee, Williamsburg, N. Y. Blind.	Jan. 1, 1867.
67, 308	Huxford, F. W., Boonsboro', Iowa. Fence.	July 30, 1867.
65, 915	Huyek, Aaron, Ourtown, Wis. Churn.	June 18, 1867.
63, 522	Huyek, W. H., Chariton, Iowa. Sleigh.	Apr. 2, 1867.
62, 634	Hyams, Hyam Jacob, New York, N. Y. Water meter.	Mar. 5, 1867.
66, 846	Hyatt, G. W., Auburn, N. Y. Hoppie.	July 16, 1867.
68, 332	Hyatt, Thaddeus, assignor to Elizabeth Adelaide Lake, New York, N. Y. Illuminating roofs and roof pavements.	Aug. 27, 1867.
69, 998	Hyde, Dwight, Bridgeport, N. Y. Churn.	Oct. 22, 1867.
	Hyde, Edward H., and J. B. Gardiner. (See Gardiner & Hyde.)	
2, 688	Hyde, James R., assignor to Daniel E. Paris, Troy, N. Y. Cooking stove. (Reissue).	July 16, 1867.
2, 709	Hyde, James R., assignor through mesne assignments to Daniel E. Paris, Troy, N. Y. Cooking stove. (Reissue).	July 30, 1867.
64, 535	Hyde, Joseph, Troy, N. Y. Folding chair.	May 7, 1867.
67, 119	Same. same.	July 23, 1867.
68, 442	Same. Spring for beds and other purposes.	Sept. 3, 1867.
61, 204	Hyde, J. Little, New York, N. Y. Regulator for watches.	Jan. 15, 1867.
	Hyde, W. C., and Alfred A. Gray. (See Gray & Hyde.)	
	Hyde, William S., Townsend, Ohio. Cultivator plow. (Extension).	June 20, 1867.
	Hylton, Stanley C., et al. (See Morris, Charles, assignor.)	
63, 640	Hymer, Isaac B., Warsaw, Ind. Railroad rail.	Apr. 9, 1867.
64, 536	Same. same.	May 7, 1867.
64, 225	Hyndman, Samuel E., Middletown, Ohio. Wagon brake.	Apr. 30, 1867.
67, 879	Hyndman, W. G., assignor to self and Henry Martin, Cincinnati, Ohio. Brick machine.	Aug. 20, 1867.
72, 496	Hyre, Daniel, Union, Ohio. Well regulator.	Dec. 24, 1867.
66, 349	Hyslop, John, and Charles E. Phillips, Abington, Mass. Sirup pitcher.	July 2, 1867.
71, 883	Hyver, G. A., New Orleans, La. Petroleum gas burner.	Dec. 10, 1867.
62, 422	Idle, William R., Urbana, Ohio. Quilting frame.	Feb. 26, 1867.
72, 497	Iles, West Rushville, Ohio. Machine for boring post holes.	Dec. 24, 1867.
70, 093	Illingsworth, B., Freeport, Ill. Animal trap.	Oct. 22, 1867.
	Illofsky, Ignatz, and John Trageser. (See Trageser & Illofsky.)	
71, 178	Imbach, M. G., Hartford, Conn. Calipers and dividers.	Nov. 19, 1867.
72, 203	Imbach, Martin G., assignor to James L. Howard, Hartford, Conn. Railroad car ventilator.	Dec. 17, 1867.
	Imlay, John, and Clemens Bymer. (See Bymer & Imlay.)	
72, 858	Ingalls, Allen, Hartwick, N. Y. Poling hops.	Dec. 31, 1867.
71, 499	Ingersoll, G. L., Cleveland, Ohio. Water heater for stoves.	Nov. 26, 1867.
66, 027	Ingersoll, Marshal, Elyria, Ohio. Field fence.	June 25, 1867.
72, 338	Ingersoll, P. C., Green Point, N. Y. Spring bed slat.	Dec. 17, 1867.
66, 087	Ingersoll, Platt C., assignor to self and H. F. Dougherty, Green Point, N. Y. Bale band tightener.	June 25, 1867.
66, 888	Same. Seeding machine.	June 25, 1867.
66, 089	Same. Preparing cotton seed for planting.	June 25, 1867.
66, 350	Ingersoll, W. B., New York, N. Y. Bed bottom.	July 2, 1867.
65, 087	Ingham, Joseph and James, San José, Cal. Gang plow.	May 28, 1867.
	Inglar, H. M., William Douglas. (See Douglas & Ingler.)	
62, 543	Ingold, John M. and Eugene, Allegheny, Pa. Spring for carriages.	Mar. 5, 1867.
	Ingoldsby, E. K., and John E. Brastow. (See Brastow & Ingoldsby.)	
66, 495	Ingraham, Hanford, Naples, N. Y. Cultivator.	July 9, 1867.
68, 200	Same. Plow clevis.	Aug. 27, 1867.
2, 745	Ingraham, Henry C., Tecumseh, Mich. Ditching machine. (Reissue).	Nov. 5, 1867.
72, 399	Same. same.	Dec. 17, 1867.
61, 835	Ingraham James, New York, N. Y. Hoisting machine for cellars.	Feb. 5, 1867.
69, 765	Same. Bathing apparatus.	Oct. 8, 1867.
67, 433	Ingram, Orrin H., and Donald Kennedy, West Eau Claire, Wis. Lighter for vessels.	Aug. 6, 1867.
	Inman, Henry. (See Furlong, Edward P., assignor.)	
70, 438	Inman, Hiram and Horace, Amsterdam, N. Y. Securing the ends of felloes.	Nov. 5, 1867.
72, 498	Inman, William, Middletown, N. Y. Saw mills.	Dec. 24, 1867.
62, 271	Innis, James W., Newburg, N. Y. Potato digger.	Feb. 19, 1867.
64, 226	Innis, James W., Salem, Ind. Thill coupling.	Apr. 30, 1867.
2, 479	Insull, John and Thomas, New Haven, Conn. Cupola furnace. (Reissue).	Feb. 12, 1867.
	International Screw Company. (See Hadley, N. B., assignor.)	
63, 725	Ipe, George, Kent, Ohio. Fence post.	Apr. 9, 1867.
	Ireland, William Carlton, and Edwin A. Eaton. (See Eaton & Ireland.)	
61, 664	Iron, Andrew, Femme Osage, Mo. Scrubbing machine.	Jan. 29, 1867.
70, 337	Irish, Alonzo W., Rochester, Minn. Process of tanning.	Oct. 29, 1867.
	Irvin, J. F., and J. Smith. (See Smith & Irvin.)	
72, 738	Irvin, S. I. (See Bricker, George, assignor.)	
64, 321	Irving, Alexander B., Indianapolis, Ind. Piano-forte action.	Dec. 31, 1867.
	Irving, Benjamin, New York, N. Y. Process of concentrating the extract of bark for tanning and other purposes.	Apr. 30, 1867.
64, 322	Same. Machinery for obtaining the extract of bark for tanning and other purposes.	Apr. 30, 1867.
64, 323	Same. Process for obtaining the extract of bark for tanning and other purposes.	Apr. 30, 1867.
64, 324	Same. Apparatus for concentrating the extract of bark for tanning and other purposes.	Apr. 30, 1867.
64, 325	Same. Apparatus for concentrating extracts from bark for tanning.	Apr. 30, 1867.
	Irving, Benjamin, and Thomas G. Arnold. (See Arnold & Irving.)	
66, 592	Irwin, Georgé, Elizabethtown, Ky. Animal traps.	July 9, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 229	Irwin, John H., Chicago, Ill. Lantern.....	May 28, 1867.
65, 230	Same..... Lamp.....	May 28, 1867.
66, 153	Same..... Apparatus for carburetting air.....	June 25, 1867.
	Irwin, John H., and Isaac Simmons. (See Bassett, John A., assignor.)	
	Irwin, Wesley, and C. J. Crum. (See Crum & Irwin.)	
64, 326	Isbell, Charles W., New York, N. Y., and P. W. McKenzie, Jersey City, N. J. Steam generator. (Antedated April 22, 1867).....	Apr. 30, 1867.
64, 423	Isbell, Morris, New Haven, Conn. Hollow auger.....	May 7, 1867.
62, 491	Isenberg, Joseph, McConnellstown, Pa. Boring machine.....	Feb. 26, 1867.
69, 441	Isham, H. L., Plattsburg, N. Y. Bed bottom.....	Oct. 1, 1867.
61, 433	Iske, Anthony, Lancaster, Pa. Window sash and fastener.....	Jan. 22, 1867.
64, 109	Same..... Sash-ropes plate.....	Apr. 23, 1867.
2, 676	Same..... Combined hammer, tack-drawer, wrench, &c..... (Design.)	June 18, 1867.
69, 097	Iske, Anthony, assignor to self and Charles Joseph Walser, Lancaster, Pa. Holder for whitewash brushes.....	Sept. 24, 1867.
	Ithaca Calendar Clock Company. (See Horton & Wood, assignors.)	
64, 982	Ives, Alfred, New York, N. Y. Stationary wash-basin.....	May 21, 1867.
72, 859	Ives, Almon B., Bloomington, Ill. Metallic column for bridge.....	Dec. 31, 1867.
72, 301	Ives, E. B., Bristol, Conn. Vegetable cutter.....	Dec. 17, 1867.
	Ives, E. N., et al. (See Gilbert, Barker & Ives.)	
68, 882	Ives, George W., assignor to self and Alfred Ives, North Haven, Conn. Brick machine.	Sept. 17, 1867.
64, 983	Ives, Heber G., Durham, Conn. Sheep rack.....	May 21, 1867.
66, 496	Ives, James, Mt. Carmel, Conn. Top prop-nut for carriages.....	July 9, 1867.
67, 309	Ives, Julius, Brooklyn, N. Y. Device for snuffing lamps.....	July 30, 1867.
61, 740	Ives, Silas Y., Meriden, Conn. Cart brake.....	Feb. 5, 1867.
69, 098	Jack, Alexander, assignor to self and Edward Brierly, Milton, N. H. Mode of dyeing and embossing table and piano covers.....	Sept. 24, 1867.
68, 750	Jackson, Albert, Clifton Springs, N. Y. Lifting jack.....	Sept. 10, 1867.
69, 917	Jackson, A. P., assignor to self and Otis Pratt, Warsaw, Ind. Roofing composition.....	Oct. 15, 1867.
63, 523	Jackson, Caleb, York, Ill. Machine for shrinking tires.....	Apr. 2, 1867.
63, 737	Jackson, Freegift, Sparta, Ohio. Combined seat and stop for carriages.....	Jan. 1, 1867.
72, 046	Jackson, George M., North Hector, N. Y. Harvester.....	Dec. 10, 1867.
71, 179	Jackson, George W., Wyalusing, Pa. Platform scale.....	Nov. 19, 1867.
65, 388	Jackson, Henry, Brooklyn, N. Y. Padlock.....	June 4, 1867.
72, 499	Same..... New York, N. Y. Door lock.....	Dec. 24, 1867.
70, 854	Jackson, J. B. and M. R., Rochester, Iowa. Machine for shrinking tires.....	Nov. 12, 1867.
	Jackson, J. F., and A. P. Shute. (See Shute & Jackson.)	
63, 389	Jackson, James L., assignor to David N. Ropes, New York, N. Y. Fan.....	Apr. 2, 1867.
61, 340	Jackson, Joel C., Rochester, N. Y. Wrench. (Antedated January 17, 1867).....	Jan. 22, 1867.
67, 766	Jackson, Leonard L., assignor to self and John Frame, Paterson, N. J. Bedstead fastening.....	Aug. 13, 1867.
64, 110	Jackson, Peter H., New York, N. Y. Boat-detaching tackle.....	Apr. 23, 1867.
71, 620	Jackson, Richard A., Lawrenceville, Pa. Mode of converting articles of iron into steel.	Dec. 3, 1867.
66, 593	Jackson, R. H., assignor to self and A. C. Van Tine, Sandusky, Ohio. Boiler safety-gauge.....	July 9, 1867.
63, 053	Jackson, Samuel, Newark, N. J. Compensating brace for the springs of vehicles.....	Mar. 19, 1867.
62, 272	Jackson, S. W., Baldville, Ohio. Shovel plow.....	Feb. 19, 1867.
	Jackson, W. A., et al. (See Barlow, Wm. F., assignor.)	
	Jackson, W. H., and Edmund Howard. (See Howard & Jackson.)	
65, 750	Jackson, William Marcus, Woodland, Cal. Teeth for lifting lodged grain.....	June 11, 1867.
	Jack-ou, W. W., et al. (See Bailey, Alonzo E., assignor.)	
70, 220	Jacob, Julius, New York, N. Y. Umbrella.....	Oct. 29, 1867.
66, 847	Jacobs, A. S., St. Louis, Mo. Oar.....	July 16, 1867.
66, 690	Jacobs, George, Washington, D. C. Burglar alarm lock.....	June 25, 1867.
64, 327	Jacobs, John, Oneida, Ill. Self-adjusting neck yoke.....	Apr. 30, 1867.
71, 491	Jacobs, J. Nelson, Worcester, Mass. Knife and scissors sharpener.....	Nov. 26, 1867.
65, 751	Jacobs, W. E., Columbus, Ohio. Sirup strainer.....	June 11, 1867.
63, 050	Jacobs, W. W., Hagerstown, Md. Burning fluid.....	Mar. 19, 1867.
70, 573	Same..... Vapor lamp burner.....	Nov. 5, 1867.
63, 641	Jacobs, Zalmon L., Hebron, Conn. Beehive.....	Apr. 9, 1867.
68, 201	Jacoby, D. W., Shelbyville, Ill. Combined corn planter and cultivator.....	Aug. 27, 1867.
68, 443	Same..... Corn planter.....	Sept. 3, 1867.
71, 589	Jacot, Charles E., Switzerland. Winding watches.....	Nov. 26, 1867.
67, 310	Jadwin, Charles P., Carbondale, Pa. Clothes post.....	July 30, 1867.
64, 537	Jaeger, G. L., New York, N. Y. Machine for making paper bags.....	May 7, 1867.
72, 400	Same..... Cutting tool.....	Dec. 17, 1867.
61, 424	James, Charles H., assignor to self and Frank Millward, Cincinnati, Ohio. Tubes for steam generators.....	May 7, 1867.
2, 461	James, Christopher R., assignor to self and Nathan W. Condict, jr., Jersey City, N. J. Means for operating stamps and hammers. (Reissue).....	Jan. 15, 1867.
72, 397	James, E. C., Baltimore, Md. Road locomotive.....	Dec. 17, 1867.
	James, George. (See Lawton, George, assignor.)	
70, 094	James, George C., Cincinnati, Ohio. Lamp-shade supporter.....	Oct. 22, 1867.
	James, J. P., and Charles Folsom. (See Miller, Abraham S., assignor.)	
68, 082	James, J. P. R., Pepin, Minn. Hand catch.....	Aug. 27, 1867.
68, 510	Same..... Read's Landing, Minn. Clothes pin.....	Sept. 3, 1867.
62, 136	James, S. E., Smithfield Station, Ohio. Gate fastening.....	Feb. 19, 1867.
66, 497	James, Thomas, New York, N. Y. Lock for valves, &c.....	July 9, 1867.
68, 751	James, T. B., Muscatine City, Iowa. Window shade.....	Sept. 10, 1867.
61, 072	James, William, Richmond, Va. Attachment for stills, to test the proof of spirits.....	Jan. 8, 1867.
68, 901	Same..... Bridge.....	Apr. 16, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 712	Jameson, A., Trenton, N. J. Vice.....	July 16, 1867.
66, 965	Same.....same.....	July 23, 1867.
65, 676	Jameson, A., assignor to self, T. S. and J. H. Murray, Trenton, N. J. Screw box for vices.....	June 11, 1867.
	Jameson, A., et al. (See Murray, J. Howard, assignor.)	
68, 083	Jameson, F. A., and Cyrus W. Ripley, Kingston, Mass. Lever for windlasses.....	Aug. 27, 1867.
64, 425	Jameson, Jacob, Philadelphia, Pa. Manufacture of iron.....	May 7, 1867.
67, 550	Same.....Device for cleaning weeds from plows.....	Aug. 6, 1867.
2, 497	Jamison, John P., New York, N. Y. Crimping machine..... (Reissue).....	Feb. 26, 1867.
64, 518	Jamison, Samuel W., New York, N. Y. Boot-crimping machine.....	May 7, 1867.
67, 311	Jamison, W. R., Taylorstown, Pa. Car coupling.....	July 33, 1867.
	Janezeck, John J., and Andrew J. Simpson. (See Simpson & Janezeck.)	
70, 095	Janney, Nathan L., assignor to self and Horatio I. Kurtz, Philadelphia, Pa. Butter stamp.....	Oct. 22, 1867.
62, 960	Janney, William, Martinsville, Ohio. Apparatus for cooking and preserving fruits.....	Mar. 19, 1867.
	Jaques, George. (See Hardy, Cyrus H., assignor.)	
	Same.....same.....	
67, 984	Jarboe, John William, Green Point, N. Y. Mode of manufacturing water pails and other household vessels.....	Aug. 20, 1867.
	Jarchow, L., and C. Greslichna. (See Greslichna & Jarchow.)	
67, 551	Jardine, J. S. (See Jones, Charles W., assignor.)	Aug. 6, 1867.
72, 500	Jarecki, Henry and Charles, Erie, Pa. Steam-engine lubricator.....	Dec. 24, 1867.
	Jarrosson, Leon, France. Bleaching and scouring hemp, flax, and other fabrics.....	
	Jarrell, John Lewis, and John Randolph Blake. (See Blake & Jarrell.)	
63, 390	Jasper, Gustavus A., Charlestown, Mass. Apparatus for sifting and separating sugar.....	Apr. 2, 1867.
65, 389	Same.....Retort for revivifying bone charcoal.....	June 4, 1867.
2, 778	Jasper, Gustavus A., assignor to the Union Sugar Refinery, Charlestown, Mass. Cleansing animal charcoal..... (Reissue).....	Oct. 15, 1867.
2, 824	Jauriet, C. F., assignor to self and A. J. Ambler, Aurora, Ill. Steam generator..... (Division A. Reissue).....	Dec. 31, 1867.
2, 825	Same.....Steam generator..... (Division B. Reissue).....	Dec. 31, 1867.
65, 483	Jay, James C., and Joseph Younce, Wabash, Ind. Churn.....	June 4, 1867.
61, 665	Jeanottat, Jules, Paterson, N. J. Apparatus for cleaning silk threads.....	Jan. 29, 1867.
67, 120	Jedamski, Gustav, assignor to William Staehlen, New York, N. Y. Pen-rack.....	July 23, 1867.
	Jeffers, Albert, and William Duchemin. (See Duchemin & Jeffers.)	
	Jeffers, Milton C. (See Kenyon, Silas R., assignor.)	
63, 202	Jeffrey, Edwin A., assignor to self and George M. Clark, Trappe, Md. Griddle.....	Aug. 27, 1867.
67, 532	Jeffrey, Henry, St. Charles, Mo. Nail extractor.....	Aug. 6, 1867.
63, 902	Jeffrey, John G., South New Berlin, N. Y. Medical compound.....	Apr. 16, 1867.
69, 345	Jeffries, William, England. Puddling and other furnaces. Patented in England January 22, 1866.....	Oct. 1, 1867.
63, 391	Jeggle, W., and S. A. Brooks, Chicago, Ill. Condenser.....	Apr. 2, 1867.
62, 203	Jeinsen, Ernst V., New York, N. Y. Car coupling.....	Feb. 19, 1867.
70, 221	Jelley, George, and John W. Gowell, Boston, Mass. Sash fastener.....	Oct. 29, 1867.
63, 642	Jenks, John, Washington, D. C. Button.....	Apr. 9, 1867.
71, 017	Jenkins, Charles R., Philadelphia, Pa. Sash stop.....	Nov. 19, 1867.
2, 462	Jenkins, Eugene N., Chicago, Ill. Lantern..... (Reissue).....	Jan. 15, 1867.
	Jenkins, G. L., and F. Wilcox. (See Co.; George, assignor.)	
2, 613	Jenkins, John V., assignor to Richard B. Walker and Lewis Miller, Akron, Ohio. Machine for shearing sheep..... (Reissue).....	May 14, 1867.
2, 614	Same.....Sheep shearing machine..... (Reissue).....	May 14, 1867.
66, 966	Same.....Manchester, Mich. Machine for shearing sheep.....	July 23, 1867.
	Jenkins, J. W., jr. (See Bullard, E. W., assignor.)	
62, 751	Jenkins, Joshua, assignor to self and Samuel Williams, Salem, Ohio. Box for transplanting plants.....	Mar. 12, 1867.
69, 811	Jenkins, Nathaniel, Boston, Mass. Packing for joints, valves, &c.....	Oct. 15, 1867.
67, 553	Jenkins, Nicholas, New York, N. Y. Machine for making molding.....	Aug. 6, 1867.
67, 121	Jenkins, Thomas H., Nyack, N. Y. Process of making steel.....	July 23, 1867.
71, 492	Jenkinson, James, Brooklyn, N. Y. Apparatus for applying clasps to skirts.....	Nov. 26, 1867.
71, 621	Jenkinson, James, assignor to Daniel D. Winant, Brooklyn, N. Y. Chalk-holder for billiard cue.....	Dec. 3, 1867.
61, 010	Jenks, Barton H., Bridesburg, Pa. Self-lubricating bolster and step for spinning frames.....	Jan. 8, 1867.
62, 204	Same.....Index chain for looms.....	Feb. 19, 1867.
63, 055	Same.....Treadle cam for looms.....	Mar. 19, 1867.
66, 691	Same.....Spindle bearing.....	June 25, 1867.
62, 423	Jenks, Lemuel P., assignor to Edwin A. Eaton, Boston, Mass. Water meter.....	Feb. 26, 1867.
62, 752	Jenks, Lemuel P., assignor to Edward A. Galbraith, Boston, Mass. Peat machine.....	Mar. 12, 1867.
	Jenks, Pardon, et al. (See Wheeler, Walter, jr., assignor.)	
69, 442	Jenne, C. M., Young America, Ill. Cultivator.....	Oct. 1, 1867.
	Jenness, Richard S., et al. (See Sykes, Chester W., assignor.)	
62, 424	Jennings, Alva F., Sherman, N. Y. Refrigerator for milk.....	Feb. 26, 1867.
	Same.....(See Richardson, Milo A., assignor.)	
71, 390	Jennings, Augustus and Isaac, Fairfield, Conn. Manufacture of paper vessels.....	Nov. 26, 1867.
62, 852	Jennings, John S., Medina, N. Y. Boiler form.....	Mar. 12, 1867.
65, 231	Jennings, Joseph H., Cambridgeport, Mass. Rubber boot for horses.....	May 23, 1867.
	Jennings, Lyman G., and James S. Lester. (See Lester & Jennings.)	
64, 879	Jennings, Ralph S., assignor to self and N. G. Kellogg, New York, N. Y. Envelope.....	May 21, 1867.
68, 302	Jennings, Ralph S., assignor to self and Charles D. Macqueen. Philadelphia, Pa. Playing card board.....	Aug. 27, 1867.
61, 666	Jennings, Robert, and James A. Marshall, Bordentown, N. J. Device for preventing horses from cribbing.....	Jan. 29, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
67, 554	Jennings, Samuel C., Wautoma, Wis. Bed bottom	Aug. 6, 1867.
63, 524	Jepson, John V., Brooklyn, N. Y. Pipe cutter	Apr. 2, 1867.
66, 498	Jerome, Charles T., Minneapolis, Minn. Fire annihilator	July 9, 1867.
	Jerome, Edgar, and Seth Wheeler. (See Wheeler & Jerome.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
	Same.....same.	
62, 338	Jervey, William E., New Orleans, La. Burner for petroleum stoves.....	Feb. 26, 1867.
62, 339	Same.....same.....	Feb. 26, 1867.
65, 390	Jessup, Gilbert, Shortsville, N. Y. Plaster sower	June 4, 1867.
2, 782	Jessup, Gilbert, assignor to Hiram L. and Calvin P. Brown, Shortsville, N. Y. Seeding machine.....	(Reissue) Oct. 22, 1867.
67, 985	Jewell, E., Louisville, Ky. Watch	Aug. 20, 1867.
70, 222	Jewell, J. Grey, Washington, D. C. Window-sash stop	Oct. 23, 1867.
66, 848	Jewell, jr., Pliny, assignor to P. Jewell & Sons, Hartford, Conn. Rubber-coated rubber belting.....	July 16, 1867.
	Jewell, P., & Sons. (See Hummel, Peter E., assignor).....	(Reissue.)
	Same.....(See Underwood, Henry, assignor).....	(Reissue.)
	Same.....(See Roberts, A. W., assignor).....	
	Same.....same.....	
70, 855	Jewell, Theodore E., deceased, by Eliza Jane Jewell, administratrix, Brooklyn, N. Y. Yoke for grain elevators.....	Nov. 12, 1867.
63, 525	Jewett, Augustine, Boston, Mass. Regulator for watches.....	Apr. 2, 1867.
67, 312	Jewett, Edward, Rindge, N. H. Mode of manufacturing veneers.....	July 30, 1867.
68, 203	Same.....Veneer cutter.....	Aug. 27, 1867.
68, 883	Same.....Cant hook.....	Sept. 17, 1867.
	Jewett, George D., and Lester L. Hills. (See Baker & Hills, assignors.)	
67, 434	Jewett, Inesley, assignor to self and John P. Jewett, Boston, Mass. Knife cleaner.....	Aug. 6, 1867.
60, 738	Jewett, John C., Buffalo, N. Y. Slop jar.....	Jan. 1, 1867.
69, 812	Same.....Refrigerator.....	Oct. 15, 1867.
65, 088	Jewett, S. A., Cleveland, Ohio. Melodeon, &c.....	May 23, 1867.
70, 223	Jewett, S. E., Haverhill, Mass. Joint bolt.....	Oct. 29, 1867.
61, 741	Jillson, Clark, Worcester, Mass. Lightning rod.....	Feb. 5, 1867.
2, 590	Same.....Animal trap.....	(Reissue) May 7, 1867.
67, 655	Same.....Screw-cutting machine.....	Aug. 13, 1867.
69, 346	Same.....Strawberry ripener.....	Oct. 1, 1867.
61, 205	Jimmerman, Allen S., Green Point, N. Y. Sweeping machine.....	Jan. 15, 1867.
63, 392	Jincks, Melvin, Dansville, N. Y. Boring bit.....	Apr. 2, 1867.
70, 856	Same.....Lamp.....	Nov. 12, 1867.
69, 999	Jincks, J. E., Milton, Fla. Plow.....	Oct. 22, 1867.
	Jincks, Melvin, Dansville, N. Y. Turnkey.....	(Extension) Dec. 3, 1867.
61, 636	Jobe, Thomas, Clarkesville, Ohio. Cultivator.....	Feb. 5, 1867.
69, 813	Johansen, Johan, Springfield, Ill. Mangle.....	Oct. 15, 1867.
71, 493	John, Joseph, Massillon, Ohio. Corn planter.....	Nov. 26, 1867.
	Johns, August, and Joseph Krebs. (See Krebs & Johns.)	
62, 340	Johns, Evan F., Philadelphia, Pa. Apparatus for applying springs to cushions.....	Feb. 26, 1867.
	Johns, Peter D. (See Zinn, John Hartzell, assignor.)	
72, 644	Johns, William B., Cumberland, Md. Harvester rake.....	Dec. 24, 1867.
64, 338	Johnson, Abijah, West Newton, Ind. Striking attachment to clocks.....	Apr. 30, 1867.
60, 297	Johnson, Albert, and Sidney E. Allen, Raleigh, N. C. Alarm gun.....	Jan. 1, 1867.
67, 313	Johnson, Albert E., Oxford, Mass. Shave for boots and shoes.....	July 30, 1867.
64, 770	Johnson, Andrew, and W. H. Elliot, Bloomington, Ill. Motive power.....	May 14, 1867.
61, 341	Johnson, A. F., Boston, Mass., and M. P. Griffin, Medford, Mass. File-cutting machine.....	Jan. 22, 1867.
61, 667	Johnson, A. P., Edwards, N. Y. Water wheel.....	Jan. 29, 1867.
64, 880	Johnson, A. W., and George Thompson, New York, N. Y. Permutation lock.....	May 21, 1867.
2, 786	Johnson, A. W., and George Thompson, assignors to George Thompson and Henry Mitchell, Trenton, N. J. Permutation lock.....	(Reissue) Oct. 22, 1867.
	Johnson, B. F., and H. C. Putman. (See Putman & Johnson.)	
63, 393	Johnson, Charles C., Springfield, Vt. Clothes pin.....	Apr. 2, 1867.
66, 351	Same.....Dough kneader.....	July 2, 1867.
71, 494	Johnson, C. F., East Saginaw, Mich. Manufacture of salt. (Antedated Nov. 15, 1867.)	Nov. 26, 1867.
61, 913	Johnson, Edmund, and August Steuernagel, assignors to-selves, John W. Parsons, David R. Smith, D. W. Bliss, and Marcus P. Norton, Washington, D. C. Mode of preventing frauds on the revenue derived from spirits and malt liquors.....	Feb. 5, 1867.
65, 232	Johnson, Ezran, Joliet, Ill. Window sash fastener.....	May 28, 1867.
67, 986	Johnson, F. B., De Witt, Iowa. Seeder and cultivator.....	Aug. 20, 1867.
62, 205	Johnson, George, assignor to self, Francis Brossy, and Adolphus Gaudson, Detroit, Mich. Sewing machine.....	Feb. 19, 1867.
71, 692	Johnson, George, and William H. Milliken, San Francisco, Cal. Faucet attachment.....	Dec. 3, 1867.
63, 163	Johnson, George L., Fairfield, N. Y. Extension ladder. (Antedated Mar. 15, 1867.)	Mar. 26, 1867.
	Johnson, George W. (See Myler, William, assignor.)	
	Johnson, H. C., and Robert E. Downie. (See Downie & Johnson.)	
69, 443	Johnson, Hans J., St. Peter, Minn. Gate.....	Oct. 1, 1867.
72, 501	Same.....Corn planter.....	Dec. 24, 1867.
67, 435	Johnson, Henry H., New Haven, Conn. Broiler.....	Aug. 6, 1867.
66, 713	Johnson, James, Northampton county, N. C. Combined planter, cotton seed, and fertilizer distributor.....	July 16, 1867.
66, 849	Same.....Spring for bed bottoms.....	July 16, 1867.
65, 391	Johnson, Jesse, West Fallowfield Township, Pa. Bolt cutter.....	June 4, 1867.
66, 881	Johnson, Job, and Elijah D. Davis, Brooklyn, N. Y. Building.....	Sept. 17, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Johnson, Job, and Jabez F. Mason. (See Mason & Johnson.)	
	Johnson, Job, and Horace Maxson. (See Maxson & Johnson.)	
60, 898	Johnson, John, Saco, Me. Process for obtaining precious metals from the beds of rivers	Jan. 1, 1867.
60, 899	Same. Mode of gathering and treating auriferous sand from the beds of rivers.	Jan. 1, 1867.
62, 137	Same. Pipe tongs.	Feb. 19, 1867.
63, 394	Same. Collecting gold from river bottoms.	Apr. 2, 1867.
72, 401	Johnson, John, Boston, Mass. Sled.	Dec. 17, 1867.
72, 739	Johnson, John, Hartford, Conn. Mode of constructing sewing-machine cases.	Dec. 31, 1867.
65, 677	Johnson, John, Saco, Me., and R. C. Overton, New York, N. Y. Mode of disintegrating rocks.	June 11, 1867.
	Johnson, J., and J. Stevens. (See Stevens & Johnson.)	
	Johnson, John, and William M. Hall. (See Hall & Johnson.)	
72, 402	Johnson, John B., Laurel, Ind. Fence.	Dec. 17, 1867.
71, 495	Johnson, Joseph B., Lynn, Mass. Shaping the soles of boots and shoes.	Nov. 26, 1867.
	Johnson, J. F. (See Rominger, J. G., assignor.)	
	Johnson, J. J., and John Wright. (See Wright & Johnson.)	
	Johnson, J. N. (See Cooper, Edward A., assignor.)	
71, 623	Johnson, J. R., Macon, Ill. Cultivator.	Dec. 3, 1867.
70, 574	Johnson, Leonard J., assignor to self and Erskine A. Cole, Montville, Conn. Knife cleaner and sharpener.	Nov. 5, 1867.
	Johnson, Lowell L. (See Elliot, William H., assignor.)	
	Johnson, L. N., and G. D. Spooner. (See Spooner & Johnson.)	
61, 742	Johnson, Moses A., Lowell, Mass. Insole for boots and shoes.	Feb. 5, 1867.
63, 798	Same. Machine for felting or fulling yarn, &c.	Apr. 16, 1867.
65, 814	Same. Carpet lining.	June 18, 1867.
69, 444	Johnson, Nelson, Jasper, N. Y. Fence.	Oct. 1, 1867.
69, 445	Same. same.	Oct. 1, 1867.
	Johnson, Peter, and John C. Underwood. (See Underwood & Johnson.)	
66, 594	Johnson, Richard P., assignor to self and Eli J. Sumner, Wabash, Ind. Apparatus for drying lumber.	July 9, 1867.
66, 352	Johnson, Sylvester, New Harmony, Ind. Horse rake.	July 2, 1867.
72, 047	Johnson S. M., Lockport, N. Y. Reversible sad iron.	Dec. 10, 1867.
70, 722	Johnson, S. P., assignor to self and Charles Whittemore, Portland, Me. Invalid bedstead.	Nov. 12, 1867.
67, 057	Johnson, Warren, Fishersville, N. H. Device for tethering animals.	July 23, 1867.
65, 029	Johnson, William, Lambertville, N. J. Turning lathe.	May 28, 1867.
68, 511	Johnson, William, Shireleysburg, Pa. Tanning composition.	Sept. 3, 1867.
61, 426	Johnson, William, 2d, Haverhill, Mass. Key-hole guard for door locks.	May 7, 1867.
68, 204	Johnson, William B., Bowling Green, Ky. Buckle.	Aug. 27, 1867.
67, 656	Johnson, William D., Raleigh, N. C. Seed planter.	Aug. 13, 1867.
	Johnson, William H., Springfield, Mass. Sewing machine. (Extension.)	April 15, 1867.
69, 676	Johnson, W. J., New Orleans, La. Truss pad.	Oct. 8, 1867.
2, 442	Johnson, W. J., assignor, through mesne assignments, to Henry Johnson, Chicago, Ill. Spring holder for wiping cloth.	(Reissue.)
62, 138	Johnson, W. J., assignor to self and H. A. Hildreth, Newton, Mass. Carpet stretcher.	Jan. 1, 1867.
	Johnson, W. J., and H. A. Hildreth. (See Welch, Dan., assignor.)	Feb. 19, 1867.
62, 273	Johnson, William W., assignor to N. Fauce and W. Bolster, Harrison, Maine. Road scraper.	Feb. 19, 1867.
68, 512	Johnston, Columbus, Clarksville, Mo. Charger for shot pouches.	Sept. 3, 1867.
62, 206	Johnston, Daniel A., Memphis, Tenn. Prihting apparatus for the blind.	Feb. 19, 1867.
66, 499	Johnston, George, and Edwin G. Smith, Auburn, Cal. Amalgamator and concentrator.	July 9, 1867.
66, 240	Johnston, James, Pemberton, Ohio. Combined plow, harrow, cultivator, and roller.	July 2, 1867.
61, 743	Johnston, James J., Allegheny, Pa. Manufacture of iron. (Antedated Jan. 18, 1867.)	Feb. 5, 1867.
62, 207	Same. Brick machine.	Feb. 19, 1867.
69, 347	Same. Sad-iron heater.	Oct. 1, 1867.
69, 217	Johnston, James J., assignor to the People's Brick Machine Company, Pittsburg, Pa. Brick dryer.	Sept. 24, 1867.
71, 307	Johnston, M. M., New York, N. Y. Alloy for dentists' use.	Nov. 26, 1867.
72, 502	Johnston, William K., Cordova, Ill. Lever lock for wagon brakes.	Dec. 24, 1867.
60, 900	Joly, Thomas J., Versailles, Ind. Machine for making wooden pickets.	Jan. 1, 1867.
67, 555	Joly, Nicholas, France. Medical compound.	Aug. 6, 1867.
66, 967	Jomain, J. M., France. Metallic blind.	July 23, 1867.
2, 714	Jones, Charles, Philadelphia, Pa. Heating stoves. (Reissue.)	Aug. 6, 1867.
72, 302	Jones, C. C., Portland, Maine. Door bolt.	Dec. 17, 1867.
	Jones, C. C. (See Fellows, James B., assignor.)	
69, 814	Jones, Charles W., assignor to self and Hiram W. Stout, Philadelphia, Pa. Crossing for street railways.	Oct. 15, 1867.
71, 368	Jones, Charles W., ass'r to self and J. S. Jardine, Philadelphia, Pa. Railway switch.	Nov. 26, 1867.
	Jones, Charles W., and James McLaughlin. (See McLaughlin & Jones.)	
63, 799	Jones, Cyrus C., Orono, Maine. Saw-mill dog.	Apr. 16, 1867.
	Jones, David W., et al. (See Storrs, Keyes & Jones.)	
	Jones, Edward H., et al. (See Tyler, Samuel W., assignor.)	
	Jones, E. P. (See Clapp, Mirtillow R., assignor.)	
63, 800	Jones, F. H., Attca, N. Y. Windlass for wells.	Apr. 16, 1867.
2, 598	Jones, George, Sangerites, N. Y. Coffee and tea pot tops. (Design.)	Mar. 19, 1867.
63, 903	Same. Coffee pot.	Apr. 16, 1867.
2, 681	Same. Tea or coffee pot. (Design.)	June 18, 1867.
	Jones, George H., and Henry C. Berlin. (See Waymoth, Thos. V., ass'r. (Reissue.)	
	Same. same. (Reissue.)	
66, 500	Jones, George T., Cincinnati, Ohio. Process for manufacturing bank notes, &c.	July 9, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
60, 739	Jones, Gilbert D., New York, N. Y. Quartz mill.....	Jan. 1, 1867.
65, 752	Same..... Pr-ss	June 11, 1867.
61, 206	Jones, H. P., Davenport, Iowa. Dough kneader	Jan. 15, 1867.
65, 576	Same..... Winding tating shuttles	June 11, 1867.
2, 772	Jones, James D., Columbiana, Ohio. Horse rake	Oct. 8, 1867.
67, 767	Jones, James H., Williamsport, Pa. Car coupling	Aug. 13, 1867.
68, 990	Same..... Check hook	Sept. 17, 1867.
	Jones, J. H., and William F. Cozzens. (See Cozzens & Jones.)	
	Jones, James V. (See Cooper, George W., assignor.)	
	Same..... same.	
70, 439	Jones, James W., Cumberland, Md. Apparatus for making extracts from bark and other materials.....	Nov. 5, 1867.
69, 677	Jones, John, Baltimore, Md. Machine for compressing peat	Oct. 8, 1867.
63, 255	Jones, John Alcock, Great Britain. Non-conducting composition for covering boilers, ice houses, &c., to impede the passage of heat.....	Mar. 26, 1867.
	Jones, Joseph, et al. (See Goodnow, William D., assignor)	(Reissue.)
68, 885	Jones, Josiah, assignor to Thomas Kennedy, Brooklyn, N. Y. Manufacture of mineral knobs	Sept. 17, 1867.
62, 544	Jones, Judson F., Washington, D. C. Switch.....	Mar. 5, 1867.
63, 643	Jones, J. Herva, Rockford, Ill. Hand seed planter	Apr. 9, 1867.
64, 984	Jones, Luman A. and George J., Barrington, N. Y. Harvester.....	May 21, 1867.
69, 099	Jones, M. R., Braiford, Wis. Subsoil plow	Sept. 24, 1867.
	Jones, N. R. (See Ragan, William H., assignor.)	
68, 513	Jones, Obadiah, South Englewood, N. J. Leather-backed horse brush.....	Sept. 17, 1867.
	Jones, Paul. (See Sprague, A. J., assignor.)	
67, 768	Jones, Phineas, Newark, N. J. Driving reins.....	Aug. 13, 1867.
70, 338	Jones, Robert, Cedarville, Ill. Beehive	Oct. 29, 1867.
72, 860	Jones, R. V., Canton, Ohio. Horse hay fork	Dec. 31, 1867.
62, 035	Jones, Robert V., and Henry Fessler, assignors to selves and James Short, Canton, Ohio. Harvester rake	Feb. 5, 1867.
67, 880	Jones, Samuel H., ass'r to self and Charles W. Bready, Sandy Spring, Md. Cement for lining oil barrels.....	Aug. 20, 1867.
66, 850	Jones, Samuel W., Bluffton, Ind. Pruning shears.....	July 16, 1867.
64, 338	Jones, T., and W. Morgan, Pittsburg, Pa. Compound for improving the quality of iron.	Apr. 30, 1867.
64, 639	Jones, Thomas J., Madison, N. J. Water ejector.....	May 7, 1867.
	Jones, Thomas J., and Elbridge Lawton. (See Lawton & Jones.)	
64, 427	Jones, T. J., Summit, N. J., and T. L. Webster, Brooklyn, N. Y. Faucet.....	May 7, 1867.
67, 314	Jones, Wiley, Norfolk, Va. Shoe-stretching device.....	July 30, 1867.
64, 881	Jones, W. B., Franklin, Ky. Motive power.....	May 21, 1867.
	Jones, W. H., et al. (See Baldwin, Jones & Gibbs.)	
63, 526	Jones, Wilson L., Baldwin City, Kansas. Lifting apparatus.....	Apr. 2, 1867.
68, 205	Jonson, Julius, assignor to Gustavus Jonson and H. L. Frank, Baltimore, Md. Magnetic machine for separating iron from brass turnings and filings.....	Aug. 27, 1867.
64, 227	Jordan, Dedrick, Charlestown, Mass. Cutter guide for moulding machines.....	Apr. 30, 1867.
70, 857	Jordan, J. C., Watertown, Wis. Compound tool for punching and shearing.....	Nov. 12, 1867.
65, 489	Jordan Lucius, Southington, Conn. Wrench	June 4, 1867.
67, 197	Jordan, Robert J., Elkhart, Ind. Belt coupling.....	July 30, 1867.
69, 218	Jordan, R. J., assignor to self and E. Darling, Elkhart, Ind. Boiler-water regulator.....	Sept. 24, 1867.
63, 726	Jordan, Thomas B., Gloucester, N. J. Starting apparatus for street cars.....	Apr. 9, 1867.
61, 668	Jordan, William A., New Orleans, La. Wash board.....	Jan. 29, 1867.
63, 527	Same..... Apparatus for bleaching cane juice	Apr. 2, 1867.
62, 753	Jordan, David C., sr., Brooklyn, N. Y. Door lock.....	Mar. 12, 1867.
69, 219	Joslin, William C., West Thompson, Conn. Machine for reducing roller leather to a uniform thickness.....	Sept. 24, 1867.
62, 298	Joslyn, John, Canton, N. Y. Crimping machine.....	Feb. 19, 1867.
61, 073	Josselyn, E. K., Cambridge, Mass. Eye glass.....	Jan. 8, 1867.
67, 556	Jouett, James E., New York, N. Y. Chair and couch	Aug. 6, 1867.
66, 353	Joy, William C., and John Campbell, Penn Yan, N. Y. Bleaching paper pulp.....	July 2, 1867.
	Joyce, Jacob O. (See Hopkins, J. R., assignor.)	
69, 220	Joyce, Maurice, Washington, D. C. Boat lowering and detaching apparatus.....	Sept. 24, 1867.
61, 542	Juckett, Edward B., Roxbury, Mass. Steam generator.....	Jan. 29, 1867.
66, 595	Judd, Albert D., New Haven, Conn. Cupboard latch.....	July 9, 1867.
62, 635	Judd, Edward M., Wolcottville, Conn. Curtain fixture.....	Mar. 5, 1867.
	Judd, E. M., and E. J. Manville. (See Manville & Judd.)	
60, 901	Judd, I. W., New Haven, Conn. Sash fastener.....	Jan. 1, 1867.
	Judd, J., and N. M. Mendenhall. (See Mendenhall & Judd.)	
60, 902	Judd, Oliver S., New Britain, Conn. Snap hook.....	Jan. 1, 1867.
	Judkins, J. T., et al. (See Sinclair, J. A., assignor.)	
68, 828	Judson, Agur, Newark, N. Y. Mechanism for sewing oval seams.....	Sept. 10, 1867.
67, 198	Judson, Anson, Brooklyn, N. Y. Printing press.....	July 30, 1867.
69, 815	Same..... Lamp	Oct. 15, 1867.
67, 657	Judson, Carlos, Omro, Wis. Medical compound.....	Aug. 13, 1867.
66, 028	Judson, Isaac, New Haven, Conn. Hydraulic pressure regulator.....	June 25, 1867.
71, 835	Judson, Thomas S., Mattawan, N. Y. Harness trace.....	Dec. 3, 1867.
	Judson, Whitcomb, and William H. Prescott. (See Prescott & Judson.)	
63, 904	Juge, Henri, assignor to self and Thomas H. Rockwell, New York, N. Y. Efeletting machine.....	Apr. 16, 1867.
60, 903	Julius, Charles T., Philadelphia, Pa. Anchor.....	Jan. 1, 1867.
61, 342	June, David, Frémont, Ohio. Cast-iron chimney.....	Jan. 22, 1867.
	June, David, et al. (See Brayton, Curtis & June.)	
61, 207	Jurgenson, Jules, Switzerland. Stem-setting watch.....	Jan. 15, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 206	Jusberg, Andrew, Galva, Ill. Casting bells.....	Aug. 27, 1867.
70, 000	Same.....Pump.....	Oct. 23, 1867.
62, 036	Just, Francis, Buffalo, N. Y. Door lock.....	Feb. 12, 1867.
60, 904	Justi, John A. W., Savannah, Ga. Truss.....	Jan. 1, 1867.
60, 740	Juvet, Louis Paul, Glen's Falls, N. Y. Time globe.....	Jan. 1, 1867.
64, 989	Same.....same.....	May 21, 1867.
63, 395	Kabisius, Ernst, Davenport, Iowa. Stovepipe damper.....	Apr. 2, 1867.
64, 540	Kafer, Peter M., and Joseph M. De Lacy, Trenton, N. J. Feed water heater.....	May 7, 1867.
66, 092	Kahn, Simon. (See Vetter, Michael, assignor.) Kaiser, Charles, New York, N. Y. Steam rotary engine.....	June 25, 1867.
67, 987	Kaiser, Friederich, and Joseph Muller. (See Muller & Kaiser.) Kalb, John S., Fostoria, Ohio. Wrench and pruning shears combined.....	Aug. 20, 1867.
67, 769	Kalbuss, Charles, New Richmond, Ohio. Warming apparatus for fire places.....	Aug. 13, 1867.
70, 440	Kali, F., and S. Andrews, Rochester, N. Y. Boot crimp.....	Nov. 5, 1867.
63, 727	Kamm, Jacob J., Fort Wayne, Ind. Burning fluid.....	Apr. 9, 1867.
63, 256	Kamps, Gerhardt, Pittsburg, Pa. Manufacture of vinegar.....	Mar. 26, 1867.
71, 309	Kane, Bart, Cincinnati, Ohio. Water prism.....	Nov. 26, 1867.
71, 018	Kane, Charles, assignor to self and John Gribben, Allegheny, Pa. Sash supporter.....	Nov. 19, 1867.
63, 523	Kane, Stephen K., Allegheny, Pa. Manufacture of petroleum soap.....	Apr. 2, 1867.
68, 084	Kark, Cornelius, Huntington, Ohio. Gate.....	Aug. 27, 1867.
65, 490	Karr, John V., Goshen, Ind. Gas chamber and valve for forges.....	June 4, 1867.
61, 208	Kasson, A. C., ass'r to self and N. C. Gridley, Milwaukee, Wis. Auger.....	Jan. 15, 1867.
2, 551	Same.....same.....(Reissue).....	Apr. 9, 1867.
	Kattell, Edward C., and John Ellis. (See Ellis & Kattell.) Same.....same.....	
72, 861	Katzenberg, Jacob, New York, N. Y. Car brake.....	Dec. 31, 1867.
68, 991	Kaufman, Daniel, Boiling Springs, Pa. Fence.....	Sept. 17, 1867.
67, 058	Kaufman, Simon, Fairbury, Ill. Scouring and scrubbing machine.....	July 23, 1867.
61, 669	Kaufmann, A., New York, N. Y. Paper collar.....	Jan. 29, 1867.
70, 441	Kaufmann, Ernst, Philadelphia, Pa. Table urn.....	Nov. 5, 1867.
60, 905	Kay, George and Joseph, Esopus, N. Y. Pocket knife.....	Jan. 1, 1867.
69, 816	Kay, John A., and J. Durell Greene. (See Greene & Kay.) Kayser, Joseph, Reserve township, Pa. Machine for making patch bolts.....	Oct. 15, 1867.
64, 329	Kays, S. A. and L. M., Independence, Iowa. Horse rake.....	Apr. 23, 1867.
66, 354	Kayser, Henry. (See Matbis, J., assignor.).....(Reissue).....	
66, 851	Keables, H. N., Worcester, Mass. Gear cutter.....	July 2, 1867.
66, 851	Keane, Charles, Hollidaysburg, Pa. Extension slide for tables.....	July 16, 1867.
69, 446	Keane, P. M., et al. (See Frost, David, assignor.) Keasey, Enos A., Ligonier, Ind. King bolt.....	Oct. 1, 1867.
69, 678	Keasor, John L., Laconia, N. H. Self-acting plow holder.....	Oct. 8, 1867.
62, 271	Keating, John M. D., assignor to E. Keating, New York, N. Y. Envelope machine.....	Feb. 19, 1867.
72, 048	Keats, William and John, England. Manufacture of boots and shoes. (Patented in England April 14, 1863.).....	Dec. 10, 1867.
64, 882	Keck, Peter, Zanesville, Ohio. Pruning shears.....	May 21, 1867.
69, 348	Keck, Rudolf, Clintonville, N. Y. Mode of treating slags and cinders for the manufacture of iron.....	Oct. 1, 1867.
64, 771	Keefe, F., Greerfield, Ind. Hand plow.....	May 14, 1867.
65, 678	Keeler, G. B., Greenwich, Conn. Wrench.....	June 11, 1867.
68, 992	Keeler, G. B., Port Chester, N. Y. Hoisting apparatus.....	Sept. 17, 1867.
65, 815	Keeler, Luther C., Montrose, Pa. Shoe holder.....	June 18, 1867.
63, 056	Keeler, Samuel, Lancaster, Pa. Seed drill teeth.....	Mar. 19, 1867.
65, 753	Keeler, William, and Le Roy Coville. (See Coville & Keeler.) Keemle, Washington, Philadelphia, Pa. Engine piston.....	June 11, 1867.
2, 689	Keenan, Philip, and Edwin O. Connor, Brownstown, Pa. Puddling furnace. (Reissue).....	July 16, 1867.
65, 754	Keene, George Augustus, Newburyport, Mass. India-rubber tread for carriage steps.....	June 11, 1867.
67, 437	Same.....Feathering paddle wheel.....	Aug. 6, 1867.
63, 164	Keene, Geo. A., assignor to self and Joseph T. Manning, Boston, Mass. Neck tie.....	Mar. 26, 1867.
66, 664	Keene, Josiah, Washington, D. C. Plastering machine.....	July 9, 1867.
66, 714	Keeney, F. H., Newport, Ky. Roundabout toy.....	July 16, 1867.
68, 207	Keeney, William J., Florence, Ind. Harvester pitman.....	Aug. 27, 1867.
70, 224	Same.....Pitman coupling.....	Oct. 29, 1867.
70, 225	Same.....same.....	Oct. 29, 1867.
	Keeney, William J., and George W. D. Culp. (See Culp & Keeney).....(Reissue).....	
	Same.....same.....(Reissue).....	
	Same.....same.....(Reissue).....	
61, 837	Keep, James M., New York, N. Y. Toy cross bow.....	Feb. 5, 1867.
63, 905	Same.....Paper fastening.....	Apr. 16, 1867.
	Keep, J. M., and Company. (See Ely, Philip, assignor.) Keece, Richard, Bennington, Ohio. Churn.....	Apr. 9, 1867.
63, 728	Keesey, John, Chester, Pa. Shaft coupling.....	Dec. 10, 1867.
71, 884	Keethler, John, and Alexander Humphries. (See Humphries & Keethler.) Kehoo, Moses T., Amsterdam, N. Y. Cattle car.....	Jan. 1, 1867.
60, 906	Keilig, Max A., Boston, Mass. Dress hook.....	Dec. 31, 1867.
72, 862	Keil, Autou, and John Tresch, New York, N. Y. Machine for molding pottery.....	Apr. 2, 1867.
65, 529	Keiser, William, Stroudsburg, Pa. Grate.....	June 4, 1867.
65, 392	Keiss, J., and G. Reneky. (See Reneky & Keiss.) Keith, Arza B., North Bridgewater, and T. K. Reed, East Bridgewater, Mass. Cutting out leather.....	Apr. 30, 1867.
64, 228	Keith, Horace M., assignor to self and T. A. Flower, West Bloomfield, N. ch. Combined fertilizer and seed sower.....	July 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 425	Keith, Howard C., Ancona, Ill. Beehive.....	Feb. 26, 1867.
	Keith, J., and A. M. Duburn. (See Duburn & Keith.)	
62, 754	Keith, T. C., assignor to Joseph K. Mallery, Valley Falls, R. I. Auger.....	Mar. 12, 1867.
62, 755	Kellam, B. J., Frémont, N. Y. Oar. (Antedated Feb. 15, 1867).....	Mar. 12, 1867.
69, 679	Kellar, James M. and Martin L., Buckeye, Iowa. Harvester.....	Oct. 8, 1867.
70, 575	Keller, George William, Philadelphia, Pa. Dress elevator.....	Nov. 5, 1867.
61, 543	Keller, John F., Greencastle, Pa. Seed drill.....	Jan. 29, 1867.
61, 544	Same.....Seed planter.....	Jan. 29, 1867.
61, 545	Same.....same.....	Jan. 29, 1867.
70, 001	Keller, M. A., Littletown, Pa. Harvester.....	Oct. 22, 1867.
	Keller, Peter P., et al. (See Cole, William T., assignor.)	
	Keller, Peter P., and Jacob F. Hunter. (See Cole, William T., assignor.)	
65, 090	Kellett, Robert James, San Francisco, Cal. Punch for car tickets, &c.....	May 28, 1867.
2, 554	Kellett, Samuel, San Francisco, Cal. Molding.....(Design).....	Jan. 15, 1867.
66, 715	Kelley, Elisha, Locust Grove, Ohio. Broom head.....	July 16, 1867.
67, 988	Kelley, E. G., New York, N. Y. Petroleum still.....	Aug. 20, 1867.
71, 391	Kelley, T. A., assignor to self and William G. Wilson, Cleveland, Ohio. Car brake.....	Nov. 26, 1867.
62, 636	Kelley, Zeno, New Bedford, Mass. Sealing padlock.....	Mar. 5, 1867.
71, 763	Same.....Harpoon.....	Dec. 3, 1867.
	Kellison, Daniel, and Thomas H. Parker. (See Parker & Kellison.)	
65, 679	Kellogg, Dennis A., Va'paraiso, Ind. Wrench.....	June 11, 1867.
68, 514	Kellogg, E. C., Rome, N. Y. Cattle pump.....	Sept. 3, 1867.
71, 180	Kellogg, E. C. C., assignor to self and Theodore Hoyt, Hartford, Conn. Burglar alarm.....	Nov. 19, 1867.
	Kellogg, E. N. (See Lowrey, Robert O., assignor.)	
	Kellogg, H. (See Crosby, C. O., assignor.)	
62, 037	Kellogg, Henry, New Haven, Conn. Manufacture of hats.....	Feb. 12, 1867.
65, 393	Same.....Machine for making paper hats.....	June 4, 1867.
	Kellogg, H. C., and E. A. Alexander. (See Alexander & Kellogg.)	
71, 496	Kellogg, J. Dwight, jr., Northampton, Mass. Tube well.....	Nov. 26, 1867.
69, 447	Kellogg, Miner K., Baltimore, Md. Stretcher for painters' canvas.....	Oct. 1, 1867.
	Kellogg, N. G. (See Jennings, Ralph S., assignor.)	
62, 637	Kellogg, William H., Duquoin, Ill. Gate latch.....	Mar. 5, 1867.
69, 100	Kellogg, William P., Lansingburg, and Miles Sweet, Troy, N. Y. Currycomb.....	Sept. 24, 1867.
63, 057	Kells, Philip H., Adrian, Mich. Brick machine.....	Mar. 19, 1867.
66, 355	Same.....same.....	July 2, 1867.
2, 810	Same.....same.....(Reissue).....	Dec. 10, 1867.
71, 019	Kellum, William C., San Francisco, Cal. Escapement for time pieces.....	Nov. 19, 1867.
	Kelly, Daniel, and W. W. Owen. (See Owen & Kelly.)	
	Kelly, James A., et al. (See Sykes, Chester W., assignor.)	
	Kelly, Jarvis P., and Edward A. Marsh. (See Marsh & Kelly.)	
60, 741	Kelly, John, Woodberry, Md. Car coupling.....	Jan. 1, 1867.
62, 853	Kelly, Oliver A., assignor to Lamb, Cook & Company, Slatersville, R. I. Governor.....	Mar. 12, 1867.
72, 204	Same.....Steam-engine governor.....	Dec. 17, 1867.
	Kelly, Oliver S., et al. (See Whiteley, Fassler & Kelly.).....(Reissue.)	
	Same.....same.....(Reissue.)	
	Same.....same.....	
	Same.....same.....	
	Same.....(See Long, John, assignor).....(Reissue.)	
	Same.....same.....(Reissue.)	
69, 817	Kelly, Patrick, Nashville, Tenn. Spark arrester.....	Oct. 15, 1867.
61, 209	Kelly, William S., Schenectady, N. Y. Pump.....	Jan. 15, 1867.
63, 530	Kelsey, C. P., Livingstonville, N. Y. Grain cradle.....	Apr. 2, 1867.
	Kelsey, E. A. (See Clark, Hezekiah M., assignor.)	
62, 426	Kelsey, Jared, and John McLain, St. Mary's, Ohio. Farm gate.....	Feb. 26, 1867.
64, 428	Kelsey, Orlando H., Redbank, N. J. Joint for chimneys.....	May 7, 1867.
	Kelsey, Orvin, and Joshua F. Bailey. (See Hadden, Benj. F., ass'or.) (Reissue.)	
70, 226	Kelty, Gibbons L., New York, N. Y. Window-shade material.....	Oct. 29, 1867.
66, 501	Kelty, Henry H., Northfield, Ohio. Farm gate.....	July 9, 1867.
66, 852	Kemper, Elijah, Thornville, Ohio. Gate.....	July 16, 1867.
2, 764	Same.....Thorn township, Ohio. Gate.....(Reissue).....	Sept. 3, 1867.
67, 989	Kempton, George H., Hudson, N. J. Boat-detaching tackle.....	Aug. 20, 1867.
67, 881	Kendall, George P., assignor to E. M. Dickinson and Company, Fitchburg, Mass. Thread waxer for sewing machines.....	Aug. 20, 1867.
71, 310	Kendall, George H., Springfield, Mass. Machine for pressing reins.....	Nov. 26, 1867.
	Kendall, H. R. (See La France, P. A., assignor.)	
72, 404	Kendall, J. E., assignor to self and Charles Whitmore, Plymouth, Ind. Horse rake.....	Dec. 17, 1867.
	Kendall, James M. (See Elin, William H., assignor.)	
61, 074	Kendall, John L., assignor to self and R. H. Trested, New York, N. Y. Electrotype die for making imitation straw goods, &c.....	Jan. 8, 1867.
61, 011	Kendall, John L., assignor to Ellen A. Vail, New York, N. Y. Skirt supporter. (Antedated Dec. 23, 1866).....	Jan. 8, 1867.
71, 311	Kendall, Joseph W., Philadelphia, Pa. Foot for tubs, buckets, &c.....	Nov. 26, 1867.
69, 680	Kendigh, J. E. and A. H., Amherst, Ohio. Fence post.....	Oct. 8, 1867.
63, 906	Kendig, H. M. N., Washington, D. C. Garment fastener.....	Apr. 16, 1867.
66, 968	Same.....Paper fastening.....	July 23, 1867.
70, 062	Kendrick, Jacob H., Dexter, Mich. Horse hay fork.....	Oct. 22, 1867.
	Kendrick, John and Joseph H. (See Bigelow, Augustus E., assignor.)	
67, 770	Kendrick, W. G., Wilmington, Del. Railroad car heater.....	Aug. 13, 1867.
2, 615	Kennedy, Albert H., assignor through mesne assignments to Lewis Miller and R. B. Walker, Akron, Ohio. Machine for shearing sheep.....(Reissue).....	May 14, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 444	Kennedy, Charles, Philadelphia, Pa. Loom heddle.....	Sept. 3, 1867.
	Kennedy, Donald, and Orrin H. Ingram. (See Ingram & Kennedy.)	
65, 680	Kennedy, J. P., and H. C. Bogart. (See Bogart, A. L., assignor.)	
71, 624	Kennedy, Patrick, New York, N. Y. Cement for fixing door knobs, &c.....	June 11, 1867.
	Kennedy, S. A., Attleboro', and S. W. Holt and J. Gerlach, Philadelphia, Pa. Elec- tric clock.....	Dec. 3, 1867.
	Kennedy, S. H., et al. (See Steers, Abraham, assignor.)	
	Same..... same.	
	Kennedy, Thomas. (See Wise, Joseph, assignor.)	
	Same..... (See Munger, Wallace T., assignor.)	
	Same..... (See Jones, Josiah, assignor.)	
	Same..... (See Munger, Wallace T., assignor.)	
65, 394	Kennedy, Timothy, assignor to Thomas Kennedy, Hamden, Conn. Machine for turning the heads of screws.....	June 4, 1867.
72, 503	Kennedy, T. W., assignor to self and Thatcher Nickerson, Avon, Ill. Hand truck for moving barrels, &c.....	Dec. 24, 1867.
63, 907	Kennel, O. G., Ezra H. Smith, and G. L. Morrison, New York, N. Y. Lamp stove for cooking.....	Apr. 16, 1867.
61, 434	Kenny, Patrick, New York, N. Y. Steamboat signal apparatus.....	Jan. 22, 1867.
63, 531	Same..... Shirt stud.....	Apr. 2, 1867.
66, 356	Kenny, P. G., Rahway, N. J. Wash or steep for roots, seeds, &c.....	July 2, 1867.
66, 357	Same..... Mauure.....	July 2, 1867.
	Kenrick, Stephen, et al. (See Bachelder, Cyrus P., assignor.)	
71, 181	Kent, A. A., Lyons, Iowa. Tool for cutting, punching, and upsetting.....	Nov. 19, 1867.
71, 020	Kents, John J., Newtown, Pa. Slitting machine.....	Nov. 19, 1867.
67, 315	Kenworthy, T. L., and A. Silvers, Collinsville, Ohio. Manual power machine.....	July 30, 1867.
	Kenyon, D. M., et al. (See Babcock, Charles A., assignor.)	
68, 085	Kenyon, Silas R., assignor to self and Milton C. Jeffers, Greenville, R. I. Machine for picking and husking corn.....	Aug. 27, 1867.
72, 504	Kephart, H. A., Fletcher, Ohio. Farm fence.....	Dec. 24, 1867.
70:858	Kepler, Israel, Corry, Pa. Fireplace.....	Nov. 12, 1867.
64, 772	Kepper, Solomon, Pottstown, Pa. Device for cleaning stables.....	May 14, 1867.
	Kercher, Jacob. (See Butterworth, Charles, assignor.)	
	Kern, Wm., and B. H. McNulty. (See McNulty & Kern)..... (Reissue.)	
68, 993	Kerns, John, New York, N. Y. Hose coupling.....	Sept. 17, 1867.
	Kero, Michael, et al. (See Sangster, William, assignor.)	
2, 489	Kerr, Edwin R., assignor to self and James L. Platt, Kewanee, Ill. Coal dumping apparatus..... (Reissue).....	Feb. 19, 1867.
	Kerr, Norman, and B. W. Beesley. (See Hatfield, C. B., assignor.)	
	Same..... same.	
60, 742	Kerr, Wm., jr., Boston, Mass. Clamps for holding and finishing smoking pipes.....	Jan. 1, 1867.
67, 199	Kershaw, Charles S., Sherburne, N. Y. Suspending claw for horse hay forks.....	July 20, 1867.
69, 101	Kershaw, Robt., Norristown, Pa. Means for winding or delivering yarn from spools.....	Sept. 24, 1867.
62, 257	Kessler, Heinrich, Duchy of Nassau. Steam engine lubricator.....	Mar. 26, 1867.
61, 622	Kessler, Jacob, York county, Pa. Cultivator.....	Jan. 29, 1867.
67, 316	Kester, William, Cherryville, Pa. Machine for making slate frames.....	July 30, 1867.
70, 859	Ketcham, Frank, Monongahela City, Pa. Sheep trough.....	Nov. 12, 1867.
62, 338	Ketcham, Lewis Y., Port Jervis, N. Y. Water crane for supplying locomotives.....	Feb. 12, 1867.
61, 838	Ketcham, Richard, South Dansville, N. Y. Fence post.....	Feb. 5, 1867.
	Ketchum, E. M. (See O'Connor, John, assignor.)	
65, 233	Ketchum, Stephen C., Winchendon, Mass. Mincing knife.....	May 28, 1867.
66, 358	Kewley, Henry, Perry, Ohio. Machine for digging potatoes.....	July 2, 1867.
67, 059	Same..... Tubing clamp.....	July 23, 1867.
71, 764	Same..... Hay raker and loader.....	Dec. 3, 1867.
65, 816	Keyes, Eben W., Boston, Mass. Ten-pin alley.....	June 18, 1867.
70, 003	Same..... Toy euc.....	Oct. 22, 1867.
62, 854	Keyes, Gibson, assignor to self and F. Y. Payne, Binghamton, N. Y. Washing ma- chine.....	Mar. 12, 1867.
	Keyes, W. E., et al. (See Storrs, Keyes & Jones.)	
62, 961	Keyser, John H., New York, N. Y. Coal burning stove.....	Mar. 19, 1867.
62, 962	Same..... Radiating attachment for hot-air furnace.....	Mar. 19, 1867.
66, 969	Same..... Coal stove.....	July 23, 1867.
68, 086	Same..... Foot rest for stoves.....	Aug. 27, 1867.
62, 855	Kidd, Joshua, England. Apparatus for carburetting gas and air.....	Mar. 12, 1867.
62, 856	Same..... Apparatus for forming an explosive mixture of air and hydro-carbon vapors for use in motive power engines.....	Mar. 12, 1867.
61, 435	Kidder, Daniel, Franklin, N. H. Apparatus for tethering animals.....	Jan. 22, 1867.
69, 221	Same..... Spring fish hook.....	Sept. 24, 1867.
64, 773	Kidder, K. P., Burlington, Vt. Beehive.....	May 14, 1867.
62, 341	Kidder, Moses W., assignor to self and H. R. Barker, Lowell, Mass. Damper.....	Feb. 26, 1867.
64, 330	Kidder, Moses W., and Moses W. Shorey, Lowell, Mass. Refrigerator.....	Apr. 30, 1867.
70, 096	Kidney, George H., Cleveland, Ohio. Washing machine.....	Oct. 22, 1867.
	Kiuser, Frederick. (See Rupp, J., assignor.)	
70, 442	Kihlgren, C. A., Boston, Mass. Picture envelope.....	Nov. 5, 1867.
68, 087	Kilbourn, Edward E., New Brunswick, N. J. Uniting edges of hosiery goods.....	Aug. 27, 1867.
61, 210	Kilgore, Martin C., Washington, Iowa. Steam generator.....	Jan. 15, 1867.
62, 857	Same..... Corn shelter.....	Mar. 12, 1867.
71, 183	Kilgore, M. W., Baltimore, Md. Churn.....	Nov. 19, 1867.
69, 818	Killam, Henry, New Haven, Conn. Machine for compressing carriage wheels.....	Oct. 15, 1867.
65, 577	Killgore, John, G. D. Clapsaddle, and Edward Smart, Arcola, Ill. Post-hole auger.....	June 11, 1867.
67, 317	Killin, P., and H. C. Yates, Decatur, Ill. Match safe.....	July 30, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 578	Killin, Robert B., Canton, Ohio. Corn dropper.....	June 11, 1867.
69, 102	Kimball, Charles P., Portland, Maine. Jump seat for carriages.....	Sept. 24, 1867.
69, 103	Kimball, E. M., Toledo, Ohio. Watch key.....	Sept. 24, 1867.
69, 819	Kimball, George P., San Francisco, Cal. Axletree for wagons.....	Oct. 15, 1867.
67, 557	Kimball, H. N., Watertown, N. Y. Bandage for cheese.....	Aug. 6, 1867.
67, 318	Kimball, Phil p H., Prophetstown, Ill. Water elevator.....	July 31, 1867.
67, 319	Same..... Molasses gate.....	July 30, 1867.
71, 497	Kimball, W. H. N., Lyan, Mass. Machine for rounding up soles.....	Nov. 26, 1867.
70, 443	Kimbel, John T., Vernon, Ind. Pump.....	Nov. 5, 1867.
64, 331	Kimberlin, John G., Dryden, N. Y. Horse hay rake.....	Apr. 30, 1867.
68, 752	Kimble, W., Salem, Ohio. Gate fastening.....	Sept. 10, 1867.
67, 771	Kimbrough, Jeremiah, <i>et al.</i> (See Richardson, John W., assignor.)	
	Kimmel, Henry, Waynesburg, Ohio. Hay rake and loader.....	Aug. 13, 1867.
	Kimmel, John W., and John Marquis. (See Marquis & Kimmel.)	
67, 772	Kineaid, James D., Bowling Green, Mo. Plow.....	Aug. 13, 1867.
63, 058	Kindleberger, T. J., Eaton, Ohio. Water wheel.....	Mar. 19, 1867.
71, 183	Same..... Lever jack.....	Nov. 19, 1867.
64, 429	King, Abraham B., Camden, Ohio. Cultivator.....	May 7, 1867.
62, 756	King, A. D., Granville Corners, Mass. Measuring rod.....	Mar. 12, 1867.
66, 359	King, Charles, Morristown, N. J. Car replacer.....	July 2, 1867.
63, 258	King, David, Aberdeen, Ohio. Press.....	Mar. 26, 1867.
70, 860	King, Edward, Taunton, Mass. Door latch.....	Nov. 12, 1867.
68, 886	King, Edwin, Fredonia, N. Y. Clamping device.....	Sept. 17, 1867.
65, 916	King, Francis L., Worcester, Mass. Egg cutter.....	June 18, 1867.
66, 716	Same..... Machine for dressing stone.....	July 16, 1867.
67, 060	King, G., J. Gomber, and J. T. Shope, Frederick, Md. Sash fastener.....	July 23, 1867.
65, 917	King, Gamaliel, assignor to self and Charles C. Pratt, Westfield, Mass. Method of covering whips.....	June 18, 1867.
62, 492	King, G. E., New York, N. Y. Fluting machine.....	Feb. 26, 1867.
70, 004	King, George W., Schoharie, N. Y. Horse rake.....	Oct. 23, 1867.
	Same..... (See Hbert, Benjamin F., assignor.)	
69, 349	King, Henry N., and Austin Z. Mason, Adrain, Mich. Clothes dryer.....	Oct. 1, 1867.
62, 275	King, James, North Verron, Ind. Washing machine.....	Feb. 19, 1867.
68, 994	King, John C., assignor to self and George M. Woodward, New York, N. Y. Mechanism for operating the valves of force pumps.....	Sept. 17, 1867.
	King, Joseph B. (See Lyons, Thomas, assignor.)	
	King, J. M. and D. B. (See Stevius, W. X., assignor.)	
72, 049	King, M. A., New York, N. Y. Muff.....	Dec. 10, 1867.
	King, Noah W., and Albert Caswell. (See Van Houten, James H., assignor.)	
66, 360	King, Norman, Etina, Pa. Throttle-valve gear.....	July 2, 1867.
67, 658	King, O. A., Bedford, Ohio. Cheese hoop.....	Aug. 13, 1867.
69, 681	King, Samuel U., Windsor, Vt. Scythe fastening.....	Oct. 8, 1867.
62, 209	King, Theodore E., Painesville, Ohio. Fence.....	Feb. 19, 1867.
65, 091	Same..... Elastic button for carriages.....	May 28, 1867.
63, 395	Same..... Spring for holding cloth in sewing machines.....	June 4, 1867.
2, 638	Same..... Fence..... (Reissue).	June 4, 1867.
63, 729	King, Watson, Springfield, Ill. Horse rake.....	Apr. 9, 1867.
64, 541	Same..... Railway-track clearer.....	May 7, 1867.
	King, William C. (See McLaughlin & Jones, assignors.)	
	King, Z. (See McMillen, William, assignor.)	
64, 229	King, Zenas, and P. M. Frees. (See Frees & King.)..... (Reissue.)	
	Kingborough, John, Cleveland, Ohio. Ship chimney jack.....	Apr. 30, 1867.
	Kingdon, John. (See Elliot, William H., assignor.)	
68, 208	Kingsman, O. P., Bridgeport, Conn. Watch key.....	Aug. 27, 1867.
64, 883	Kingsbury, John W., New Bedford, Mass. Horseshoe machine.....	May 21, 1867.
	Kingland, Allen & Clark. (See Neal, Daniel B., assignor.)	
72, 405	Kingstaud, C., assignor to self and I. K. Morange, McKeesport, Pa. Method of constructing car wheels.....	Dec. 17, 1867.
70, 861	Kingsley, Brainerd, Sharon, Mich. Sheep shears.....	Nov. 12, 1867.
65, 234	Kingsley, S. P., Springfield, Wis. Churn.....	May 28, 1867.
	Kinkel, Charles, <i>et al.</i> (See Weidling, Carl, assignor.)	
63, 059	Kinkel, Charles, assignor to Alexander Wehle, New York, N. Y. Plow.....	Mar. 19, 1867.
72, 645	Kinkele, John Adam, Sacramento City, Cal. Revolving oven.....	Dec. 24, 1867.
72, 406	Kinnear, A. S., Volga, Ind. Scaffold.....	Dec. 17, 1867.
60, 907	Kinney, John B., Yellow Springs, Ohio. Washing machine.....	Jan. 1, 1867.
71, 498	Kinsley, Charles L., assignor to Charles Parker, Meriden, Conn. Bench vise.....	Nov. 26, 1867.
71, 885	Same..... Clamp screw.....	Dec. 10, 1867.
70, 723	Kinsley, Edward G., Stoughton, Mass. Corn popper.....	Nov. 12, 1867.
60, 743	Kinsley, H. M., Chicago, Ill. Lunch-heating apparatus.....	Jan. 1, 1867.
64, 111	Kintner, Jacob L., Harrison county, Ind. Hay elevator.....	Apr. 23, 1867.
64, 985	Same..... Harvester pitman.....	May 21, 1867.
66, 029	Kintz, George W., West Henrietta, N. Y. Potato digger.....	June 25, 1867.
62, 858	Kintz, H. J., Greece, N. Y. Potato digger.....	Mar. 12, 1867.
	Kintz, Joseph, and P. J. Clark. (See Clark & Kintz.)	
61, 436	Kinyon, Norman S., Chenango Forks, N. Y. Churn.....	Jan. 22, 1867.
68, 887	Kinyon, Norman S., and Benj. F. Smith, Chenango Forks, N. Y. Hay rake and loader.....	Sept. 17, 1867.
66, 853	Kipp, jr., Abraham, Sing Sing, N. Y. Machine for grinding the runners of skates.....	July 16, 1867.
62, 039	Kips, John, and Wm. Allmendinger, Melrose, N. Y. Oiler.....	Feb. 12, 1867.
2, 845	Kirby, Charles Wright, New York, N. Y. Decorating croquet balls and mallets. (Design).....	Dec. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 505	Kirby, Josiah, Cincinnati, Ohio. Bung cutter.....	Dec. 24, 1867.
	Kirby, W. A., and D. Wright. (See Wright & Kirby.)	
2, 665	Kirchhof, Charles, Newark, N. J. Pending wheel..... (Design)...	June 4, 1867.
72, 506	Same..... Candle holder.....	Dec. 24, 1867.
69, 222	Kirk, Blanchard V., assignor to self and H. A. Musselman, Philadelphia, Pa. Skirt elevator. (Antedated September 11, 1867).....	Sept. 24, 1867.
66, 596	Kirk, E. C., and E. Sneider, Baltimore, Md. Magazine for fire-arms.....	July 9, 1867.
62, 427	Kirk, George H., Philadelphia, Pa. Ice sled.....	Feb. 26, 1867.
	Kirk, George R. (See Afburger, Charles M., assignor.)	
62, 342	Kirk, Susan M., Camden, N. J., and E. J. Howlett, Philadelphia, Pa., assignors to E. J. Howlett. Tool for manufacture of paper bags.....	Feb. 26, 1867.
62, 343	Kirk, Wm. A. L., assignor to Owens, Lane, Dyer & Co., Hamilton, Ohio. Governor.....	Feb. 26, 1867.
60, 744	Kirkham, George B., New York, N. Y. Key board of musical instrument.....	Jan. 1, 1867.
64, 956	Same..... Organ.....	May 21, 1867.
70, 444	Same..... Window fastening.....	Nov. 5, 1867.
2, 848	Same..... Window fastener..... (Design)...	Dec. 17, 1867.
61, 211	Kirkland, W. P., San Francisco, Cal. Marine motor.....	Jan. 15, 1867.
70, 862	Kirkley, James, Chicago, Ill. Nut-tapping machine.....	Nov. 12, 1867.
62, 638	Kirkman, D. J., and E. H. Gray, Winchester, Ill. Wagon brake.....	Mar. 5, 1867.
66, 030	Same..... Adjustable tire for wheels.....	June 25, 1867.
66, 031	Same..... Plow.....	June 25, 1867.
71, 499	Kirkman, John, Peoria, Ill. Process of cleaning cotton seed.....	Nov. 26, 1867.
63, 730	Kirkpatrick, W. M., Littleton, Ill. Sash supporter.....	Apr. 9, 1867.
60, 745	Kirkup, Lancelot, assignor to self, A. Palmer, J. Parker, and W. M. Hudson, Hudson, N. Y. Anvil.....	Jan. 1, 1867.
	Kirkwood, John F., and Samuel Mainster. (See Mainster & Kirkwood.)	
	Kissell, Jacob A., (See Stearns, Charles, assignor.)	
64, 774	Kissell, Jacob A., and N. Blickensdufer, Chicago, Ill. Lightning conductor.....	May 14, 1867.
66, 854	Same..... Corrugated lightning rod.....	July 16, 1867.
66, 502	Kistler, Willoughby F., Chicago, Ill. Permutation lock.....	July 9, 1867.
65, 817	Kitchen, George H., New York, N. Y. Construction of signs.....	June 18, 1867.
71, 392	Kitchen, J. and W., and S. Samuels, England. Railway car brake.....	Nov. 26, 1867.
71, 886	Klahr, Joseph, assignor to self, W. R. Weand, C. H. Zing, and James J. Wagenhorst, Bernville, Pa. Machine for bending wood.....	Dec. 10, 1867.
62, 276	Klein, John C., Birmingham, Pa. Flesh fork.....	Feb. 19, 1867.
61, 839	Klein, J. E., Oskaloosa, Iowa. Gate latch.....	Feb. 5, 1867.
67, 320	Klein, Louis, Dansville, N. Y. Mode of treating ratan.....	July 30, 1867.
68, 445	Klein, M., and H. W. Wynne, Keokuk, Iowa. Fountain pen.....	Sept. 3, 1867.
66, 855	Kleinschmidt, Charles E., Cleveland, Ohio. Car wheel.....	Nov. 19, 1867.
	Klepper, P., Centralia, Ill. Egg beater.....	July 16, 1867.
	Klepzig, John, and John Agrell. (See Agrell and Klepzig.)	
	Kline, C. O., and I. W. Yeakell. (See Lemley, Jacob, jr., assignor.)	
	Klueber, Louis. (See Nelson, Charles, assignor.)	
72, 050	Knapp, Alfred, North Fairfield, Ohio. Horse hay fork.....	Dec. 10, 1867.
60, 908	Knapp, A. H., Newton Center, Mass. Curtain fixtures.....	Jan. 1, 1867.
68, 753	Same..... Water elevator.....	Sept. 10, 1867.
69, 104	Knapp, Benjamin, Bloomville, Ohio. Cast iron knee for sleighs.....	Sept. 24, 1867.
63, 532	Knapp, Charles B., Waterloo, Wis. Boring-machine.....	Apr. 2, 1867.
65, 755	Knapp, George W., Corning, N. Y. Corn planter.....	June 11, 1867.
65, 756	Knapp, Herrman E., Benson, Vt. Sled brake.....	June 11, 1867.
64, 332	Knapp, Hiram, and Warren H. Pease, Goshen, Ind. Well tube.....	Apr. 30, 1867.
67, 558	Knapp, John H., New York, N. Y. Pencil case.....	Aug. 6, 1867.
70, 576	Knapp, Michael and John, Hudson City, N. J. Door lock.....	Nov. 5, 1867.
67, 200	Knapp, Thomas K., assignor to John Goulding, Worcester, Mass. Knife sharpener.....	July 30, 1867.
61, 212	Knauer, Christian F., Pittsburg, Pa. Curtain fixture.....	Jan. 15, 1867.
	K e l, Louis, and Max Adler. (See Adler & Knell.)	
69, 223	Kniffen, Le Grand, Worcester, Mass. Refrigerator car.....	Sept. 24, 1867.
67, 882	Kniffen, L. G., Worcester, Mass. Harvesters.....	Aug. 20, 1867.
67, 883	Same..... same.....	Aug. 20, 1867.
67, 884	Same..... same.....	Aug. 20, 1867.
67, 885	Same..... same.....	Aug. 20, 1867.
70, 863	Knight, A. L., Baltimore, Md. Machine for cutting paper stock.....	Nov. 12, 1867.
64, 512	Knight, Edmond H., Unadilla Mich. Cultivator.....	May 7, 1867.
61, 213	Knight, Edward H., Washington, D. C. Safety chamber for oil tanks, &c.....	Jan. 15, 1867.
68, 754	Knight, George H., Cincinnati, Ohio. Mechanical movement, or substitute for cog wheels.....	Sept. 10, 1867.
66, 503	Knight, George H., assignor to Andrew O'Neill, Cincinnati, Ohio. Frying pan.....	July 9, 1867.
67, 886	Knight, George S., Syracuse, N. Y. Machine for turning axles.....	Aug. 20, 1867.
71, 184	Knight, Henry W., Columbus, Ohio. Attaching picks to handles.....	Nov. 19, 1867.
	Knight, Horatio D. (See Littlefield, S. D., assignor.)	
62, 040	Knight, J., assignor to T. C. Coleman, Louisville, Ky. Cotton bale tie.....	Feb. 12, 1867.
	Knight, John A., and Edward Stevens. (See Stevens & Knight.)	
63, 259	Knight, Robert T., Philadelphia, Pa. Apparatus for drying straw board, sheets of paper, &c.....	Mar. 26, 1867.
72, 205	Knight, William Chase, Yankee Jim's, Cal. Apparatus for saving precious metals.....	Dec. 17, 1867.
68, 755	Kniphals, Hinrick, Davenport, Iowa. Plow point.....	Sept. 10, 1867.
65, 092	Knoderer, jr., H. Frederick, and L. F., Columbus, Ohio. Compound for preventing incrustation in steam boiler.....	May 28, 1867.
69, 918	Knoll, Jonas L., Hummelstown, Pa. Dumping sled.....	Oct. 15, 1867.
65, 235	Knotts, Margaret, Carondelet, Mo. Medical compound.....	May 28, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 139	Knowles, Arthur and James, and Joshua Barraclough, Great Britain. Apparatus for extracting wool from mixed articles and fabrics.	Feb. 19, 1867.
66, 504	Knowles, Hezekiah, Brooklyn, N. Y. Shade holder for lamp and gas burners.	July 9, 1867.
68, 303	Knowles, L. J., Warren, Mass. Harness motion for looms.	Aug. 27, 1867.
66, 361	Knowles, Selden W., New Haven, Conn. Cradle.	July 2, 1867.
70, 864	Knowles, Thomas, Robert, and Samuel., Jersey City, N. J. Machine for molding pulleys.	Nov. 12, 1867.
	Knowles, Thomas C., et al. (See Morris, Thomas, assignor.)	
	Knowles, Wilson W., and Albert R. Bailey. (See Bailey & Knowles.)	
71, 887	Knowlton, G. A., Natick, Mass. Oil can.	Dec. 10, 1867.
	Knowlton, G. W., and A. Senatz. (See Senatz & Knowlton.)	
61, 343	Knox, C. H., Mount Pleasant, Iowa. Washing machine.	Jan. 22, 1867.
66, 362	Same. Clothes wringer.	July 2, 1867.
62, 515	Knox, John, Mount Gilcard, Ohio. Thill coupling.	Sept. 3, 1867.
72, 740	Knox, John L. L., Pittsburg, Pa. Clinometer and level.	Dec. 31, 1867.
68, 088	Knox, Thomas W., New York, N. Y. Transmitting plan of battle fields by telegraph.	Aug. 27, 1867.
65, 757	Knuschke, F. W. L., assignor to the Gorham Manufacturing Company, Providence, R. I. Lifter for the lid of pitchers.	June 11, 1867.
72, 597	Koch, John, Brookline, Mass. Stair.	Dec. 24, 1867.
63, 089	Koch, Philippe, New Haven, Conn. Wooden pavement.	Aug. 27, 1867.
65, 226	Kochensperger, Henry C., Thornville, Ohio. Holder and seat for wagon brakes.	May 28, 1867.
62, 428	Koehling, Bernhard, New York, N. Y. Folding chair.	Feb. 26, 1867.
65, 918	Koehn, Joseph, Canton, Ohio. Cultivator.	June 18, 1867.
69, 820	Kohler, Ambrose, Boston, Mass. Hot air furnace.	Oct. 15, 1867.
67, 061	Kohler, J. F., and S. B. Conover, New York, N. Y. Pie plate.	July 23, 1867.
69, 448	Kohn, E., and J. L. Natcher, Sidney, Ohio. Ladder and chair.	Oct. 1, 1867.
68, 909	Kohn, Isaac, Edgerton, Ohio. Broom head.	Aug. 27, 1867.
67, 773	Kokemuller, J. W., Bluffton, S. C. Cotton gin.	Aug. 13, 1867.
72, 206	Kolb, G. F., Philadelphia, Pa. Jewel case.	Dec. 17, 1867.
68, 090	Komar, C. J., Willoughby, Ohio. Step and extension ladder.	Aug. 27, 1867.
64, 333	Komp, A., New York, N. Y. Quartz crusher.	Apr. 30, 1867.
61, 543	Same. Machine for clasp ing hoops to lady's skirts.	May 7, 1867.
65, 218	Same. Apparatus for washing and separating coal.	June 18, 1867.
68, 210	Same. Steam heating apparatus for brewers and others.	Aug. 27, 1867.
68, 446	Konold, Christian, Snowden, Pa. Dies for svaging mattocks, hoes, &c.	Sept. 3, 1867.
60, 746	Koons, Even, assignor to Elias Emmert, Funkstown, Md. Tuyere.	Jan. 1, 1867.
61, 214	Koplin, William, New Castle, Pa. Spike machine.	Jan. 15, 1867.
62, 963	Same. Machine for making carriage bolts.	Mar. 19, 1867.
68, 995	Koppe, Moritz, New York, N. Y. Injector, for insect powder.	Sept. 17, 1867.
71, 022	Kopper, F., New York, N. Y. Toilet table. (Antedated November 9, 1867).	Nov. 19, 1867.
63, 396	Koppenfels, Frederick, and Gustav Brueck, New York, N. Y. Fan.	Apr. 2, 1867.
65, 919	Kora, Charles, Wurtsborough, N. Y. Machine for dressing leather.	June 18, 1867.
71, 765	Same. Apparatus for leaching bark.	Dec. 3, 1867.
61, 648	Kosiński, Wladyslaw T., Brooklyn, N. Y. Cement felt for covering steam boilers, pipe, &c.	Jan. 29, 1867.
68, 567	Koyle, John, Rockford, Ill. Nail clincher.	Sept. 3, 1867.
67, 436	Kraher, Phillip, Cincinnati, Ohio. Adjustable bolster for mattresses.	Aug. 6, 1867.
64, 334	Kraiss, William, assignor to self, Jacob Beckman, and Myron Silverthorn, Fairview, Pa. Beehive.	Apr. 30, 1867.
66, 597	Krake, John A., Alden, N. Y. Subsoil attachment to plows.	July 9, 1867.
64, 575	Kramer, Lafayette, Point Pleasant, Pa. Beehive.	May 14, 1867.
67, 887	Kramer, W., Milwaukee, Wis., and Joseph Wise, New York, N. Y. Cigar machinery.	Aug. 20, 1867.
	Krapf, X., and C. Vogt. (See Vogt & Krapf.)	
61, 546	Krausch, C. W. Theodore, Philadelphia, Pa. Method of increasing traction in locomotive.	Jan. 29, 1867.
2, 552	Same. Method of increasing traction in locomotive. (Reissue).	Apr. 9, 1867.
61, 670	Krause, Amandes, West Liberty, Ohio. Horse rake.	Jan. 29, 1867.
67, 990	Krauser, D. H., and G. M. Bowman, Pottsville, Pa. Washing machine.	Aug. 20, 1867.
	Krauser, John, Tyersburg, Pa. Cider mill. (Extension).	Aug. 13, 1867.
71, 625	Krauser, John L., assignor to J. E. Emerson, Tyersburg, Pa. Saw.	Dec. 3, 1867.
	Krayer, F. C., et al. (See Schrick & Hildenbrand, assignors.)	
69, 224	Krebs, Charles, West Springfield, Mass. Adjustable railing for vehicles.	Sept. 24, 1867.
63, 449	Krebs, Joseph, and August Johns, Massillon, Ohio. Corn planter.	Oct. 1, 1867.
	Kreibbaum, Philip, and Luther Boyd. (See Boyd & Kreibbaum.)	
70, 339	Kreitz, Theodore W., Quincy, Ill. Folding desk. (Antedated October 13, 1867).	Oct. 29, 1867.
67, 123	Kretschmer, Edward, Pleasant Grove, Iowa. Beehive.	July 23, 1867.
	Krewson, A. D., and J. Campbell. (See Campbell & Krewson.)	
67, 774	Krider, J. M., Madison Court House, Va. Tailor's measuring instrument.	Aug. 13, 1867.
70, 577	Krieg, John K., New York, N. Y. Pegging jack. (Antedated October 27, 1867).	Nov. 5, 1867.
66, 598	Krieghoff, E., Rochester, N. Y. Bedstead and bed bottom.	July 9, 1867.
	Krier, Peter. (See Doebele, Henry, assignor.)	
72, 303	Krollpfeiffer, C. F., New York, N. Y. Sled.	Dec. 17, 1867.
61, 215	Kroner, S. A., Doylestown, Pa. Gate.	Jan. 15, 1867.
70, 578	Kroner, S. A., New Britain, Pa. Cultivator.	Nov. 5, 1867.
71, 626	Krotzinger, George, New York. Game.	Dec. 3, 1867.
60, 747	Kruger, Max H., New York, N. Y. Apparatus for filtering and refining oil.	Jan. 1, 1867.
65, 237	Krum, E. M., Nassau, N. Y. Horse hay fork.	May 28, 1867.
63, 397	Kuder, Christian, Rochester, N. Y. Clothes stick.	Apr. 2, 1867.
69, 450	Kuebler, William, and F. Seelhorst, Philadelphia, Pa. Telescope.	Oct. 1, 1867.
63, 211	Kuhlman, Adolph F., Dubuque, Iowa. Washing machine.	Aug. 27, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 646	Kuhlmann, George, New York, N. Y. Table. (Antedated December 12, 1867).....	Dec. 24, 1867.
65, 093	Kuhnert, F. W., Rochester, N. Y. Rudder.....	May 28, 1867.
67, 124	Kuhnle, Charles F., Washington, D. C. Shelf bracket.....	July 23, 1867.
71, 393	Kuntz, William H., Mount Rock, Pa. Hoisting apparatus.....	Nov. 26, 1867.
	Kupferle, John. (See Webster, Joseph H., assignor.)	
	Same.....same.	
70, 579	Kurth, Henry, Brooklyn, N. Y. Umbrella runner.....	Nov. 5, 1867.
	Kurtz, Horatio I. (See Janney, Nathan L., assignor.)	
3, 717	Kurtz, John, Clinton township, Pa. Corn cultivator and potato plow.....	July 16, 1837.
69, 919	Kussmaul, William F., Baltimore, Md. Safety gun lock.....	Oct. 15, 1837.
63, 260	Kynett, H. P., Lisbon, Iowa. Gang plow.....	Mar. 26, 1837.
72, 863	Labair, A., Pewaukee, Wis. Portable fence.....	Dec. 31, 1837.
	Labarre, Pierre, and Felix Bizard. (See Bizard & Labarre.)	
63, 261	Labiaux, John L., assignor to self, C. Courtois, P. W. Vail, W. C. Griswold, N. B. Day, and J. Sheldon, Newark, N. J. Machine for pouncing hats.....	Mar. 26, 1867.
64, 112	Lacey, D. P., Oxfordville, Wis. Shower bath.....	Apr. 23, 1867.
71, 888	Lackey, Ira, Lebanon, Ohio. Fence.....	Dec. 10, 1867.
68, 756	Lacy, E. F., assignor to self and S. D. Thompson, Danville, Ill. Trace buckle.....	Sept. 10, 1867.
65, 396	Ladd, George V. B., Boston, Mass. Skate.....	June 4, 1867.
65, 579	Ladd, George W., assignor to John A. Brown, Providence, R. I. Method of making side band of watch cases.....	June 11, 1867.
	Ladd, Hermon W., and Dexter P. Webster. (See Webster & Ladd.)	
	Same.....same.	
63, 165	Ladd, S. G., and G. W. Crown, Lowell, Mass. Machine for grinding cards.....	Mar. 26, 1867.
	Laemmel, Moritz, and Otto Heinigke. (See Heinigke & Laemmel).....(Reissue).	
65, 397	Laferty, R. M., assignor to self, J. E. and J. P. Prutzman, Three Rivers, Mich. Combined cover lifter, hammer, &c.....	June 4, 1867.
62, 639	Lafin, Matthew, Chicago, Ill. Apparatus for amalgamating gold and silver.....	Mar. 5, 1867.
70, 865	La France, P. A., assignor to self and H. R. Kendall, Elmira, N. Y. Compositor's copy holder.....	Nov. 12, 1867.
	Lagowitz, Samuel, and Isadore Lehman. (See Schubeus, Charles H., assignor.)	
	Same.....same.	
	Same.....same.	
60, 748	Lahaye, J. J., and S. T. Reeves, Reading, Pa. Slide valve.....	Jan. 1, 1867.
64, 230	Laighton, W. Irving, Portsmouth, N. H. Curtain tassel.....	Apr. 30, 1867.
	Lain, Isaac. (See Boorman, Benjamin, assignor.)	
65, 238	Laing, John, assignor to self and George Nimmo, Hoboken, N. J. Faucet.....	May 23, 1867.
72, 304	Laird, Andrew J., deceased, by Mary Jane Laird, administratrix, Middletown, Pa. Horse hay fork.....	Dec. 17, 1867.
70, 580	Lake, A., Smith's Landing, N. J. Cleat chock.....	Nov. 5, 1867.
	Lake, A. W., et al. (See Clifford, Carleton, assignor.)	
68, 996	Lake, Elijah, Davisburg, Mich. Grain drill.....	Sept. 17, 1867.
	Lake, Elizabeth Adelaide. (See Hyatt, Thaddens, assignor.)	
62, 041	Lake, Ezra B., Bridgeport, N. J. Railway switch.....	Feb. 12, 1867.
66, 970	Same.....Curtain fixture.....	July 23, 1867.
71, 521	Same.....Nail plow feeder.....	Nov. 26, 1867.
72, 864	Same.....Scale.....	Dec. 31, 1867.
70, 227	Lake, Hazleton, Shelburne, Vt. Ox shoe.....	Oct. 29, 1867.
61, 344	Lake, Jesse S., Smith's Landing, N. J. Self track-laying car.....	Jan. 22, 1867.
	Lake, N., et al. (See Reese, Gould & Lake).....(Reissue).	
69, 225	Lamason, B. P., Milton, Pa. Axle box.....	Sept. 24, 1867.
69, 226	Lamason, B. P., and S. W. Murray, Milton, Pa. Brake block and shoe for railroad cars.....	Sept. 24, 1867.
	Lamb, Cook & Co. (See Kelly, Oliver A., assignor.)	
	Same.....same.	
70, 228	Lamb, George A., Jeffersonville, N. Y. Adjustable label-holder for mail bags.....	Oct. 29, 1867.
68, 368	Lamb, Isaac W., Salem, Mich. Car seat and couch.....	Sept. 3, 1867.
72, 408	Same.....Permutation lock.....	Dec. 17, 1867.
67, 125	Lamb, James, Hubbardstown, Mass. Washing machine.....	July 23, 1867.
	Same.....(See Beaty, David B., assignor.)	
60, 749	Lamb, Noyes D., Norwich, Conn. Leak signal for vessels.....	Jan. 1, 1867.
60, 909	Lamb, Patrick W., Albany, N. Y. Sprue for molders.....	Jan. 1, 1867.
	Lamb, Samuel T. (See Spofford, Charles, assignor.)	
70, 724	Lamb, William H., San Francisco, Cal. Watch escapement.....	Nov. 12, 1867.
	Lambert, George G. (See Platt, Theron E., assignor.)	
65, 398	Lamm, Emile, New Orleans, La. Making crystal sherd gold for dentists.....	June 4, 1867.
65, 399	Same.....Method of preparing gold for filling teeth.....	June 4, 1867.
71, 312	Lam, Henry J., Richmond Ind. Neck yoke fastening.....	Nov. 26, 1867.
71, 185	La Mothe, B. J., New York, N. Y. Construction of buildings. (Antedated November 13, 1867).....	Nov. 19, 1867.
63, 398	Lamplugh, Isaac, Peoria, Ill. Shearing and punching machine.....	Apr. 2, 1867.
63, 908	Lampman, B. N., Rutland, Vt. Concrete pavement.....	Apr. 16, 1867.
62, 757	Lampson, George W., Waterloo, N. Y. Cistern filter.....	Mar. 12, 1867.
65, 239	Lampson, Henry, England. Bale tie.....	May 28, 1867.
	Lamsen, R. H., and W. W. Wood. (See Parker, James, assignor.)	
62, 640	Lamson, Ebenezer G., Shelburne Falls, Mass. Table fork.....	Mar. 5, 1867.
63, 262	Same.....Drill spring for quarrying stone, &c.....	Mar. 26, 1867.
68, 888	Same.....Operating drills.....	Sept. 17, 1867.
	Lamson, E. G., president of the Windsor Manufacturing Company. (See Farnsworth, Joseph S., assignor.)	
72, 865	Lanagan, Michael A., assignor to self and John Dailey, Brooklyn, N. Y. Oar lock.....	Dec. 31, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 866	Lanagan, Michael A., assignor to self, John Dailey, Robert Russell, and Andrew Mercein, Brooklyn, N. Y. Boat detaching apparatus	Dec. 31, 1867.
67, 888	Lancaster, Israel, Baltimore, Md. Harvester rake	Aug. 20, 1867.
71, 023	Same..... Grain binder	Nov. 19, 1867.
	Lancaster, John P. (See Stalcup, William P., assignor.)	
	Lancey, Dustin. (See Marden, Samuel, assignor.)	
64, 016	Land, Silas, Philadelphia, Pa. Self-acting eyelet batten	Apr. 23, 1867.
64, 676	Landbeck, William H., Rochester, N. Y. Wrench	May 14, 1867.
2, 581	Landfear, William R., assignor to Cornelius Callaghan, Boston, Mass. Breech-loading fire-arms	(Reissue)..... Apr. 30, 1867.
70, 581	Landfear, William R., assignor through mesne assignments to David Whittemore, Hartford, Conn. Machine for pegging boots and shoes	Nov. 5, 1867.
62, 545	Landis, Frank F., Lancaster, Pa. Door lock	Mar. 5, 1867.
64, 335	Landis, Israel L., Lancaster, Pa. Portable fence	Apr. 30, 1867.
65, 819	Same..... Fence	June 18, 1867.
69, 920	Same..... Attachment to stirrups	Oct. 15, 1867.
64, 677	Landis, Simon M., Philadelphia, Pa. Hot and cold air bath	May 14, 1867.
	Lane & Bodley. (See Myers, Edward, assignor.)	
66, 856	Lane, B. I., Framingham, Mass. Scrubbing utensil	July 16, 1867.
67, 889	Lane, George W., Plantsville, Conn. Hinge	Aug. 20, 1867.
71, 313	Lane, P. P., assignor to Lane & Bodley, Cincinnati, Ohio. Self-lubricating journal box	Nov. 26, 1867.
68, 516	Lane, S. B., Waterbury, Conn. Machine for making but on rings	Sept. 3, 1867.
60, 910	Lane, Thomas W., assignor to the Spence Repeating Rifle Company, Boston, Mass. Magazine fire-arm	Jan. 1, 1867.
62, 344	Lane, W. B., and W. Conlter, Organ Spring, Ind. Cultivator	Feb. 26, 1867.
71, 186	Lane, William C., Green Point, N. Y. Device for suspending and detaching articles	Nov. 19, 1867.
63, 263	Lang, Charles, New York, N. Y. Machine for embossing and perforating paper, &c.	Nov. 26, 1867.
71, 024	Lang, Charles B., Chicopee, Mass. Tassel fastening	Mar. 19, 1867.
60, 750	Lang, George P., and Peter Lanster, Allegheny, Pa. Makingjug tops	Jan. 1, 1867.
64, 775	Lang, J. P., Theodore, Washington, D. C. Steam-engine governor	May 14, 1867.
2, 760	Langen, Eugen, Prussia. Grate for furnaces	(Reissue)..... Sept. 3, 1867.
67, 659	Langen, Eugen, and Nicol. Aug. Otto, Prussia. Air engine	Aug. 13, 1867.
68, 212	Langley, Clark M., Lowell, Mass. Mode of driving printing presses	Aug. 27, 1867.
66, 718	Langmaid, Samuel, Lawrence, Mass. Apparatus for sifting coal. (Antedated June 28, 1867)	July 16, 1867.
61, 216	Langstroth, L. L., Butler county, Ohio, and S. Wagner, Washington, D. C. Apparatus for extracting honey from the comb	Jan. 15, 1867.
63, 533	Langworthy, D. I., Jamestown, N. Y. Piano-forte mover	Apr. 2, 1867.
	Lanier, John C. (See Becker, G. H., assignor.)	
63, 264	Lansdell, Henry S., New York, N. Y. Water ejector	Mar. 26, 1867.
65, 681	Lansing, Garrett C., and John G. Ostrom, Rhinebeck, N. Y. Wagon spring	June 11, 1867.
	Lansing, Henry L., and George H. Chase. (See Ohlenslager, A., assignor.)	
72, 741	Lanstrom, Reinhold, Cincinnati, Ohio. Tip for gas burners. (Antedated December 24, 1867)	Dec. 31, 1867.
61, 840	Lape, George T., New York, N. Y. Carpenters' gauge	Feb. 5, 1867.
68, 997	Same..... Summit, N. Y. Railroad station indicator	Sept. 17, 1867.
61, 437	Lape, George T., and Jephth Leathe, New York, N. Y. Railroad switch	Jan. 22, 1867.
69, 227	Lapham, O., El Paso, Ill. Wagon-tongue support	Sept. 24, 1867.
65, 682	Lapham, Rufus, New York, N. Y. Automatic fire extinguisher	June 11, 1867.
71, 766	Same..... Inkstand	Dec. 3, 1867.
65, 240	Lapham, R., and G. Clark, jr., Boston, Mass. Chemical fire engine	May 28, 1867.
70, 886	Lapham, V., El Paso, Ill. Bolt fastening	Nov. 12, 1867.
	Lapp, Henry. (See Gray, Thomas, assignor.)	
62, 641	Laraway, Ransom K. and Jerome, Battle Creek, Mich. Plow	Mar. 5, 1867.
68, 091	Larchar, Lewis, Utica, N. Y. Corn planter	Aug. 27, 1867.
62, 842	Large, A. T., Chicago, Ill. Seed-dropping attachment for hoes	Mar. 5, 1867.
61, 744	Large, George W., Yellow Springs, Ohio. Gate latch	Feb. 5, 1867.
65, 491	La Riviere, F. C., assignor to Lucian D. Newell and Moses R. Greeley, Minneapolis, Minn. Machine for cutting the locks in hoops for barrels	June 4, 1867.
	Larman, John Q. (See Clark, Spencer M., assignor.)	
69, 105	Larmore, John W., Harrison, Ohio. Whiffletree	Sept. 24, 1867.
64, 987	Larowe, Albertus, Cohocton, N. Y. Gate	May 21, 1867.
71, 025	Larson, Gunder, Lake Mills, Wis. Sleigh knee	Nov. 19, 1867.
2, 573	Lasher, Daniel, assignor to Lorenzo B. Tupper, New York, N. Y. Grate bar	(Reissue)..... Apr. 23, 1867.
61, 012	Latcher, J. W., Albany, N. Y., and John Young, Amsterdam, N. Y., assignors to John Young. Wringing machine	Jan. 8, 1867.
2, 747	Latcher, J. W., and W. J. Powell, Amsterdam, N. Y. Railroad car brake. (Reissue)	Aug. 20, 1867.
63, 060	Latham, A. O., Wheeling, West Va. Book-keepers' ruler	Mar. 19, 1867.
65, 241	Latham, Cornelius H., Randolph, N. Y. Tube well	May 28, 1867.
	Latham, John H., et al. (See Rockwell, Henry H., assignor.)	
63, 534	Lathrop, C. G., San José, Cal. Weed cutter	Apr. 2, 1867.
68, 517	Lathrop, G. C., Danville, Mich. Sawing machine	Sept. 3, 1867.
65, 094	Lathrop, L. B., San José, Cal., Gang plow	May 28, 1867.
69, 821	Latimer, James F., assignor to Eliza Ellsworth, Detroit, Mich. Apparatus for accumulating power	Oct. 15, 1867.
69, 682	La Tourrette, A., Waterloo, N. Y. Ditching machine	Oct. 8, 1867.
69, 683	La Tourrette, A., Waterloo, N. Y., and Seth H. Smith, Venice, N. Y. Brick machine	Oct. 8, 1867.
	Latimer, C. C. (See Snow, Henry C., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 340	Lattin, Charles E., assignor to self and John R. Lattin, Birmingham, Conn. Flush bolt.	Oct. 29, 1867.
63, 535	Lattin, G., and A. F. Hubbell, Coldwater, Mich. Seat for vehicles.	Apr. 2, 1867.
	Lattin, J. R., et al. (See Hubbell, George W., assignor.)	
	Same.....(See Houston, William E., assignor.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
64, 231	Lattin, John R., assignor to self, E. Wooster & Co., and F. Hull & Co., Birmingham, Conn. Skirt hoop	Apr. 30, 1867.
61, 217	Latting, R. G., New Orleans, La. Cotton-bale tie	Jan. 15, 1867.
64, 776	Laubach, W. H., Philadelphia, Pa. Apparatus for carburetting gas	May 14, 1867.
63, 061	Laubach, W. H., assignor to self and W. S. Cooper, Philadelphia, Pa. Low water indicator	Mar. 19, 1867.
65, 242	Lauder, George, Pittsburg, Pa. Machine for straightening bars	May 23, 1867.
62, 277	Lauer, John E., New York, N. Y. Acid compound, for use in baking and cooking.	Feb. 19, 1867.
65, 820	Laumonier, Frederic J. F., France. Circular coke oven	June 18, 1867.
	Lauster, Peter, and George P. Lang. (See Lang & Lauster.)	
62, 758	Lauth, Bernard, assignor to self and James McCarty, Reading, Pa. Manufacture of bars or rods of iron or steel. (Antedated September 2, 1866.)	Mar. 12, 1867.
72, 867	Lavater, L. J., France. Means for attaching brackets to glass	Dec. 31, 1867.
62, 210	Lavery, W. A., assignor to Joseph Nicholson, Philadelphia, Pa. Neck tie	Feb. 19, 1867.
62, 859	Lavery, Richard, South Boston, Mass. Tool for cutting off boiler tubes	Mar. 12, 1867.
68, 998	Lavey, S. S., Plymouth, Ind. Chuck for watchmakers' lathes	Sept. 17, 1867.
66, 599	Lavis, Charles H., and James McMillan, Philadelphia, Pa. Hair curler	July 9, 1867.
2, 670	Law, Hervey, New York, N. Y. Machine for cutting paper	July 9, 1867.
2, 863	Same.....Chatham, N. J. same	Nov. 19, 1867.
	Law, Stephen D., and Edward P. Curtis. (See Curtis, Hiram, assignor.)	
62, 643	Law, W., New York, N. Y. Refrigerator	Mar. 5, 1867.
62, 614	Lawes, William H., Somerville, N. J. Liniment for the cure of foot-rot in sheep	Mar. 5, 1867.
62, 140	Lawrence, Charles W., Milton, Ind. Spring hinge	Feb. 19, 1867.
68, 757	Lawrence, Cook C., Homer, Mich. Thill coupling	Sept. 3, 1867.
62, 964	Lawrence, David M., Washington, D. C. Metal clasp for barrel hoops	Mar. 19, 1867.
	Lawrence, E. H., and J. W. Merrill. (See Merrill & Lawrence.)	
	Lawrence, Henry. (See Cook, Theodore R., assignor.)	
68, 999	Lawrence, James, W., assignor to Brewster & Co., New York, N. Y. Securing fel-loe joints	Sept. 17, 1867.
65, 243	Lawrence, Jewett, Ripon, Wis. Tablet for multiplying photographic pictures	May 23, 1867.
72, 051	Lawrence, Joshua, Palmyra, N. Y. Fifth wheel for carriages	Dec. 10, 1867.
2, 572	Lawrence, Mary A., New York, N. Y. Ornament for hats and dresses. (Design)	Feb. 12, 1867.
72, 538	Lawrence, Nathan, Taunton, Mass. Syringe valve	Dec. 24, 1867.
70, 582	Lawrence, Nathan, assignor to Reed & Barton, Taunton, Mass. Construction of ice pitchers	Nov. 5, 1867.
71, 889	Same.....Butter dish	Dec. 10, 1867.
72, 742	Laws, Samuel S., New York, N. Y. Electrical indicator	Dec. 31, 1867.
70, 005	Lawson, Benjamin S., Brooklyn, E. D., N. Y. Wrench. (Antedated October 19, 1867.)	Oct. 22, 1867.
68, 213	Lawson, James A., Troy, N. Y. Coal hod	Aug. 27, 1867.
70, 415	Same.....Hot-air furnace	Nov. 5, 1867.
62, 860	Lawson, Peter, Lowell, Mass. Apparatus for refrigerating, cooling, and preserving.	Mar. 12, 1867.
	Lawthor, A. B., and Charles Coester. (See Coester & Lawthor.)	
63, 399	Lawton, Elbridge, New York, N. Y., and Thomas J. Jones, Summit, N. J., assignors to C. J. Eames. Ferrules for boiler tubes	Apr. 2, 1867.
65, 244	Lawton, George, assignor to George James, Trenton, N. J. Machine for stamping clay door knobs	May 23, 1867.
69, 451	Lawton, William, Green Point, N. Y. Propeller	Oct. 1, 1867.
63, 062	Lawyer, Peck, Richmondville, N. Y. Carpenters' gauge	Mar. 19, 1867.
70, 341	Lay, John L., Buffalo, N. Y. Locomotive	Oct. 29, 1867.
66, 971	Lay, John L., assignor to self and H. O. Perry, Buffalo, N. Y. Steam engines	July 23, 1867.
66, 972	Same.....same	July 23, 1867.
66, 973	Same.....same	July 23, 1867.
66, 974	Same.....same	July 23, 1867.
66, 975	Same.....same	July 23, 1867.
66, 976	Same.....same	July 23, 1867.
	Lay, John L., and Horatio O. Perry. (See Perry & Lay.)	
	Layman, J. W. (See Munson, Francis, assignor.)	
70, 097	Layton, John E., New Wilmington, Pa. Fence	Oct. 22, 1867.
64, 544	Lazear, C. G., assignor to self and B. L. Fletcher, Norwalk, Ohio. Fence. (Disclaimer)	July 29, 1867.
64, 544	Lazear, Hiram Y., New York, N. Y. Gas burner for heating purposes	May 7, 1867.
69, 022	Lazier, John, Belleville, Canada. Spinning machine	Sept. 17, 1867.
66, 093	Leach, Frederick, Tioga, N. Y. Machine for pressing peat	June 25, 1867.
67, 775	Leach, J. D., Penobscot, Me. Ship's block and warping chock	Aug. 13, 1867.
72, 305	Leach, S. J., Tuscaloosa, Ala. Plow	Dec. 17, 1867.
70, 583	Leadbetter, Frederick, Plymouth, Mich. Bed bottom	Nov. 5, 1867.
70, 229	Leaken, John, assignor to self and F. H. Bogar, Clinton, Ill. Churn dasher	Oct. 29, 1867.
60, 911	Leaman, Robert, Hillsborough, Ohio. Lounge for invalids	Jan. 1, 1867.
72, 306	Leas, George, Shirelsburg, Pa. Lamp-chimney cleaner	Dec. 17, 1867.
	Leas, Noah and Worley. (See Myers, John F., assignor.)	
	Leathe, Jephthah, and George F. Lape. (See Lape & Leathe.)	
61, 218	Leavenworth, J. N., assignor to self and Bela A. Mann, Hamden, Conn. Let-off mechanism for narrow-ware looms	Jan. 15, 1867.
64, 678	Leavitt, Charles, Cleveland, Ohio. Fruit dryer	May 14, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 214	Lebby, N. H., Charleston, S. C. Centrifugal pump.....	Aug. 27, 1867.
	Lechner, Richard, and William Zeller. (See Zeller & Lechner.)	
	Same.....same.	
70, 230	Lecky, R. H., Allegheny, Pa. Cotton-bale tie. (Antedated October 9, 1867).....	Oct. 29, 1867.
64, 113	Leclanché, Georges Lionel, France. Combining, generating, and secondary or accumulating galvanic battery.....	Apr. 23, 1867.
62, 861	Leclere, François, assignor to self and J. S. Letreud, Watertown, N. Y. Lantern.....	Mar. 12, 1867.
60, 751	Le Count, Charles W., Norwalk, Conn. Lath dog.....	Jan. 1, 1867.
	Ledyard, Thomas D. (See Emsley, J. J., assignor)..... (Reissue.)	
64, 684	Lee, A., St. Paul, Minn. Heating stove.....	May 21, 1867.
62, 042	Lee, jr., Benjamin, assignor to self and Alfred Woodham, Williamsburg, N. Y. Fish hook.....	Feb. 12, 1867.
66, 154	Lee, Caleb, assignor to self and Joshua Lee, Sandy, Ohio. Harvester.....	June 25, 1867.
66, 094	Lee, Chapman, and Joseph Paudler, Washington, D. C. Curtain fixture.....	June 25, 1867.
70, 725	Lee, C. H., Osakaloosa, Iowa. Churn.....	Nov. 12, 1867.
66, 857	Lee, Daniel, Boston, Mass. Globe valve.....	July 16, 1867.
61, 941	Lee, Henry, Oberlin, Ohio. Animal trap.....	Feb. 12, 1867.
66, 719	Lee, Henry, A., Worcester, Mass. Cutter head for planing machines.....	July 16, 1867.
70, 867	Lee, James, New York, N. Y. Lamps.....	Nov. 12, 1867.
72, 647	Lee, jr., James, Charlestown, Mass. Cloth washing, rinsing, and squeezing machine.....	Dec. 24, 1867.
63, 400	Lee, Joel, Galesburg, Ill. Petroleum stove.....	Apr. 2, 1867.
68, 215	Lee, John, assignor to Isaac C. Tate, New London, Conn. Vise.....	Aug. 27, 1867.
	Lee, jr., John F. (See Wheaton, William, assignor.)	
	Lee, Joshua. (See Lee, Caleb, assignor.)	
68, 518	Lee, Luther B., and George W., Jerusalem, N. Y. Fly net.....	Sept. 3, 1867.
64, 545	Lee, L. E., and C. Mudge, New Orleans, La. Turn-table for railroads.....	May 7, 1867.
65, 095	Lee, Nehemiah W., North Providence, R. I. Tobacco cutter.....	May 28, 1867.
63, 909	Lee, S. M., New London, Iowa. Car brake.....	Apr. 16, 1867.
2, 449	Lee, Z. W., assignor to John C. Lee, Gonzales, Texas. Cotton-bale tie..... (Reissue)	Jan. 8, 1867.
65, 400	Leeson, Thomas, Sharon, Wis. Post-hole auger.....	June 4, 1867.
64, 232	Leete, James T., New York, N. Y. Burning fluid.....	Apr. 30, 1867.
63, 801	Lefebvre, James, Wayne, Ind. Portable fence.....	Apr. 16, 1867.
67, 991	Same.....Cambridge City, Ind. Meat masher.....	Aug. 20, 1867.
69, 664	Lefebvre, Louis, New Orleans, La. Sugar evaporator.....	Oct. 8, 1867.
64, 988	Le Ferre, John, Charlestown, Mass. Window-sash elevator.....	May 21, 1867.
69, 952	Same.....same.....	Oct. 15, 1867.
70, 342	Lefevre, H., and J. McGuire, Lancaster, Pa. Compound for stopping leaks in steam boilers.....	Oct. 29, 1867.
66, 977	Leffingwell, George W., Columbus, Pa. Beehive.....	July 23, 1867.
72, 052	Leffingwell, J. Q., Nevada, Iowa. Washing machine.....	Dec. 10, 1867.
64, 885	Leffingwell, W., and C., Clarksburg, Ohio. Hog holder.....	May 21, 1867.
	Legat, Desire Mathurin, and Jules François Mathias. (See Mathias & Legat.)	
65, 580	Legge, Charles L., San Antonio, Texas. Medical preparation.....	June 11, 1867.
66, 155	Legg, John T., Lewis county, Mo. Gang plow.....	June 25, 1867.
68, 758	Legran, Leonhard, Allegheny City, Pa. Artificial leg.....	Sept. 10, 1867.
63, 265	Lehman, B. B., Lebanon, Pa. Machine for making paper allumettes.....	Mar. 26, 1867.
	Lehman, B. E., and Robert Ross. (See Ross & Lehman.)	
	Lehman, Isadore, and Samuel Lagowitz. (See Schubeus, Chas. H., assignor.)	
	Same.....same.....	
	Same.....same.....	
62, 759	Lehmann, Benedict, Piqua, Ohio. Ointment for curing spavin, splint, &c., in horses.....	Mar. 12, 1867.
62, 493	Leopard, Carl, Boston, Mass. Window shutter fastening.....	Feb. 26, 1867.
62, 345	Leib, William, and Green B. Hornbeck, Winchester, Ill. Car coupling.....	Feb. 25, 1867.
71, 522	Leibrey, J. A., Davenport, Iowa. Horse power.....	Nov. 26, 1867.
	Leibrandt & McDowell. (See Smith & Brown, assignors)..... (Design.)	
62, 645	Leich, Adam, Brooklyn, N. Y. Door lock.....	Mar. 5, 1867.
72, 268	Leigh, Lewis, Bridgeport, Conn. Globe valve.....	Dec. 31, 1867.
62, 646	Leighton, Alfred, England. Apparatus for printing on uneven surfaces.....	Mar. 5, 1867.
	Leighton, Andrew, and M. L. Whitney. (See Noyes, George, assignor.)	
71, 523	Leighton, William, Wyandotte, Mich. Fagot for railroad rails.....	Nov. 26, 1867.
62, 760	Leinaw, George, Philadelphia, Pa. Preparing fertilizers.....	Mar. 12, 1867.
	Leisenring, Henry G. (See Greene & Forbush, assignors.)	
65, 401	Leithead, George H., East Birmingham, Pa. Medical compound.....	June 4, 1867.
68, 216	Leitner, Amos, Hopewell township, Ohio. Portable crane for loading wagons.....	Aug. 27, 1867.
67, 321	Leland, Mary H., Milbury, Mass. Portable oven.....	July 30, 1867.
62, 617	Lemen, A. R., Kalamazoo, Mich. Hoisting apparatus.....	Mar. 5, 1867.
71, 520	Lemley, jr., Jacob, assignor to self, I. W. Yeakell, and C. O. Kline, Newtown, Va. Means for measuring and laying out garments.....	Nov. 26, 1867.
62, 346	Lemm, Hiram, Leonidas, Mich. Stump extractor.....	Feb. 26, 1867.
60, 752	Lemmon, F. M., Shelbyville, Ill. Wheelwrights' spoke-driving bench.....	Jan. 1, 1867.
67, 432	Lemon, jr., Sam'l, assignor to self and Chas. Woodruff, Hoboken, N. J. Lubricator.....	Aug. 6, 1867.
70, 868	Lemhart, Adam I., New Brunswick, N. J. Fish hook.....	Nov. 12, 1867.
60, 753	Lennig, Charles, Philadelphia, Pa. Compound for saline medicated baths.....	Jan. 1, 1867.
	Lennox, Patrick, and Thomas Roberts. (See Roberts & Lennox.)	
62, 141	Lenoir, J. J. E., France. Copying telegraph.....	Feb. 19, 1867.
64, 114	Lenox, Edward S., and Edward Spaulding, New York, N. Y. Potato digger.....	Apr. 23, 1867.
	Leonard, Cornelius. (See Culver, James Henry, assignor.)	
64, 430	Leonard, Henry G., Taunton, Mass. Grate for stoves.....	May 7, 1867.
61, 942	Leonard, J. C., Union City, Mich. Fence.....	Feb. 12, 1867.
64, 679	Leonard, Joseph C., and Delos P., Union City, Mich. Hop frame.....	May 14, 1867.
61, 345	Leonard, M. C., Washington, D. C. Cartridge box.....	Jan. 22, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 767	Leonard, Sebastian, jr., Fairfield county, Conn. Portable fence.....	Dec. 3, 1867.
65, 432	Leonard, Volney, Springfield, Pa. Beehive.....	June 4, 1867.
68, 759	Same.....same.....	Sept. 10, 1867.
68, 369	Leonard, William, Boston, Mass. Horse collar.....	Sept. 3, 1867.
72, 743	Same.....Harness saddle.....	Dec. 31, 1867.
71, 768	Leonard, Theodor, Paterson, N. J. Bleaching vegetable oil.....	Dec. 3, 1867.
67, 776	Leopold, Charles F., et al. (See Shloss, Veerkamp & Leopold.) Le Page, Matthew, assignor to self and William Amberman, Woodhaven, N. Y. Spring bed bottom.....	Aug. 13, 1867. Apr. 23, 1867.
64, 115	Le Page, M., and F. Raymond, Woodhaven, N. Y. Seat for lounges and chairs..... Lepper, A. F., et al. (See Warren, Pfeiffer & Lepper.) Lerew, Henry, and C. K. Burkholder. (See Burkholder & Lerew.)	
64, 431	Leslie, A. M., St. Louis, Mo. Apparatus for the preparing and administration of nitrous oxide gas. (Antedated April 23, 1867).....	May 7, 1867.
70, 006	Leslie, S. Z., Hartland, Maine, and T. W. Porter, Boston, Mass. Carriage corner body iron.....	Oct. 22, 1867. Aug. 6, 1867.
67, 439	Leslie, William O., Philadelphia, Pa. Brick machine.....	Aug. 6, 1867.
66, 720	Lesner, Augustus S., assignor to self and A. L. Noyes, Boston, Mass. Mop wringer.....	July 16, 1867.
61, 623	Lesster, William C., New York, N. Y. Fireplace heater.....	Jan. 29, 1867.
64, 336	Lester, James S., and Lyman G. Jennings, Lafayette, Ind. Derrick.....	Apr. 30, 1867.
65, 492	Letherbury, Charles D., Chester, Pa. Shoe.....	June 4, 1867.
	Letmate, F. W., and Lewis Francis. (See Francis & Letmate).....(Reissue.) Letrerd, J. S. (See Leclere, Francois, assignor.) Leunt, G. W. and A. H. North. (See Nichols, Josiah H., assignor.)	
72, 053	Levalley, Francis C., Warnerville, N. Y. Door fastener.....	Dec. 10, 1867.
	Levallois, Hilaire Andre, and Achille Schmitte. (See Schmitte & Levallois.) Levine, Isaac, New York, N. Y. Cuff.....	Mar. 5, 1867.
2, 789	Levis, Samuel G., Kellyville Pa. Making thick paper.....(Reissue.)	Oct. 22, 1867.
67, 890	Levoy, W. E., Cincinnati, Ohio. Plow.....	Aug. 20, 1867.
72, 869	Lewando, Charles, Boston, Mass. Illuminated sign.....	Dec. 31, 1867.
60, 754	Lewandowski, Charles, assignor to Emile Granier, France. Apparatus for prepar- ing cotton.....	Jan. 1, 1867.
72, 648	Lewers, Dixon, assignor to Ferguson & Lewers, Louisville, Ky. Stave machine.....	Dec. 24, 1867.
65, 696	Lewis, Burdett A., assignor to self and Jeremy W. Bliss, New Britain, Conn. Trace fastening. (Antedated May 16, 1867).....	May 28, 1867.
61, 841	Lewis, Charles E. F., assignor to self and C. M. Alexander, Washington, D. C. Washing shield.....	Feb. 5, 1867.
	Lewis, Christopher, and M. S. Ridgway. (See Ridgway & Lewis.) Lewis, David P., Huntsville, Ala. Cotton chopper and trimmer.....	Jan. 22, 1867.
71, 626	Same.....Hose guard.....	Nov. 19, 1867.
71, 394	Lewis, Edward A., St. Charles, Mo. Velocimeter.....	Nov. 26, 1867.
68, 217	Lewis, Edward C., Auburn, N. Y. Elliptic spring.....	Aug. 27, 1867.
64, 116	Lewis, Elliot, Lockport, N. Y. Sad iron.....	Apr. 23, 1867.
	Lewis, Enoch M., et al. (See Bardsley, Boyle, Lewis & Clancy.) Lewis, George B. and Clark, Adams Center, N. Y. Device for suspending horse hay forks, &c.....	Jan. 1, 1867.
67, 992	Lewis, George T., Philadelphia, Pa. Mode of treating precipitated lead to destroy its crystalline character.....	Aug. 20, 1867.
	Same.....(See Williams, Charles P., assignor.) Lewis, George T., and Nathaniel Bartlett. (See Bartlett & Lewis.)	
70, 231	Lewis, George W., Providence, R. I. Horseshoe.....	Oct. 29, 1867.
71, 769	Lewis, Henry C., Miller township, Pa. Railroad switch.....	Dec. 3, 1867.
63, 910	Lewis, Horatio S., Communipaw, N. J. Skinning cattle.....	Apr. 16, 1867.
61, 075	Lewis, John W., Fetterman, West Va. Plow.....	Jan. 8, 1867.
65, 097	Lewis, Joseph H., Duxbury, Mass. Vise.....	May 28, 1867.
70, 098	Same.....Wheel and axle for carriages.....	Oct. 22, 1867.
72, 559	Lewis, J. O., Worcester, Mass. Card grinding cylinder.....	Dec. 24, 1867.
63, 266	Lewis, Moses, and Samuel Miller, Greenville, Conn. Pulley for belting.....	Mar. 26, 1867.
72, 510	Lewis, M. C., Glasgow, Mo. Head block.....	Dec. 24, 1867.
63, 267	Lewis, Nathaniel and Friend, Adams, N. Y. Cheese box.....	Mar. 26, 1867.
70, 232	Lewis, Rees, New York, N. Y. Safe lock.....	Oct. 29, 1867.
62, 649	Lewis, R. L., Worcester, Mass. Boot tree.....	Mar. 5, 1867.
61, 219	Lewis, R. W., Beacon Falls, Conn. Self-feed for carding engines.....	Jan. 15, 1867.
71, 395	Lewis, S., Tiffin, Ohio. Flour bolt.....	Nov. 26, 1867.
66, 650	Lewis, Samuel C., Woodbridge, Mich. Water elevator.....	July 9, 1867.
68, 629	Lewis, Thomas, Malden, Mass. Syringe.....	Sept. 10, 1867.
64, 546	Lewis, Tristram S., Chelsea, Mass. Well tube.....	May 7, 1867.
2, 697	Lewis, William, John Price, and Francis Naylor, Danville, Pa. Fagot for railway rails.....(Reissue.)	July 23, 1867.
	Lewis, William, and John Price. (See Price & Lewis).....(Reissue.) Lewis, W. A., assignor to self, H. H. Mason, and Joseph Messinger, Springfield, Vt. Mop head.....	Apr. 9, 1867.
72, 870	Lewis, William H., New York, N. Y. Roller for towels.....	Dec. 31, 1867.
65, 581	Lewis, William P., assignor to self and William H. Sims, Pittsburg, Pa. Method of casting tuyeres.....	June 11, 1867.
61, 076	Lewman, William C., Kansas, Ohio. Hand corn planter.....	Jan. 8, 1867.
69, 685	Lewy, B. M., Montgomery, Ala. Lathe.....	Oct. 8, 1867.
	Lewzinger, John. (See Binner, Adolph, assignor.) Leyburn, Edward I., Lexington, Va. Cupping instrument.....	Sept. 10, 1867.
70, 007	Same.....Harvester rake.....	Oct. 22, 1867.
71, 680	Same.....same.....	Dec. 10, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 862	Leyden, Austin, Atlanta, Ga. Combination padlock.....	Mar. 12, 1867.
63, 268	Libbertz, Johann A., Germany. Boat detaching tackle.....	Mar. 26, 1867.
65, 403	Libbey, H. W., Cleveland, Ohio. Carriage top prop rest.....	June 4, 1867.
63, 401	Liddell, Noyes, Lafayette, N. Y. Corn planter.....	Apr. 2, 1867.
	Liddell, W. J. F. (See Thorpe, James Edward, assignor.)	
	Liddell, W. J. F., and Samuel Selden. (See Selden & Liddell.)	
70, 233	Liddle, John, assignor to Jane E. Liddle, Brooklyn, N. Y. Heat radiating stove or furnace for fireplaces.....	Oct. 29, 1867.
71, 517	Liddle, Robert Z., Brooklyn, N. Y. Hot-air furnace.....	Nov. 26, 1867.
65, 921	Lidford, Thomas H., North Adams, Mass. Steam valve.....	June 18, 1867.
69, 223	Liebmann, Herrmann, Mascoutah, Ill. Vegetable slicer.....	Sept. 24, 1867.
	Liebrich, Conrad. (See Uitting, Leonhardt, assignor.)	
	Same.....	
	Liebrich, C., et al. (See Hillebrand, L., assignor.)	
71, 627	Liebrich, Daniel, Philadelphia, Pa. Door gong.....	Dec. 3, 1867.
	Lieder, Alexander, et al. (See Weidling, Carl, assignor.)	
61, 842	Liernur, Charles T., Frankfurt-on-the-Main, Germany. Sewer.....	Feb. 5, 1867.
	Liggett, jr., George. (See Hartman, Benjamin J., assignor.)	
69, 822	Light, Edward F., Worcester, Mass. Journal box.....	Oct. 15, 1867.
60, 912	Light, J. F., Worcester, Mass. Shaft coupling.....	Jan. 1, 1867.
67, 660	Lighter, Samuel K., Thomas Harding, and Joseph Curtis, Hamilton, Ohio. Grain drill tube.....	Aug. 13, 1867.
70, 726	Lightfoot, Goodrich, assignor to self and Joseph B. Lightfoot, Elgin, Ill. Blind fastening.....	Nov. 12, 1867.
71, 891	Lighthall, Reuben, Brooklyn, N. Y. Washing machine.....	Dec. 10, 1867.
72, 054	Lighthall, William A., New York, N. Y. Condensing engine.....	Dec. 10, 1867.
71, 396	Lightner, John H., Shireleysburg, Pa. Lamp chimney cleaner.....	Nov. 26, 1867.
63, 269	Lightner, John S., Westford, Wis. Liniment.....	Mar. 26, 1867.
65, 404	Lighty, Henry, Attica, Ind. Evaporator.....	June 4, 1867.
69, 000	Ligou, E. T., Demopolis, Ala. Submarine plow.....	Sept. 17, 1867.
69, 001	Same..... Mode of uniting steel or iron with copper.....	Sept. 17, 1867.
	Lilienthal, Christian H., and J. Polhemus. (See Polhemus & Lilienthal.)	
64, 432	Limerick, Landon, Louisville, Ky. Baby-tender.....	May 7, 1867.
67, 201	Lincoln, Daniel, Johnsbury, N. Y. Horse collar.....	July 30, 1867.
2, 569	Lincoln, George H., assignor to the Lincoln Manufacturing Company, Providence, R. I. Trade-mark..... (Design).....	Feb. 5, 1867.
	Lincoln, George S., and Company. (See Pratt, Francis A., assignor.)..... (Reissue.)	
62, 761	Lincoln, Isaiah, and Aaron Pratt, Cohasset, Mass. Animal tether.....	Mar. 12, 1867.
	Lincoln, J. H., et al. (See Tucker, John E., assignor.)	
	Lincoln, J. H. and S., et al. (See Hammon, Lincoln & Hammon.)	
64, 117	Lincoln, William C., assignor to Milton, Bradley & Co., Providence, R. I. Toy.....	Apr. 23, 1867.
69, 106	Lindeman, Elies W., assignor to self, M. S. and H. H. Harnish, Manor township, Pa. Safety bridle.....	Sept. 24, 1867.
63, 064	Lindeman, Jacob B., Manor township, Pa. Harness.....	Mar. 19, 1867.
71, 187	Lindemeyer, Philip, Hoboken, N. J., and Lindemeyer, Louis, New York, N. Y. Window shade.....	Nov. 19, 1867.
	Linderman, John H. (See Vail, Jacob, assignor.)	
70, 584	Findley, N. H., Bridgeport, Conn. Propagating tank and bed.....	Nov. 5, 1867.
65, 920	Lindley, Thomas H., Taunton, Mass. Firing machine.....	June 18, 1867.
71, 519	Lindon, William, New Haven, Conn. Clock.....	Nov. 26, 1867.
2, 438	Lindsay, S. A., assignor, through mesne assignments, to C. Aultman, Canton, Ohio. Rake for harvesters..... (Reissue).....	Jan. 1, 1867.
2, 439	Same..... Harvester..... (Reissue).....	Jan. 1, 1867.
63, 732	Lindsey, William, Oberlin, Ohio. Cattle pump.....	Apr. 9, 1867.
64, 547	Lindsley, Elijah, Neenah, Wis. Car coupling..... (Reissue).....	May 7, 1867.
	Lindsley, E., and S. B. Smith. (See Smith & Lindsley.)	
	Lindstrom, J. J., et al. (See Vanderbilt, George R., assignor.)	
71, 314	Ling, Conrad, and G. S. Chandler, Detroit, Mich. Organ and melodeon coupling.....	Nov. 26, 1867.
64, 337	Ling, Thomas, New York, N. Y. Pump.....	Apr. 30, 1867.
61, 671	Lingard, George A., New York, N. Y. Stud fastening.....	Jan. 29, 1867.
	Lingley, Bartlett, et al. (See Taylor, Charles, assignor.)	
62, 347	Link, W. B., Taberg, N. Y. Mop cloth. (Antedated February 14, 1867).....	Feb. 26, 1867.
72, 307	Linton, John R. D. V., New Bedford, Mass. Seat for vehicles.....	Dec. 17, 1867.
71, 188	Linton, Nathan M., Wilmington, Ohio. Animal trap.....	Nov. 19, 1867.
68, 760	Lipe, Charles E., Fort Plain, N. Y. Corn dropper.....	Sept. 10, 1867.
62, 429	Lipp, Lewis A., Coatsville, Pa. Ice-cream freezer.....	Feb. 26, 1867.
65, 245	Lippiatt, Thomas, New York, N. Y. Rose engine lathe.....	May 28, 1867.
62, 546	Lippincott, John, Pittsburg, Pa. Method of tempering circular saws.....	Mar. 5, 1867.
66, 978	Same..... Manufacture of axes.....	July 23, 1867.
68, 092	Lippincott, Thomas C., Philadelphia, Pa. Cord tightener for curtains.....	Aug. 27, 1867.
60, 755	Lipps, John S., assignor to self and Edwin Sanderson, Brooklyn, N. Y. Composition of matter for fuel and other purposes.....	Jan. 1, 1867.
2, 607	Little, Andrew, New York, N. Y. Printers' type..... (Design).....	Mar. 26, 1867.
69, 452	Little, Cyrus and Joel L., Van Wert county, Ohio, and Reuben M. Dalbey, Springfield, Ohio, assignors to selves, and Doty & Rawlins. Dirt scraper.....	Oct. 1, 1867.
72, 207	Little, E. C., and James W. Bell, St. Louis, Mo. Summer furnace.....	Dec. 17, 1867.
62, 348	Little, Freeman, St. Louis, Mo. Slat for window blinds.....	Feb. 26, 1867.
64, 886	Little, Henry, Middletown, N. Y. Device for elevating ice.....	May 21, 1867.
68, 218	Same..... Same.....	Aug. 27, 1867.
64, 887	Little, John, Newberg, N. Y. Mode of desulphurizing iron ore.....	May 21, 1867.
67, 062	Little, John F., Lockport, N. Y. Barrel cresset.....	July 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 208	Little, Robert B., and Henry C. Clark. (See Clark & Little.) Little, Rufus, and Lewis Gibbs, assignors to selves and John R. Bucher, Canton, Ohio. Harvester rake	Dec. 17, 1867.
64, 689	Little, Thomas C., Dixon, Ill. Steam generator	May 14, 1867.
69, 566	Littlefield, C. B., assignor to self and T. W. Porter, Boston, Mass. Gas cock	Oct. 8, 1867.
62, 430	Littlefield, C. H., Turner, Me. Sulky plow	Feb. 26, 1867.
67, 322	Littlefield, Charles H., Turner, Me. Metallic loop	July 30, 1867.
2, 612	Littlefield, Dennis G., Albany, N. Y. Base burning stove. (Reissue)	May 14, 1867.
67, 202	Littlefield, Hiram and Charles, Tewksbury, Mass. Corn-cake machine	July 30, 1867.
63, 536	Littlefield, Horace, Lewis, Iowa. Scaffold	July 30, 1867.
66, 505	Littlefield, Sanford, assignor to Charles S. Smith and Pelatiah J. Marsh, Grafton, N. Y. Feed bar for sewing machines	Apr. 2, 1867.
69, 350	Littlefield, S. D., assignor to self and Horatio D. Knight, Burlington, Wis. Axle	July 9, 1867.
67, 777	Littlejohn, L., New York, N. Y. Cotton bale tie	Oct. 1, 1867.
	Livermore, George W., Cambridgeport, Mass. Machinery for making barrels. (Extension)	Aug. 13, 1867.
65, 493	Livingston, E. F., Chicago, Ill. Cooking stove	Nov. 12, 1867.
66, 363	Livingston, Ira, Hornellsville, N. Y. Washing machine	June 4, 1867.
66, 506	Same. Well tube and point	July 2, 1867.
70, 234	Livingston, John L., Mount Carroll, Ill. Limekiln	July 9, 1867.
65, 494	Livingston, M. M., et al. (See Beckwith, L. H., assignor.) Livingston, Robert M., Mobile, Ala. Composition or paste for articles of food	Oct. 29, 1867.
2, 720	Same. same. (Reissue)	June 4, 1867.
64, 118	Livingston, William H., Johnstown, N. Y. Handsaw	Aug. 6, 1867.
71, 513	Lloyd, Charles C., assignor to American Meter Company, Philadelphia, Pa. Dry gas meter	Apr. 23, 1867.
62, 043	Lloyd, C. P., Portsmouth, Ohio. Beehive	Nov. 26, 1867.
66, 665	Lloyd, G. A., and C. A. Stewart, San Francisco, Cal. Anchor	Feb. 12, 1867.
69, 453	Lloyd, G. A., and S. Tetlow, San Francisco, Cal. Sewing needle	July 2, 1867.
62, 349	Lloyd, Isaac, and Theos. Weaver. (See Patton, William P., assignor.) Lloyd, Samuel, assignor to self and Robert C. Stevens, Washington, D. C. Reversible lounge	Oct. 1, 1867.
66, 858	Lochman, C. L., Carlisle, Pa. Box for indelible ink, &c.	Feb. 26, 1867.
68, 093	Same. Cork press	July 16, 1867.
67, 661	Locke, Charles L. (See Hall, John, assignor.) Locke, Edward A., Boston, Mass. Tag or label	Aug. 27, 1867.
2, 599	Locke, Harvey, Grand Rapids, Mich. Machine for removing seeds from raisins. (Reissue)	Aug. 13, 1867.
63, 802	Locke, Jesse A., et al. (See Needham, Daniel, assignor.) Locke, Josiah, and T. J. Lockhart. (See Lockhart & Locke.) Locke, R. B., New Orleans, La., and William B. Ulrich, Concordia Parish, La. Gas burner	May 14, 1867.
66, 859	Lockhart, A. W., Sacramento, Cal. Grain separator	Apr. 16, 1867.
70, 727	Lockhart, T. J., and Josiah Locke, Pittsburg, Pa. Insulator for lightning rods	July 16, 1867.
70, 728	Lockwood, James K., Alpena, Mich. Saw	Nov. 12, 1867.
63, 270	Lockwood, John, assignor to self and Edwin Gilbert, Wilton, Conn. Wire-pointing machine	Mar. 26, 1867.
69, 567	Lockwood, John S., et al. (See Terwilliger & Lockwood). (Reissue)	
66, 601	Lockwood, Seth, Holly, Mich. Washing machine	Oct. 8, 1867.
63, 402	Lockwood, William E., Philadelphia, Pa. Nail	July 9, 1867.
72, 511	Lockwood, W. E. and E. D., et al. (See Cooper, John H., assignor.)	
66, 095	Lockwood, W. N., Woodcock, Pa. Washing machine	Apr. 2, 1867.
69, 921	Lodge, L. W. T., Petersburg, Ky. Road scraper	Dec. 24, 1867.
66, 096	Lodge, William B., Danbury, Conn. Fulling stock	Dec. 24, 1867.
66, 097	Same. Hat	June 25, 1867.
66, 097	Lodge, William B., and H. Platner, Danbury, Conn. Machine for sizing or planking hat bodies	Oct. 15, 1867.
71, 516	Lodge, W. B., and H. Platner, assignors to selves and F. Shaller, Danbury, Conn. Machine for sizing hat bodies	June 25, 1867.
66, 507	Lodge, William B., and Hiram Platner, Danbury, Conn. Felting machine	Nov. 26, 1867.
60, 913	Loeffler, B., and C. Wise. (See Wise & Loeffler.) Loeffler, William O., New York, N. Y. Automatic fan	July 9, 1867.
63, 733	Loefer, Charles P., Hartford, Conn. Bed bottom	Jan. 1, 1867.
63, 734	Loewenberg, Henry, assignor to self and Emile Granier, New York, N. Y. Compound for printers' ink	Apr. 9, 1867.
2, 587	Same. Marking compound	Apr. 9, 1867.
60, 759	Loewenberg, Henry, New York, N. Y., assignor, through mesne assignments, to the Modena Hat Company. Fabric for hats, bonnets, &c. (Reissue)	Apr. 30, 1867.
66, 602	Loftus, Joseph D., Chelsea, Mass. Concentrating sulphuric acid	Jan. 1, 1867.
	Logan, James R., Bellmore, Ind. Sawing machine	July 9, 1867.
61, 439	Logan, Thomas J. (See Duckley, John, assignor.) Lohnes, Conrad, and George A. Hill. (See Hill & Lohnes.)	
67, 559	Loiseau, Alphonse Julien, New York, N. Y. Stop-motion for looms	Jan. 22, 1867.
61, 440	Same. Philadelphia, Pa. Machine for cleaning and bleaching fibrous material	Aug. 6, 1867.
2, 822	Loiseau, Emile, New York, N. Y. Attachment for holding skirts together	Jan. 22, 1867.
2, 807	Lomas, John R., New Haven, Conn. Melodeon case. (Design)	Nov. 5, 1867.
	Lomas, John R., assignor to B. Shoninger Melodeon Company, New Haven, Conn. Organ case. (Design)	Oct. 22, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 351	Lomax, George H., assignor to self and Richard D. Blinn, Sozerville, Mass. Poultry drinking fountain	Oct. 1, 1867.
71, 770	Lomb, Henry, New York, N. Y. Eye-glass and spectacles	Dec. 3, 1867.
63, 271	Lombard, C. E., assignor to self, A. O. Sinclair, and C. C. Merritt, Springfield, Mass. Key	Mar. 26, 1867.
69, 454	Lombard, Johnson, Springfield, Mass. Machine for folding leather	Oct. 1, 1867.
	London, William E., et al. (See Doane, Orton & London.)	
	London, W. E., assignor to J. A. Fay & Co., Cincinnati, Ohio. Shaft coupling	Nov. 12, 1867.
65, 821	London, William E., and John Richards, Cincinnati, Ohio. Shaft coupling	June 18, 1867.
	London, W. E., and W. H. Doane. (See Doane & London.)	
70, 235	Long, A. Z., Scranton, Pa. Car brake	Oct. 29, 1867.
	Long, Burgess B. (See Cahoon, James W., assignor.)	
60, 914	Long, Charles, Paris, Ill. Corn planter	Jan. 1, 1867.
67, 126	Long, George, Marlboro' township, Ohio. Wagon brake	July 23, 1867.
72, 055	Long, Geo. S., Bridgeport, Conn. Machine for forming and tempering elliptic springs	Dec. 10, 1867.
68, 519	Long, H. E., Plymouth, Ind. Wood vise for a joiner's bench	Sept. 3, 1867.
61, 470	Long, Israel, Terre Haute, Ind. Plow	Jan. 22, 1867.
2, 660	Long, John, assignor through mesne assignments to Wm. N. Whiteley, Jerome Fassler, and O. S. Kelly, Springfield, Ohio. Harvester. (Division A, reissue)	June 25, 1867.
2, 661	Same	June 25, 1867.
64, 888	Long, John M., Hamilton, Ohio. Harvester rake	May 21, 1867.
70, 008	Same	Oct. 22, 1867.
72, 871	Long, Nathan, Eaton, Ind. Table leaf support	Dec. 31, 1867.
63, 403	Long, Obed, Joliet, Ill. Machine for bending bars of metal	Apr. 2, 1867.
72, 056	Long, Richard, Chillicothe, Ohio. Furnace for hot air blast	Dec. 10, 1867.
70, 585	Long, Stephen W., Louisville, Ky. Brick machine	Nov. 5, 1867.
70, 446	Long, Thomas, Vandalia, Ill. Elastic spring for carriages	Nov. 5, 1867.
63, 537	Long, T. A., Meadville, Pa. Soda fountain	Apr. 2, 1867.
62, 211	Long, W. P., Wheatland, Ind. Making plows	Feb. 19, 1867.
	Longabaugh, Levi. (See Maxell, Henry, assignor.)	
2, 773	Longacre, M. C., Cleveland, Ohio. Refrigerator	(Reissue) Oct. 8, 1867.
	Longhi, John N. (See Abbati, Ernesto, assignor.)	
71, 315	Longstreet, Aaron, Chicago, Ill. Door knob	Nov. 26, 1867.
	Loomis, Albert, et al. (See Page, Phillip A., assignor.)	
67, 993	Loomis, B. T., New York, N. Y. Expanding die	Aug. 20, 1867.
	Loomis, Daniel A., et al. (See Carlton, William, assignor.)	
69, 760	Loomis, James H., Attica, N. Y. Device for ventilating and heating rooms	Jan. 1, 1867.
66, 156	Loomis, Kellogg H., assignor to Cornelius Van Brunt, Cincinnati, Ohio. Valve of steam engine	June 25, 1867.
63, 735	Loomis, Russel, Saratoga Springs, N. Y. Fire-escape ladder	Apr. 9, 1867.
70, 729	Loomis, Samuel L., Byron, N. Y. Car coupling	Nov. 12, 1867.
71, 027	Loomis, S. P., Philadelphia, Pa. Painters' window jack	Nov. 19, 1867.
66, 364	Loomis, William R., Nelson Wells, Harmon Hitchcock, and Samuel G. Stryker, Elmira, N. Y. Burning fluid	July 2, 1867.
61, 547	Loos, Fredrich, Germantown, Pa. Button	Jan. 29, 1867.
62, 650	Loosley, Ann, Philadelphia, Pa. Medicine	Mar. 5, 1867.
	Lord, Aaron G. (See Collins, Richard, assignor.)	
68, 447	Lord, Eli H., Homer, and Egbert Hinman, Syracuse, N. Y. Mop pail and wringer	Sept. 3, 1867.
61, 943	Lord, Ivory, and Sewall Woodman, Saco, Maine. Cultivator	Feb. 12, 1867.
	Lord, J., and J. H. Winterbottom. (See Winterbottom & Lord.)	
71, 397	Loring, Caroline M., and Ezekiel Averell, Charlestown, Mass. Nursery chair	Nov. 26, 1867.
	Loring, Francis M. (See Campbell, S. P., assignor.)	
65, 758	Loring, Silas H., Lawrence, Mass. Hose coupling	June 11, 1867.
66, 721	Lothrop, Henry O., Milford, Mass. Steam engine	July 16, 1867.
66, 979	Lotz, W. H., and F. Baumann, assignors to W. H. Lotz, Chicago, Ill. Brick machine	July 23, 1867.
69, 107	Louden, William, Fairfield, Iowa. Elevating and conveying device	Sept. 24, 1867.
71, 771	Same	Dec. 3, 1867.
61, 672	Loughborough, Ira E., Pittsford, N. Y. Clothes line reel	Jan. 29, 1867.
72, 512	Loughran, Michael, Pittsburg, Pa. Machine for rolling clevis blanks	Dec. 24, 1867.
2, 498	Louis, La Fayette, Providence, R. I. Melodeon	(Reissue) Feb. 26, 1867.
65, 822	Same	June 18, 1867.
	Louis, T. J., and J. T. Wilson. (See Wilson & Louis.)	
	Loutrel, Cyrus H. (See Francis, Lewis, assignor.)	
	Loutrel, C. H., and Lewis Francis. (See Francis & Letmate, assignors.) (Reissue.)	
60, 756	Love, Horace T., Vermillion Township, Kansas. Fastening for railroad rails	Jan. 1, 1867.
65, 246	Love, James P., New York, N. Y. Fastening for corsets	May 23, 1867.
68, 889	Love, John C., assignor to W. H. Love, Philadelphia, Pa. Lamp burner	Sept. 17, 1867.
72, 209	Love, John C., assignor through mesne assignments to W. H. Love, R. H. and W. H. Childs, Philadelphia, Pa. Lamp burner	Dec. 17, 1867.
72, 649	Love, Roger W., and Albert Ball, Windsor, Vt. Machine for channeling rocks	Dec. 24, 1867.
61, 548	Love, Samuel, Indianapolis, Ind. Railroad bumping post	Jan. 29, 1867.
2, 632	Lovejoy, George, Deposit, N. Y. Fence panel	(Design) Apr. 23, 1867.
	Lovejoy, Henry W., and James H. Ferguson. (See Ferguson & Lovejoy.)	
	Lovejoy, W. H., and C. Robinson. (See Robinson & Lovejoy.)	
65, 247	Loveland, Charles B., Elizabethport, N. J. Shoe sole	May 28, 1867.
	Lovell, Henry C., et al. (See Taylor, Charles, assignor.)	
67, 323	Lovell, Richard C. M., Covington, Ky. Mining and tunnelling machine	July 30, 1867.
67, 324	Same	July 30, 1867.
	Lovell, W. S. (See Brown, James R., assignor.)	
68, 631	Loversidge, George L., Great Britain. Tauning	Sept. 10, 1867.
	Lovet, Nicholas. (See Forsyth, G. R., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 745	Lovie, Henry and Albert, Philadelphia, Pa. Curtain fixture.....	Feb. 5, 1867.
69, 823	Same..... same.....	Oct. 15, 1867.
2, 535	Low, H. H., assignor through mesne assignments to Charles S. Burt, Dunleith, Ill. Shingle machine..... (Reissue)	Apr. 2, 1867.
2, 774	Same..... same..... (Reissue)	Oct. 8, 1867.
63, 736	Low, John, assignor to self and Wm. Nash, New Britain, Conn. Ox bow pin.....	Apr. 9, 1867.
63, 538	Low, John J., Cleveland, Ohio. Coal stove.....	Apr. 2, 1867.
63, 539	Same..... same.....	Apr. 2, 1867.
70, 870	Low, J. M., Portlandville, N. Y. Horse rake and hay spreader combined.....	Nov. 12, 1867.
67, 560	Low, Peter, Cleveland, Ohio. Cooking stove.....	Aug. 6, 1867.
70, 343	Lowe, Ebenezer W., Almond, N. Y. Washing machine.....	Oct. 29, 1867.
69, 352	Lowe, John, Lebanon, Ind. Clod fender.....	Oct. 1, 1867.
62, 044	Lowe, John Knox, Cleveland, Ohio. Bronzing machine.....	Feb. 12, 1867.
63, 540	Same..... Inking apparatus for printing machines.....	Apr. 2, 1867.
71, 515	Lowe, Shederick J., Quincy, Ill. Lamp for kindling fires.....	Nov. 26, 1867.
63, 413	Lowe, T. S. C., New York, N. Y. Mode of manufacturing ice.....	Apr. 2, 1867.
63, 404	Same..... Apparatus for the manufacture of ice.....	Apr. 2, 1867.
63, 405	Same..... Apparatus for condensing carbonic acid, and for drawing off and applying the same for cooling and freezing.....	Apr. 2, 1867.
65, 405	Lowe, William, Bridgeport, Conn. Steam generator.....	June 4, 1867.
63, 922	Lowell, Albion H., Manchester, N. H. Apparatus for forming molds for purposes of casting metal.....	June 18, 1867.
66, 365	Same..... Soap-stone stove.....	July 2, 1867.
72, 650	Lowell, John B., Baltimore, Md. Steam engine globe valve.....	Dec. 24, 1867.
	Lowell Manufacturing Company. (See Ney, Elemir J., assignor)..... (Design.)	
	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
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	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
72, 651	Lower, J. J., Tennessee, Ill. Beehive.....	Dec. 24, 1867.
61, 746	Lowrey, Robert O., Tabor, Iowa. Tile and brick.....	Feb. 5, 1867.
63, 803	Same..... Saratoga Springs, N. Y. Roofing cement.....	Apr. 16, 1867.
64, 433	Same..... same..... Foundation for roofs.....	May 7, 1867.
2, 591	Same..... Tabor, Iowa. Tile and brick for roofing and other purposes. (Reissue)	May 7, 1867.
71, 892	Same..... Salem, N. Y. Process of rendering paper, cloth, and the like, fire and water proof.....	Dec. 10, 1867.
71, 893	Same..... Composition of matter for the manufacture of water-proof paper and other articles.....	Dec. 10, 1867.
61, 077	Lowrey, Rob't O., assignor to self and E. N. Kellogg, Tabor, Iowa. Wind mill.....	Jan. 8, 1867.
67, 127	Lowrey, William L., Saratoga Springs, N. Y. Manufacture of illuminating gas.....	July 23, 1867.
64, 119	Lowth, Michael F., and Thomas J. Howe, Owatonna, Mich. Cultivator.....	Apr. 23, 1867.
62, 278	Lowthorp, F. C., Trenton, N. J. Truss frame bridge.....	Feb. 19, 1867.
62, 547	Loy, Daniel L., Graceham, Md. Tuyere.....	Mar. 5, 1867.
68, 219	Lucas, Calvin L., Plymouth, Mass. Permutation lock.....	Aug. 27, 1867.
64, 233	Lucas, Heman S., Chester, Mass. Preparing fuel from coal dust and fresh water peat.....	Apr. '30, 1867.
68, 370	Same..... Paper stock.....	Sept. 3, 1867.
	Lucas, J. E., et al. (See Heppenstall, William, assignor.)	
72, 872	Lucas, William, Rushville, Ill. Machine for making cider.....	Dec. 31, 1867.
68, 890	Lucas, William, assignor to Oliver Downing, New Haven, Conn. Fan.....	Sept. 17, 1867.
67, 778	Luce, John B., Earlville, Ill. (Horse rake).....	Aug. 13, 1867.
	Lucie, D. I., and C. Verniaud. (See Verniaud & Lucie.)	
	Luckman, George O., and Joseph Benn. (See Benn & Luckman.)	
66, 508	Luders, Thomas L., Olney, Ill. Molding box.....	July 9, 1867.
67, 994	Ludlow, O. W., Dayton, Ohio. Water wheel.....	Aug. 20, 1867.
65, 406	Ludlow, R. C., St. Louis, Mo. Sifter.....	June 4, 1867.
61, 013	Ludlow, William J., Chardon, Ohio. Torch and match safe.....	Jan. 8, 1867.
60, 757	Lugo, Orazio, New York, N. Y. Deodorizing petroleum.....	Jan. 1, 1867.
65, 683	Lüke, Theodor, St. Louis, Mo. Carpet cleaner.....	June 11, 1867.
	Lull, Harvey, Hoboken, N. J. Shutter hinge..... (Extension)	Dec. 31, 1867.
62, 142	Lull, Henry C., Montpelier, Vt. Machine for scouring marble.....	Feb. 19, 1867.
	Lumis, Thomas J., and Hiram Smith. (See Smith & Lumis.)	
	Same..... same.....	
62, 431	Lundborg, John A. W., San Francisco, Cal. Automatic fan.....	Feb. 26, 1867.
64, 120	Lunger, John, Waldo, Ohio. Wagon seat supporter.....	Apr. 22, 1867.
66, 157	Lunkenheimer, F., Cincinnati, Ohio. Steam engine oil cup.....	June 25, 1867.
	Lunt, J. W., et al. (See Bowler, N. P., assignor.)	
63, 911	Lupton, George H., Cleveland, Ohio. Swing.....	Apr. 16, 1867.
70, 236	Same..... Shax fastener.....	Oct. 29, 1867.
2, 641	Lupton, Thos. N., assignor to Adam R. Reese, Phillipsburg, N. J. Rake for reaping machines..... (Reissue)	June 11, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 210	Lupton, William P., and C. M. Talbot, Cadiz, Ill. Registering yard stick	Dec. 17, 1867.
70, 447	Lurmann, F. W., Prussia. Blast furnace	Nov. 5, 1867.
68, 761	Lurton, N. M., Newbern, Ill. Grain measure	Sept. 10, 1867.
65, 407	Lusk, jr., John, Eckford, Mich. Tourmignot clamp	June 4, 1867.
67, 891	Luther, Jonathan, and Alexander Marsh, Worcester, Mass. Window-blind fastening.	Aug. 20, 1867.
68, 762	Luther, Justus P., Berlin, Wis. Machine for rolling whips	Sept. 10, 1867.
71, 189	Luther, L. T., Oak Grove, Pa. Water-proof friction match	Nov. 19, 1867.
	Luttgen, M. O. (See Gartner, Arnold, assignor.)	
	Lutts, A. W., and G. W. States. (See States & Lutts.)	
64, 681	Luxton, Charles, Hudson, N. J. Peat machine	May 14, 1867.
	Lyda, John, et al. (See Goodin, Blair & Lyda.)	
64, 121	Lyle, John, Newark, N. J. Combination tool	Apr. 23, 1867.
66, 722	Lyman, C. C., Edinboro', Pa. Platform scale	July 16, 1867.
68, 371	Same	Sept. 3, 1867.
72, 211	Same	Dec. 17, 1867.
71, 190	Lyman, C. S., New Haven, Conn. Apparatus for illustrating waves	Nov. 19, 1867.
63, 272	Lyman, David, Middlefield, Conn. Clothes wringer	Mar. 26, 1867.
63, 273	Same	Mar. 26, 1867.
72, 407	Same	Dec. 17, 1867.
	Same (See Palmer, S. W., J. F., and N., assignors.)	
	Lyman, David, et al. (See Page, Abby H., assignor.)	
	Same (See Mellish, Henry, assignor.)	
	Same	
	Same	
	Same	
	Same	
72, 057	Lyman, Eugene F., Indianapolis, Ind. Clothes rack	Dec. 10, 1867.
	Lyman, William W. (See Harris, Elbridge, assignor.) (Reissue.)	
69, 922	Lymau, William W., assignor to the Meriden Britannia Company, West Meriden, Conn. Manufacture of tea and coffee pots	Oct. 15, 1867.
	Lynch, Charles S. (See Huntoon, Reuben K., assignor.)	
62, 143	Lynch, George F., Milwaukee, Wis. Railroad box and journal. (Antedated Feb. 4, 1867)	Feb. 19, 1867.
	Lynch, J. Augustus. (See Huntoon, Reuben K., assignor.)	
67, 892	Lynch, John H., Baltimore, Md. Night cart	Aug. 20, 1867.
	Lynch, William H., and Roswell Judson. (See Judson & Lynch.)	
71, 028	Lynde, John D., Philadelphia, Pa. Apparatus for charging soda water. (Antedated November 9, 1867)	Nov. 19, 1867.
61, 441	Lynn, Isaac V., and George T. Snowden, Pittsburg, Pa. Balanced-slide valve	Jan. 22, 1867.
	Lyon, A., et al. (See Shumard, Lyon & Robbins.)	
	Lyon, Benjamin, and Albert C. Newcomb. (See Newcomb & Lyon.)	
	Lyon, D. E. (See Bullis, E. G., assignor.)	
69, 824	Lyon, David T., West Meriden, Conn. Butter dish	Oct. 15, 1867.
62, 848	Lyon, H. B., and G. M. Hopkins, Albion, N. Y. Clamp for making brooms	Mar. 5, 1867.
65, 248	Lyon, Warren, New York, N. Y. Machine for cutting stubs	May 28, 1867.
66, 603	Lyon, W. A., Danbury, Conn. Felting machine	July 9, 1867.
68, 632	Lyob, William S., Tranquility, Ohio. Medical compound	Sept. 10, 1867.
64, 777	Lyons, James B., Litchfield, Conn. Apparatus for making peat charcoal	May 14, 1867.
72, 513	Same	Dec. 24, 1867.
68, 763	Lyons, J. C., New York, N. Y. Fog alarm	Sept. 10, 1867.
70, 089	Lyons, Thomas, assignor to self and Joseph B. King, Brooklyn, N. Y. Curtain fixture	Oct. 22, 1867.
67, 326	Mabbett, Joseph I., Titusville, Pa. Spring seat	July 30, 1867.
70, 448	Same	Nov. 5, 1867.
63, 166	Macdaniel, Osborne, New York, N. Y. Wire bale tie	Mar. 26, 1867.
71, 191	Same	Nov. 19, 1867.
61, 078	Macdonald, George, England. Machine for cleaning and ginning cotton	Jan. 8, 1867.
71, 514	MacDougal, John, Portable gas apparatus and carburetter	Nov. 26, 1867.
	Mace, Levi H. (See Gwyer, Frederick S., assignor.)	
62, 652	Mace, Theodore, New York, N. Y. Molasses gate	Mar. 5, 1867.
	Same (See Miles, Purches, assignor.)	
	Same (See McGee, John A., assignor.)	
72, 058	Macfarlane, F. G., San Francisco, Cal. Center-board for vessels	Dec. 10, 1867.
2, 560	Macgill, Oliver P., assignor to self and T. Poultney, Brooklandville, Md. Horse shoe	Apr. 16, 1867.
72, 059	Macgowan, R. W., New York, N. Y. Register points for printing presses	Dec. 10, 1867.
69, 435	Mack, Christian, Leipsic, Ohio. Gate	Oct. 1, 1867.
61, 673	Mack, C. M., Brooklyn, Pa. Washing machine	Jan. 29, 1867.
	Mack, Stephen F. (See Newlan, L. J., assignor.)	
69, 456	Mackay, Donald D., Whitestone, N. Y. Sash lock and stop	Oct. 1, 1867.
	MacKellar, Smith & Jordan. (See Smith, Richard, assignor.) (Design.)	
	Mackenzie, P. W., and Charles W. Isbell. (See Isbell & Mackenzie.)	
65, 408	Mackenzie, Robert, and James Cooper, New York, N. Y. Fire escape	June 4, 1867.
65, 923	Mackey, Alexander, New York, N. Y. Centrifugal machine for draining sugar	June 18, 1867.
2, 708	Same	July 30, 1867.
67, 662	Mackey, Alexander, New York, N. Y., and Eberhardt Muller, Brooklyn, N. Y. Mode of raising the grade of raw sugar	Aug. 13, 1867.
71, 772	Mackey, Josiah J., Brooklyn, N. Y. Spring for doors	Dec. 3, 1867.
64, 339	Mackie, Simon F., New York, N. Y. Mill for crushing ore	Apr. 30, 1867.
69, 825	Mackinnon, Gilbert, assignor to self and Hosea Crane, Millbury, Mass. Expansion drill	Oct. 15, 1867.
63, 274	Mackinnon, John A., Reading, Pa. Table-leaf support	Mar. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
2, 786	Mackintosh, J. G., New York, N. Y. Trade mark (Design)	Sept. 24, 1867.
70, 009	Macklin, H. H., New Springfield, Ohio. Churn	Oct. 23, 1867.
72, 514	Maclure, John, Newark, N. J. Harness pad	Dec. 24, 1867.
72, 515	MacNair, John, New Orleans, La. Stereotype mold	Dec. 24, 1867.
	Macqueen, Charles D. (See Jennings, Ralph S., assignor.)	
66, 241	Macumber, Cassius, Aurora, Ill. Machine for draining sugar	July 2, 1867.
63, 406	Madden, John, Cleveland, Ohio. Bread cutter	Apr. 2, 1867.
67, 325	Same.....same	July 30, 1867.
72, 652	Same.....Guard for circular saws	Dec. 24, 1867.
63, 541	Madison, Tindal A., Terre Haute, Ind. Carriage for children	Apr. 2, 1867.
63, 542	Same.....Plastering trowel	Apr. 2, 1867.
69, 568	Magliocco, M. F., Philadelphia, Pa. Heating furnace	Oct. 8, 1867.
68, 633	Magoun, Joseph, East Cambridge, Mass. Mold for making glass goblets, glasses, &c.	Sept. 10, 1867.
67, 995	Maguire, Ephraim, Kewanee, Ill. Coal chute	Aug. 20, 1867.
62, 212	Maguire, James, assignor to John B. Brusher, Trenton, N. J. Bedstead fastening	Feb. 19, 1867.
68, 764	Mahan, Charles, Grand Island, Cal. Hoe	Sept. 10, 1867.
	Maier, Thomas, et al. (See Bowler, N. P., assignor.)	
61, 674	Mahon, Isaac B., Dunkirk, Ohio. Cultivator	Jan. 29, 1867.
69, 003	Same.....same	Sept. 17, 1867.
71, 029	Mahr, R., New York, N. Y. Churn	Nov. 19, 1867.
66, 860	Mahurin, Stephen, Liberty, Ill. Drop press for pressing hay and other purposes	July 16, 1867.
63, 065	Maine, S. C., Boston, Mass. Wardrobe bedstead	Mar. 19, 1867.
66, 861	Mains, A., Olena, Ind. Land roller and marker	July 16, 1867.
62, 762	Mainster, Samuel, and John F. Kirkwood, Thistle, Md. Measure for liquids	Mar. 12, 1867.
72, 873	Maitre, Joseph, France. Mode of separating bark from wood	Dec. 31, 1867.
65, 582	Males, Samuel, Cincinnati, Ohio. Safety guard for railway cars	June 11, 1867.
72, 874	Malick, Wesley, Tidouste, Pa. Bending device	Dec. 31, 1867.
64, 234	Mallalieu, James B., Chicago, Ill. Expanding mandrel	Apr. 30, 1867.
	Mallery, Joseph K. (See Keith, T. C., assignor.)	
62, 549	Malley, Henry, Chicago, Ill. Hoisting machine	Mar. 5, 1867.
72, 744	Mallin, John, Bedford, Ohio. Cooling mill-stones and curbs	Dec. 31, 1867.
	Mallory, Burton. (See Andrews, Win. H., assignor.)	
68, 520	Mallory, E. F., West Springfield, Pa. Burglar alarm	Sept. 3, 1867.
70, 344	Mallory, George, Bridgeport, Conn. Fan and parasol combined	Oct. 29, 1867.
	Same.....(See White, Wm. H., assignor.) (Reissue.)	
70, 871	Mallory, G. A., and J. J. Fish, Oxford, N. Y. Quilting frame and clothes dryer	Nov. 12, 1867.
71, 192	Malmight, John, Grass Lake, Mich. System of measuring and cutting out dresses	Nov. 19, 1867.
70, 449	Maloy, James W., Boston, Mass. Machine for cutting stone	Nov. 5, 1867.
71, 773	Same.....Pressure gauge	Dec. 3, 1867.
61, 220	Maloy, James W., assignor to the American Marble Cutting Company, Boston, Mass. Stone cutting machine	Jan. 15, 1867.
66, 158	Maltby, E. C., and Edward Smith, Northford, Conn. Confection	June 25, 1867.
62, 863	Man, Albon, Brooklyn, N. Y. Lock seal	Mar. 12, 1867.
68, 448	Same.....Bank check	Sept. 3, 1867.
67, 440	Manheim, Charles, assignor to self and E. L. Perry, New York, N. Y. Mode of securing rubber rolls to their shafts	Aug. 6, 1867.
62, 045	Manley, Almon D., Washington, Mich. Mud boat	Feb. 12, 1867.
64, 340	Manley, G. B., assignor to self and Timothy O. Vanalen, Cogan's Station, Pa. Lattice and truss bridge	Apr. 30, 1867.
64, 017	Manley, James, Hope, Maine. Stanchion for cattle	Apr. 23, 1867.
72, 160	Manley, Orville, Garrettsville, Ohio. Roofing	Dec. 10, 1867.
68, 521	Manley, S. B., Cory, Pa. Obstetrical supporter	Sept. 3, 1867.
70, 100	Manlove, Joseph L., Connersville, Ind. Seed planter	Oct. 22, 1867.
	Mann, Ben A. (See Leavenworth, J. N., assignor.)	
68, 372	Maun, Charles H., Fairlee, Vt. Cattle stanchion	Sept. 3, 1867.
72, 653	Mann, S. B., Indianapolis, Ind. Land roller	Dec. 24, 1867.
62, 550	Mann, Thomas W., Holyoke, Mass. Paper and cloth wearing apparel	Mar. 5, 1867.
	Mann, William, Philadelphia, Pa. Manufacturing copying paper (Extension)	June 29, 1867.
69, 229	Mannheim, William, New York, N. Y. Machine for tapering leather	Sept. 24, 1867.
60, 762	Manning, Cephas, West Albany, N. Y. Tempering steel springs	Jan. 1, 1867.
61, 747	Manning, E. B., Middletown, Conn. Ice pitcher	Feb. 5, 1867.
68, 094	Manning, Ira, Philadelphia, Pa. Channelling and bevelling machine	Aug. 27, 1867.
	Manning, Joseph E. (See Keene, George A., assignor.)	
69, 004	Manning, Samuel, San José, Cal. Fingers for lifting lodged grain	Sept. 17, 1867.
67, 893	Mansfield, H., Warsaw, Ind. Animal trap	Aug. 20, 1867.
69, 108	Same.....Gate	Sept. 24, 1867.
69, 353	Mansfield, Joshua M., Watertown, N. Y. Horse hay fork	Oct. 1, 1867.
67, 128	Mansfield, Warren, South Braintree, Mass. Spring wagon	July 23, 1867.
62, 046	Manson, George W., assignor to Nicholas W. Manson, Buxton, Maine. Churn	Feb. 12, 1867.
70, 586	Mansur, R. M., Augusta, Maine. Ice tongs	Nov. 5, 1867.
	Same.....(See Porter, Parker C., assignor.)	
61, 624	Manuel, Armand, France. Device for uncorking bottles	Jan. 29, 1867.
62, 213	Manuel, David, assignor to self and Willard Manuel, Boston, Mass. Bed bottom	Feb. 19, 1867.
62, 653	Same.....Bed spring fastening	Mar. 5, 1867.
63, 066	Same.....Bed bottom	Mar. 19, 1867.
72, 212	Same.....Stove-pipe damper	Dec. 17, 1867.
71, 398	Manuel, David, and Calvin F., Boston, Mass. Paper bag	Nov. 26, 1867.
72, 654	Manton, Joseph P., Providence, R. I. Tool holder	Dec. 24, 1867.
63, 275	Manville, Eli J., assignor to Turner, Seymour & Juds, New York, N. Y. Metal case for spring bolts	Mar. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 230	Manville, E. J., and E. M. Judd, Wolcottville, Conn. Machine for capping screw heads	Sept. 24, 1867.
64, 122	Mapes, Andrew J., Independence, Mo. Washing machine	Apr. 23, 1867.
62, 350	Mapes, jr., Hiram W., Ripon, Wis. Spring seat for vehicles	Feb. 26, 1867.
69, 457	Mapes, S. H., Almond, N. Y. Folding bedstead	Oct. 1, 1867.
64, 682	Marble, T. E., and Grey Utley, Petersburg, Va. Alarm gun	May 14, 1867.
63, 644	Marble, Eleazer, Hanover, Wis. Washing machine	April 9, 1867.
69, 005	Marcellus, Albert, Pittsford, N. Y. Potato digger	Sept. 17, 1867.
	Marcellus, F. E., and M. G. Tousley. (See Tousley and Marcellus.)	
68, 634	March, J. L., Washington, D. C. Baggage label	Sept. 10, 1867.
63, 276	March, Seth, Norfolk, Va. Plow	Mar. 26, 1867.
63, 912	Same. Corn weeder	Apr. 16, 1867.
	March, Sisler & Company. (See Sailor, Samuel, assignor.) (Design.)	
68, 635	March, Thomas, Dallas, Mich. Plow	Sept. 10, 1867.
62, 654	March, Thomas C., England. Mode of ornamenting mirrors	Mar. 5, 1867.
2, 768	Marchand, Charles E., assignor to Higgins, Marchand & Company, Delaware City, Del. Spoon (Design)	Aug. 27, 1867.
66, 366	Marcy, John J., assignor to E. Miller & Company, West Meriden, Conn. Lamp shade clasp	July 2, 1867.
66, 032	Marden, A., and A. H. Burgess, Philadelphia, Pa. Nail extractor	June 25, 1867.
64, 235	Marden, Jeremiah A., assignor, through mesne assignments, to A. B. Ely, Newburyport, Mass. Let-off and take-up mechanism for looms	Apr. 30, 1867.
72, 655	Marden, Samuel, Newton, Mass. Nail drawer	Dec. 24, 1867.
60, 918	Marden, Samuel, assignor to self and Dustin Lancey, Newton, Mass. Peat machine	Jan. 1, 1867.
69, 826	Marden, Samuel, assignor to self and Charles Porter, Newton, Mass. Implement for straining bands about boxes	Oct. 15, 1867.
	Marechal, Charles Raphael, and Cyprien Marie Essie du Motay. (See Du Motay and Marechal.)	
	Same. same.	
	Marine Signal Company. (See Van Trump, Isaac, assignor.)	
61, 346	Marinus, T. J., Independence, Iowa. Window shade supporter	Jan. 22, 1867.
71, 774	Maris, Jared, Athens, Ohio. Wagon wheel	Dec. 3, 1867.
62, 551	Maris, Thomas C., Athens, Ohio. Method of attaching hubs to axle boxes	Mar. 5, 1867.
64, 341	Markee, S., assignor to self and John M. Easterley, Auburn, N. Y. Plane iron	Apr. 30, 1867.
70, 345	Markham, A. S., Bushnell, Ill. Combined cultivator and seeder	Oct. 29, 1867.
64, 342	Markham, George B., Plymouth, Mich. Knife sharpener	Apr. 30, 1867.
68, 220	Same. Bed spring	Aug. 27, 1867.
	Markillie, Thomas R., and A. T. Boon. (See Boon and Orsborn, assignors.)	
	Markland, James. (See Beamer, DeWitt C., assignor.)	
2, 570	Markland, J. F., Newark, N. J. Buckle (Design)	Feb. 5, 1867.
63, 407	Markland, Thomas T., jr., Philadelphia, Pa. Machine for sharpening saws	April 2, 1867.
64, 343	Markley, Edward G., Sunbury, Pa., and George H. Bardwell, Philadelphia, Pa. Manufacture of fuel from anthracite coal-dust	Apr. 30, 1867.
63, 913	Marks, Joseph C., and Lewis G. Eckels, Washington, D. C. Arrangement for cleansing water-pipes	Apr. 16, 1867.
70, 587	Markuson, Knud, assignor to self and Leonard A. Burnham, Gloucester, Mass. Handle for ships' pumps	Nov. 5, 1867.
61, 748	Marlow, Francis, Cleveland, Ohio. Carriage horse controller	Feb. 5, 1867.
66, 509	Marquam, H. P., Harrisburg, Pa. Compound for cleaning glass and polishing metallic wares	July 9, 1867.
70, 101	Marquis, John, San Francisco, Cal. Siphon propeller	Oct. 22, 1867.
65, 098	Marquis, John, and John W. Kimmell, Crestline, Ohio. Railroad bolster for cars	May 28, 1867.
70, 588	Marr, William, New York, N. Y. Manufacture and application of bisulphite of lime	Nov. 5, 1867.
	Marriott, J. G. (See Ruegg, John, assignor.)	
	Marsh, Alexander, and Jonathan Luther. (See Luther and Marsh.)	
67, 996	Marsh, Augustus, assignor to self and William Hogg, Newark, N. J. Apparatus for stretching skeins	Aug. 20, 1867.
70, 730	Marsh, Charles W., and William W., Shabbona, Ill. Harvester	Nov. 12, 1867.
60, 763	Marsh, Edward A., and Jarvis P. Kelly, Chicopee, Mass. Machinery for punching steel pen blanks	Jan. 1, 1867.
68, 891	Marsh, Enos L., Greenwich, Ohio. Lifting jack	Sept. 17, 1867.
61, 944	Marsh, James S., Lewisburg, Pa. Harvester	Feb. 12, 1867.
62, 432	Marsh, Jesse K., Terre Haute, Ind. Process of preserving eggs	Feb. 26, 1867.
69, 109	Marsh, John, Seneca, Ill. Corn plow	Sept. 24, 1867.
	Marsh, John, and Charles T. Richards. (See Tyler, Hiram, assignor.)	
	Marsh, Pelatiah J., and Charles S. Smith. (See Littlefield, Sanford, assignor.)	
61, 221	Marsh, Sylvester, Littleton, N. H. Cog rail for railroads	Jan. 15, 1867.
62, 864	Marsh, Thomas, assignor to self, John Balchom, and S. Perry, Smithfield, R. I. Beer faucet	Mar. 12, 1867.
63, 543	Marsh, Thomas, assignor to self and D. L. Fales, Smithfield, R. I. Device for lubricating spindles	April 2, 1867.
	Marshall, M. S., et al. (See Symonds, Dexter, assignor.)	
	Same. same.	
69, 686	Marshall, Albert, Methuen, Mass. Carriage truck	Oct. 8, 1867.
63, 645	Marshall, Alden B., Medfield, Mass. Carpenters' bench	Apr. 9, 1867.
67, 894	Marshall, A. J., Warrenton, Va. Ventilating and warming railroad cars	Aug. 20, 1867.
65, 924	Marshall, C. G., Florence, Mass. Mode of forming emery wheels	June 18, 1867.
69, 231	Marshall, C. K., Vicksburg, Miss. Window blind	Sept. 24, 1867.
70, 872	Same. Preparing wood to be used in the manufacture of paper, and for other purposes	Nov. 12, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 589	Marshall, Ezra T., and Daniel M., et al. (See Tickler and Marshall.) Marshall, Godfrey, Indiana, Pa. Harness saddle	Nov. 5, 1867.
	Marshall, G. H., et al. (See Holbrook, Dodge, and Marshall.) Marshall, G. W., and Z. G. Allen. (See Allen and Marshall.)	
61, 945	Marshall, James, New Orleans, La. Cooking stove	Feb. 12, 1867.
72, 875	Marshall, James A., Mechanicsburg, Pa. Whip rack. (Antedated Dec. 24, 1867.) Marshall, James A., and Robert Jennings. (See Jennings and Marshall.)	Dec. 31, 1867.
70, 237	Marshall, James D., Renick, Mo. Combined plow and planter	Oct. 29, 1867.
64, 778	Marshall, John, Fond du Lac, Wis. Brick machine	May 14, 1867.
68, 765	Marshall, John, Hartland, Mich. Eave trough bracket. Marshall, J. C., and E. J. Piper. (See Piper and Marshall.) Marshall, Moses, Lowell, Mass. Knitting machine (Extension.) Marshall, M. (See Howell, William W., assignor.)	Sept. 10, 1867. Mar. 9, 1867.
66, 862	Marshall, Moses S., Melrose, Mass. Gas stove	July 16, 1867.
62, 655	Marshall, Moses S., assignor to self and R. Wendell, Melrose, Mass. Stovepipe damper	Mar. 5, 1867.
72, 656	Marshall, Oliver W., and Nicholas Clute. (See Clute and Marshall.) Marshall, Thomas P., Trenton, N. J. Stamp-wetting and pen-cleaning instrument. (Antedated December 17, 1867.)	Dec. 24, 1867.
62, 656	Marshall, W. C., New York, N. Y. Blind fastening	Mar. 5, 1867.
68, 636	Marshall, William C., New York, N. Y. Mode of operating window shutters	Sept. 10, 1867.
71, 193	Marshall, William H., assignor to self and Hosea B. Spaulding, Sutton, N. H. Carriage wheels. Marshbank and Martino. (See Martino, Beesley, and Currie) (Design.)	Nov. 19, 1867.
63, 552	Marston, David W., Lebanon, N. H. Uniting scythe and snath	Mar. 5, 1867.
61, 079	Marston, I. M., and H. R. Huling, Roxbury, Mass. Sawing machine Marston, Noah H. (See Saunders, James, assignor.)	Jan. 8, 1867.
67, 441	Martin, Albertis, assignor to self and J. R. Martin, Oquawka, Ill. Corn cultivator	Aug. 6, 1867.
61, 014	Martin, A. C., and J. Woodrough, Hamilton, Ohio. Saw	Jan. 8, 1867.
64, 345	Martin, Andrew J., Rockford, Ill. Harvester rake	Apr. 39, 1867.
64, 236	Martin, B., Prairie du Chien, Wis. Door for railway cars	Apr. 30, 1867.
72, 876	Martin, C. B., Fond du Lac, Wis. Shingle band	Dec. 31, 1867.
64, 346	Martin, C. S., Rockford, Ill. Dray	Apr. 30, 1867.
66, 980	Martin, David J., Covington, Ohio. Animal trap	July 23, 1867.
2, 823	Martin, Edward, Burlington, Vt. Molding (Design)	Nov. 5, 1867.
72, 061	Martin, Emile and Pierre E., France. Refining and converting cast iron into steel	Dec. 10, 1867.
62, 047	Martin, Frank, Aurora, Ind. Car seat for railway cars	Feb. 12, 1867.
66, 723	Martin, Gaylord, assignor to self and George Burnham, Milwaukee, Wis. Brick machine Martin, Henry. (See Hyndman, W. G., assignor.)	July 16, 1867.
61, 222	Martin, Henry, assignor to self, A. N. Towne, and A. J. Ambler, Chicago, Ill. Metallic safety seal for railroad cars	Jan. 15, 1867.
2, 553	Martin, Henry, assignor, through mesne assignments, to Egbert C. Bradford, James H. Renick, and Obadiah A. Clough, New York, N. Y. Brick machine. (Reissue)	Apr. 9, 1867.
60, 764	Martin, Henry D., Ypsilanti, Mich. Machine for cutting fly nets	Jan. 1, 1867.
71, 628	Martin, James K., Chicago, Ill. Device for hoisting hogs in slaughter-houses	Dec. 3, 1867.
72, 308	Martin, Joel R., Martinsburg, Ind. Beehive	Dec. 17, 1867.
61, 625	Martin, John R., assignor to Samuel K. Hilton, Boothbay, Me. Fishing-line sinker	Jan. 29, 1867.
63, 067	Martin, John W., Washington, D. C. Gate	Mar. 19, 1867.
64, 990	Martin, Joseph Lloyd, Baltimore, Md. Mode of aging alcoholic liquors	May 21, 1867.
61, 223	Martin, Peter, Cincinnati, Ohio. Hot-air furnace	Jan. 15, 1867.
71, 629	Martin, Thomas, and J. G. Evans, Muscatine, Iowa. Burning fluid Martin, Timothy A., and John Doyle. (See Doyle & Martin.)	Dec. 3, 1867.
62, 553	Martin, William W., Allegheny, Pa. Spike machine	Mar. 5, 1867.
62, 554	Martindale, James B., Newcastle, Ind. Hook and eye	Mar. 5, 1867.
68, 373	Martine, Charles F., Boston, Mass. Sofa bedstead	Sept. 3, 1867.
2, 757	Same same (Reissue)	Aug. 27, 1867.
62, 657	Martine, Charles F., assignor to Soletta Oil Company, Boston, Mass. Lamp wick	Mar. 5, 1867.
69, 006	Martino, Casper, Trenton, N. J. Sofa and bed bottom	Sept. 17, 1867.
62, 763	Martino, John, Philadelphia, Pa. Dust arrester in raking of stoves, furnaces, &c	Mar. 12, 1867.
2, 611	Martino, J., J. Beesley, and J. Currie, assignors to Stuart, Peterson & Co., Philadelphia, Pa. Cook's stove (Design)	Apr. 9, 1867.
63, 646	Same Heating stove	Apr. 9, 1867.
2, 637	Martino, J., J. Beesley, and J. Currie, assignors to Marshbank & Martin, Philadelphia, Pa. Cook's stove (Design)	June 25, 1867.
2, 729	Martino, John, Jacob Beesley, and John Currie, assignors to C. W. Blandy & Brother, Philadelphia, Pa. Cook's stove (Design)	Aug. 6, 1867.
65, 099	Martorana, Carlo Federici, Baltimore, Md. Centrifugal pump Marts, London. (See Best, Benjamin, assignor.) Martyn, William, and Nathaniel M. Burr. (See Burr & Martyn.)	May 14, 1867.
2, 694	Martz, Nathan, assignor to Adam R. Reese, Phillipsburg, N. J. Horse rake. (Reissue)	July 23, 1867.
2, 809	Marvin, David J., Stockton, Cal. Harvesting machine (Reissue)	Dec. 3, 1867.
67, 779	Marvin, J. A., Red Wing, Minn. Stove-pipe drum	Aug. 13, 1867.
71, 399	Same Heater	Nov. 26, 1867.
62, 764	Marvin, Peter, Warsaw, Ind. Brick machine	Mar. 12, 1867.
71, 030	Marx, John, Rochester, N. Y. Fire escape	Nov. 19, 1867.
66, 367	Mason, Alvin C., assignor to self and H. H. Mason, Boston, Mass. Clamp for suspending whips	July 2, 1867.
68, 637	Mason, Augustus H., Binghamton, N. Y. Baby jumper Mason, Austin Z., and Henry N. King. (See King & Mason.)	Sept. 10, 1867.
61, 749	Mason, Benjamin A., New York, N. Y. Serew-making machine	Feb. 5, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 100	Mason, Benjamin A., New York, N. Y. Machine for making screws.....	May 28, 1867.
61, 347	Mason, Carlile, Chicago, Ill. Quartz crusher.....	Jan. 22, 1867.
65, 409	Same..... Safety valve for steam generators.....	June 4, 1867.
62, 214	Mason, H. H., et al. (See Lewis, W. A., assignor.)	
64, 683	Mason, H. H., and Joseph Messinger, Springfield, Vt. Mop head.....	Feb. 19, 1867.
66, 863	Same..... same.....	May 14, 1867.
	Same..... same.....	July 16, 1867.
	Mason, H. H., and A. C., et al. (See Wood, Oramel N., assignor.)	
	Mason, Isaac N. (See Storle, Ole O., assignor.)	
63, 914	Mason, Jabez F., Newark, N. J., and Job Johnson, Brooklyn, N. Y. Door spring.....	Apr. 16, 1867.
69, 007	Mason, Joshua, Paterson, N. J. Liquid and gas meter.....	Sept. 17, 1867.
65, 101	Mason, J. Franklin, Bentonsport, Iowa. Bridle.....	May 28, 1867.
72, 409	Mason, J. M., assignor to self, Oscar T. Higgins, Charles E. Wilson, and Samuel Adlam, jr., New Albany, Ind. Mode of coupling shells to rollers.....	Dec. 17, 1867.
	Mason, J. M., and A. A. Yeatman. (See Yeatman & Mason.)	
	Mason, J. S., & Co. (See Wild, Jacob, assignor.)	
72, 410	Mason, Lewellyn, Rochester, N. Y. Instrument for expanding finger rings.....	Dec. 17, 1867.
68, 374	Mason, Purdy, and James W. Brent, Oswego, N. Y. Machine for stirring starch.....	Sept. 3, 1867.
67, 780	Mason, S. E., and E. Downe, Bangor, Me. Folding chair.....	Aug. 13, 1867.
61, 843	Mason, William B., Boston, Mass. Hand stamp.....	Feb. 5, 1867.
	Mason, William B., and H. W. Goodrich. (See Goodrich & Mason.)	
63, 068	Masser, H. B., Sunbury, Pa. Ice cream freezer.....	Mar. 19, 1867.
62, 144	Massey, G. B., New York, N. Y. Leakage alarm for vessels.....	Feb. 19, 1867.
62, 279	Same..... Boat detaching tackle.....	Feb. 19, 1867.
63, 544	Same..... same.....	Apr. 2, 1867.
65, 925	Same..... Car wheel.....	June 18, 1867.
	Massey, G. B., and William John Osbourne. (See Osbourne & Massey.)	
68, 892	Massey, John, assignor to self and Peter M. Stagg, New York, N. Y. Invalid bedstead. (Antedated September 5, 1867)	Sept. 17, 1867.
68, 522	Masters, Edward, Cleveland, Ohio. Yard for ships.....	Sept. 3, 1867.
	Masters, O. H., and E. Safford. (See Safford & Masters.)	
2, 824	Masters, William, New York, N. Y. Smoking pipe..... (Design)	Nov. 5, 1867.
68, 449	Matham, George D., Pittsfield, Ohio. Sheep chair and vat.....	Sept. 3, 1867.
62, 765	Matchett, Charles G., Greenville, Ohio. Window blind.....	Mar. 12, 1867.
62, 351	Matheny, Chelton, Greensburg, Ind. Hand spinning machine.....	Feb. 26, 1867.
66, 159	Same..... Ditching machine.....	June 25, 1867.
68, 766	Same..... Convertible wagon seat, manger, and tail board.....	Sept. 10, 1867.
71, 194	Mather, O. L., Welleville, N. Y. Attaching thills to vehicles. (Antedated October 18, 1867)	Nov. 19, 1867.
64, 991	Mathers, Ebenezer, Eldersville, Pa. Sheep shears.....	May 21, 1867.
64, 344	Mathews, Isaac D., Worcester, Mass. Hanger and journal box for shafting.....	Apr. 30, 1867.
60, 765	Mathews, William M. C., Summer Hill, Pa. Sleigh.....	Jan. 1, 1867.
	Mathewson, J. R., and M. Foreman. (See Foreman & Mathewson.)	
	Mathewson, Nathan F. (See Bateman, William P., assignor.)	
66, 510	Mathewson, Nathan F., assignor to self and Nathaniel Grant, Barrington, R. I. Window blind fastening. * (Antedated June 27, 1867)	July 9, 1867.
72, 516	Mathewson, Nathan F., assignor to self and William C. Green, Barrington, R. I. Window sash lock.....	Dec. 24, 1867.
65, 926	Mathias, Jules François, and Desire Mathurin Legat, France. Machine for coating hats.....	June 18, 1867.
2, 534	Mathis, J., assignor to Henry Kayser, New York, N. Y. Roller temple for looms..... (Reissue)	Mar. 26, 1867.
69, 569	Mathius, John, Pemberton, Ohio. Bee hive.....	Oct. 8, 1867.
66, 981	Matson, John, Bridgeport, Conn. Carpet fastener.....	July 23, 1867.
72, 745	Matt, Lorenzo, Boston, Mass. Sound board for piano-fortes.....	Dec. 31, 1867.
61, 434	Matteson, David Dick, Harmonsburg, Pa. Spring for vehicles.....	May 7, 1867.
62, 766	Matteson, Don Carlos, and Truman P. Williamson, Stockton, Cal. Plow.....	Mar. 12, 1867.
63, 647	Same..... Cultivator teeth.....	Apr. 9, 1867.
65, 495	Matteson, Elisha, South Brooklyn, N. Y. Paddle wheel.....	June 4, 1867.
	Matteson, E. J., and O. M. Brooks. (See Brooks and Matteson.)	
64, 992	Matthew, David, Prairie du Chien, Wis. Instrument for preventing incrustations of steam boilers.....	May 21, 1867.
65, 759	Same..... Ferrule for tubular boilers.....	June 11, 1867.
72, 309	Same..... Protecting steam boilers from corrosion.....	Dec. 17, 1867.
71, 513	Mathews, Elbridge G., assignor to Frank F. Holbrook, South Natick, Mass. Plow.....	Nov. 26, 1867.
72, 746	Mathews, Hebron, South Yarmouth, Mass. Kettle.....	Dec. 31, 1867.
62, 433	Mathews, Henry, Brooklyn, N. Y. Life preserving seat.....	Feb. 26, 1867.
68, 095	Mathews, Hugh W., Chicago, Ill. Threshing machine and separator.....	Aug. 27, 1867.
61, 626	Mathews, jr., John, New York, N. Y. Pipe coupling.....	Jan. 29, 1867.
61, 627	Same..... Bottling machine.....	Jan. 29, 1867.
62, 658	Same..... Box for holding and transporting bottles.....	Mar. 5, 1867.
63, 648	Same..... Pressure gauge.....	Apr. 9, 1867.
67, 781	Same..... Bottle stopper.....	Aug. 13, 1867.
68, 375	Same..... Apparatus for the manufacture of soda water and for aerating liquids.....	Sept. 3, 1867.
65, 410	Mathews, William, assignor to self and L. W. Eaton, Bridgeport, Conn. Ratchet drill.....	June 4, 1867.
66, 368	Mathiessen, E. A., Cornwall, N. Y. Gate.....	July 2, 1867.
64, 224	Mathiessen, Franz O., Jersey City, N. J. Manufacture of sugar.....	Jan. 15, 1867.
66, 369	Same..... Sugar crystallizing tank or wagon.....	July 2, 1867.
66, 370	Same..... Vacuum pan for boiling sugar and other substances.....	July 2, 1867.
64, 237	Mattison, Charles Z., Buffalo, N. Y. Tucking and plaiting attachment for sewing machines.....	Apr. 30, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Mattison, Leland J., et al., executors, &c. (See Millington & George) ..(Extension.)	
	Mattoon, A B., et al. (See Wallis, Mattoon & Tutler.)	
61, 750	Mattson, Morris, New York, N. Y. Flexible syringe	Feb. 5, 1867.
67, 663	Same.....Cupping apparatus	Aug. 13, 1867.
68, 096	Same.....Vaginal irrigator	Aug. 27, 1867.
69, 110	Same.....Syringe	Sept. 24, 1867.
69, 570	Same.....Coupling for vacuum cups, breast pumps, &c	Oct. 8, 1867.
71, 775	Same.....Apparatus for lifting, hand and yoke	Dec. 3, 1867.
65, 249	Mauck, Jacob, Cheshire, Ohio. Portable hay press	May 28, 1867.
64, 779	Maughlin, W. W., Baltimore, Md. Machine for making door and window frames	May 14, 1867.
66, 160	Same.....Sash fastener	June 25, 1867.
63, 545	Maulsby, Silas B., Muncie, Ind. Sugar-juice evaporator	Apr. 2, 1867.
70, 873	Maunton, Jabez, assignor to self, Wright Duryea, William Etnis, J. H. Van Riper, A. P. Cummings, and J. Wendell Cole, New York, N. Y. Furnace for desulphurizing and reducing ores	Nov. 12, 1867.
70, 874	Same.....Furnace for heating purposes	Nov. 12, 1867.
71, 776	Same.....Furnace for roasting and reducing ores. (Antedated November 27, 1867)	Dec. 3, 1867.
64, 018	Maury, Matthew F., Great Britain. Fastening of wire or rope together	Apr. 23, 1867.
65, 102	Same.....New Orleans, La. Cotton-bale tie	May 28, 1867.
72, 062	Mauzy, J. W., Richmond, Ind., and J. Hughes, Cambridge, Ind., assignors to James Hughes. Straw cutter	Dec. 10, 1867.
72, 657	Mawbey, Charles F., Woodbridge, N. J. Gate	Dec. 24, 1867.
62, 767	Max, J. Kennedy, Springfield, Mass. Machine for moulding the backs of books	Mar. 12, 1867.
62, 280	Maxell, Henry, assignor to self and Levi Longabaugh, Canton, Ohio. Corn planter	Feb. 19, 1867.
72, 310	Maxey, James, Kewanua, Ind. Churn	Dec. 17, 1867.
66, 864	Maxfield, J. W., Potsdam, N. Y. Device for crimping boots and shoes	July 16, 1867.
71, 400	Maxim, Hiram S., New York, N. Y. Steam gas generator	Nov. 26, 1867.
63, 408	Maxton, Horace, Hopkinton, R. I., and Job Johnson, Brooklyn, N. Y. Machinery for making rope	Apr. 2, 1867.
72, 411	Maxwell, Arthur A., Pratt, Ohio. Grading and ditching machine	Dec. 17, 1867.
70, 875	Maxwell, J. Audley, Savannah, Ga. Railway superstructure	Nov. 12, 1867.
	Maxwell, J. R., and E. Cope. (See Cope and Maxwell.)	
62, 865	May, Franklin J., assignor to self and J. G. Barnum, Morrisania, N. Y. Safety-key holder for door lock	Mar. 12, 1867.
72, 212	May, John M., Janesville, Wis. Gate	Dec. 17, 1867.
	Same.....(See Burdick, Matthew S., assignor.)	
62, 659	May, W., Binghamton, N. Y. Mode of pressing leather seams	Mar. 5, 1867.
72, 877	May, William H., Bridgeport, Conn. Method of preparing wood for musical instruments	Dec. 31, 1867.
61, 549	May, William H., assignor to the Ornamental Wood Manufacturing Company, Bridgeport, Conn. Imitation of open carving in wood	Jan. 29, 1867.
72, 517	Mayberger, Jerome, New York, N. Y. Banjo	Dec. 24, 1867.
64, 780	Mayer, Edward, Philadelphia, Pa. Boots and shoes	May 14, 1867.
86, 724	Mayer, E. C., and Jacob Ruppenthal, St. Louis, Mo. Globe valve for steam engines	July 16, 1867.
61, 550	Mayer, George L., Buffalo, N. Y. Bronzing machine. (Antedated January 14, 1867)	Jan. 29, 1867.
61, 225	Maynard, Edward, Tarrytown, N. Y. Priming metallic cartridges. (Antedated December 5, 1866)	Jan. 15, 1867.
72, 214	Maynard, R., and Jabez James Purkiss, Great Britain. Hair-cutting machine	Dec. 17, 1867.
	Maynard, Richard F., and Robert Sinclair, jr. (See Sinclair & Maynard) ..(Extension.)	
71, 031	Mayo, Benson, Chatham, Mass. Window-blind fastening	Nov. 12, 1867.
71, 512	Mayo, E. M., Cincinnati, Ohio. Machine for tapping bolts	Nov. 26, 1867.
64, 890	Mayo, W. H., Hillsborough, Nova Scotia. Car coupling	May 21, 1867.
72, 311	McAllister, Ira C., Milo, Mich. Trace fastener	Dec. 17, 1867.
67, 664	McAllister, Edward, Plainfield, Ill. Windmill applied to raising water	Aug. 13, 1867.
64, 781	McAllister, George, assignor to self and Charles B. White, San Francisco, Cal. Low-water indicator	May 14, 1867.
61, 226	McAlpine, Albert, Pittston, Pa. Machine for dressing barrel hoops	Jan. 15, 1867.
72, 747	McArthur, Duncan, New Haven, Conn. Die stock for cutting screws	Dec. 31, 1867.
68, 450	McArthur, Enos H., Hillsdale, N. Y. Machine for cutting and folding paper	Sept. 3, 1867.
	McArthur, jr., John. (See Winterhalter, Wildrich, assignor.)	
70, 450	McAvoy, Hugh L., and Ezekiel Mills, Baltimore, Md. Milk can	Nov. 5, 1867.
	McAvoy, Hugh L., and Silas S. Hutchinsion. (See Hutchinsion & McAvoy.)	
61, 348	McBeth, James E., assignor to self and J. W. Chamberlain, New Orleans, La. Bung for beer barrels	Jan. 22, 1867.
66, 604	McBride, Andrew S., St. Louis, Mo. Brick-kiln	July 9, 1867.
72, 658	McCabe, James, Lewiston, Maine. Composition for oiling wool	Dec. 24, 1867.
68, 221	McCafferty, T. F., Forest, Ohio. Compound to be used in beehives	Aug. 27, 1867.
72, 412	McCaine, David and William, assignors to selves and Daniel McCaine, Groton, Mass. Manufacture of artificial stone	Dec. 17, 1867.
	McCaine, D. (See Hodge, Thomas B., assignor.)	
72, 659	McCaine, William, assignor to self, David and Daniel McCaine, Groton, Mass. Lamp burner	Dec. 24, 1867.
61, 844	McCambridge, Samuel, Philadelphia, Pa. Car brake	Feb. 5, 1867.
60, 766	McCann, George W., Springfield, Ohio. Water wheel	Jan. 1, 1867.
62, 266	Same.....Measuring funnel	Mar. 12, 1867.
66, 371	Same.....Combined funnel and faucet measure	July 2, 1867.
61, 675	McCann, John, Lockport, N. Y. Milk rack and table combined	Jan. 29, 1867.
63, 277	McCarter, Arthur, Lancaster, Pa. Car coupling	Mar. 26, 1867.
67, 782	McCarthy, E. P., San Francisco, Cal. Wagon spring	Aug. 13, 1867.
67, 327	McCarthy, Fones, Orange Springs, Fla. Cotton gin	July 30, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
2, 666	McCartney, Elizabeth A., <i>et al.</i> (See Gould, D. C., assignor.)	
2, 667	McCartney, Samuel, St. Louis, Mo. Trade-mark..... (Design)	June 4, 1867.
	Same..... same..... (Design)	June 4, 1867.
70, 731	McCarty, James. (See Lauth, Bernard, assignor.)	
61, 845	McCaughan, Charles A., Moscow, Tenn. Machine for thinning cotton plants.....	Nov. 12, 1867.
60, 919	McCauley, Reuben A., Baltimore, Md. Pump.....	Feb. 5, 1867.
	Same..... (See Freuch, Joseph, assignor.)	Jan. 1, 1867.
65, 103	McChesney, Reuben, Utica, N. Y. Breech-loading fire-arm.....	May 28, 1867.
	McClain, Benjamin A., and John Robert Wallace. (See Wallace & McClain.)	
63, 278	McClain, John A., Philadelphia, Pa. Swing.....	Mar. 26, 1867.
61, 846	McClain, Samuel, Philadelphia, Pa. Whistle and bird call.....	Feb. 5, 1867.
62, 048	McClanathan, J. B., Horicon, Wis. Machine for sharpening calks of horse-shoes.....	Feb. 12, 1867.
	McClard, J. C., and J. Forshoe. (See Forshoe & McClard.)	
66, 982	McCleary, David, deceased, by Caroline McCleary, administratrix, assignor to George H. McCleary, Hollidaysburg, Pa. Renovating harness and other articles made of leather.....	July 23, 1867.
	McClellan, J. S., and S. Miller. (See Miller & McClellan.)	
	Same..... same.....	
72, 215	McClelland, James S., Crawfordsville, Ind. Apparatus for treating fractures and displacements.....	Dec. 17, 1867.
70, 590	McClintock, Emory, New Brunswick, N. J. Steam engine.....	Nov. 5, 1867.
61, 227	McClintock, James R., and John K. Scott, New Orleans, La. Dredging machine.....	Jan. 15, 1867.
	McCloud, Edgar. (See Money, William, assignor.)	
63, 069	McClure, A. S., Duncannon, Pa. Railway joint.....	Mar. 19, 1867.
	McCollum, P., and M. Schmirk. (See Schmirk & McCollum.)	
64, 435	McConaughey, Thomas B., Newark, Del. Governor.....	May 7, 1867.
69, 458	Same..... same.....	Oct. 1, 1867.
69, 232	McConnell, Joseph, Iowa City, Iowa. Valve for steam engines.....	Sept. 24, 1867.
71, 894	McConnell, R. Y., and G. Pringle, Rochester, N. Y. Street sweeper.....	Dec. 10, 1867.
	McCormick, Cyrus H. (See Atwood, James E., assignor.)	
61, 228	McCormick, Leander J., and Lambert Erpeliding, assignors to L. J. McCormick, Chicago, Ill. Harvester.....	Jan. 15, 1867.
66, 372	McCormick, Mark T., Meadville, Pa. Drilling and pumping apparatus.....	July 2, 1867.
72, 413	McCormick, William, Philadelphia, Pa. Boiler feed regulator.....	Dec. 17, 1867.
	McCoun, H. T., <i>et al.</i> (See Russell, Jacob, assignor.)	
71, 316	McCoun, Samuel, assignor to self and L. Farrington, Stamford, Conn. Corkscrew.....	Nov. 26, 1867.
62, 049	McCoy, A. D., New Orleans, La. Tent bedstead.....	Feb. 12, 1867.
64, 019	McCoy, George, New York, N. Y. Manufacture of aerated waters.....	Apr. 23, 1867.
71, 195	McCoy, George, Antioch, Cal. Gate fastener.....	Nov. 19, 1867.
71, 032	McCoy, John, assignor to self and William T. Snell, Philadelphia, Pa. Construction of sheet metal coal hods.....	Nov. 19, 1867.
70, 238	McCoy, William H., and A. Wheeler, Charlestown, Mass. Metallic garter.....	Oct. 29, 1867.
	McCoy, W. H., and F. B. Hill. (See Hill & McCoy.)	
62, 660	McCracken, W., Bainbridge, Ind. Cotton cultivator.....	Mar. 5, 1867.
68, 638	McCray, Samuel, Woodstock, Ill. Post-hole auger.....	Sept. 10, 1867.
64, 548	McCreary, John, Middletown, Pa. Gate.....	May 7, 1867.
70, 732	McCreary, R. D., Oil City, Pa. Mode of obtaining motive power from petroleum and other oils.....	Nov. 12, 1867.
	McCuddy, William, <i>et al.</i> (See Cavileer, McCuddy & Woliston.)	
72, 063	McCulloch, Samuel, Yellow Springs, Ohio. Convertible shot-gun and rifle.....	Dec. 10, 1867.
62, 352	McCullough, L. H., Richmond, Ind. Cut-off of electro-magnetic engines.....	Feb. 26, 1867.
72, 518	McCullough, Silas, and Alexander Robbins, Buffalo, Ohio. Post driver.....	Dec. 24, 1867.
62, 050	McCurdy, James S., New York, N. Y. Sewing machine.....	Feb. 12, 1867.
65, 496	McCutcheon, William R., Washington, Iowa. Churn.....	June 4, 1867.
66, 605	McDermid, Charles C. and J., Cambria Mills, Mich. Brick machine.....	July 9, 1867.
	McDonald, A. (See Hirschy & McDonald, assignors.)	
64, 549	McDonald, A. Y., Dubuque, Iowa: Well tube.....	May 7, 1867.
63, 546	McDonald, Charles E., Brooklyn, N. Y. Prop stick for piano-fortes.....	Apr. 2, 1867.
72, 064	McDonald, D. J., Gold Hill, Nevada. Derrick.....	Dec. 10, 1867.
64, 782	McDonald, G. B., assignor to Bragdon and Company, New Albany, Ind. Making Buckles.....	May 14, 1867.
2, 690	McDonald, Hugh, Pittsburg, Pa. Fix for puddling furnaces..... (Reissue).	July 16, 1867.
67, 561	McDonald, John, New York, N. Y. Bylek machine.....	Aug. 6, 1867.
67, 783	Same..... Saratoga Springs, N. Y. Brick dryer.....	Aug. 13, 1867.
	McDonald, John C., and Joseph H. Springer. (See Springer & McDonald.)	
72, 660	McDonald, J. W., Osgood, Ind. Printing press.....	Dec. 24, 1867.
67, 442	McDonald, Samuel, Cincinnati, Ohio. Bed bottom.....	Aug. 6, 1867.
	McDonald, Thomas E. (See Stelle, David D., assignor.)	
	McDonald, William D., and William H. Guignon. (See Guignon & McDonald.)	
63, 547	McDonald, William H., Brooklyn, N. Y. Piano-forte.....	Apr. 2, 1867.
	McDonald, William M., and John F. Hirschy. (See Hirschy & McDonald.)	
62, 867	McDonell, Donald L., Detroit, Mich. Horseshoe.....	Mar. 12, 1867.
62, 965	McDonnell, Eugene, Baltimore, Md. Cotton press.....	Mar. 19, 1867.
66, 161	McDonough, Henry, New York, N. Y. Damper in steam boilers.....	June 25, 1867.
66, 725	McDougall, A., assignor to McDougall Brothers, England. Compound for destroying insects.....	July 16, 1867.
69, 923	McDowell, Abraham S., Philadelphia, Pa., and Samuel B., Montgomery county, Pa. Butter-working and printing machine.....	Oct. 15, 1867.
63, 409	McDowell, Edward B., and Thomas W. Wilson, Philadelphia, Pa. Apparatus for separating high and low wines.....	Apr. 2, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 070	McDowell, Richard, Lambertville, N. J. Car-axle box cover	Mar. 19, 1867.
65, 104	McDowell, William L., Philadelphia, Pa. Hinging lids of teakettles	May 23, 1867.
2, 711	Same.....Plate of a stove	July 23, 1867.
2, 716	Same.....Stove top	Aug. 6, 1867.
69, 304	McDuffie, James, Heller's Corners, Ind. Wagon spring	Oct. 1, 1867.
69, 459	McEldowney, H., Dixon, Ill. Mode of ventilating millstones	Oct. 1, 1867.
68, 568	McElroy, Moses, Springfield, Ill. Hay and cotton press	Sept. 3, 1867.
66, 162	McEnery, M., Birmingham, Conn. Washing machine	June 25, 1867.
66, 098	McFarland, David, Worcester, Mass. Machine for setting card teeth	June 25, 1867.
64, 891	McFarland, T. A., Meadville, Pa. Can opener	May 21, 1867.
64, 993	Same.....Steam-heating apparatus	May 21, 1867.
69, 460	McPeely, James, North Woburn, Mass. Window screen	Oct. 1, 1867.
67, 203	McGargy, William G., Kutztown, Pa. Water wheel	July 23, 1867.
64, 123	McGarry, Thomas J., Cleveland, Ohio. Vessel for storing and transporting oil	Apr. 20, 1867.
	McGarvey, Michael, and Jasper Van Wormer. (See Van Wormer & McGarvey.)	
72, 065	McGee, John A., assignor to Theodore Mace, New York, N. Y. Auger	Dec. 10, 1867.
63, 737	McGill, George W., Washington, D. C. Spike	Apr. 9, 1867.
65, 250	Same.....Button	May 23, 1867.
65, 497	Same.....Spike	June 4, 1867.
67, 665	Same.....Press for attaching paper fasteners	Aug. 13, 1867.
66, 606	McGill, John W., Washington, D. C. Brush for mucilage, painting, glueing, and other like purposes	July 9, 1867.
67, 895	Same.....Paper fastener	Aug. 20, 1867.
64, 684	McGill, M., and Joseph E. Tynan, Paterson, N. J. Street-lamp lighter	May 14, 1867.
61, 080	McGill, William C., Cincinnati, Ohio. Corkscrew	Jan. 8, 1867.
69, 111	Same.....Household utensil	Sept. 24, 1867.
70, 733	McGowen, John H., and Theodore J., Cincinnati, Ohio. Pump	Nov. 12, 1867.
	McGrady, James, and George P. Brooks. (See Brooks & McGrady.)	
62, 661	McGrah, Thomas, England. Cutlery	Mar. 5, 1867.
66, 607	McGrann, Edward, Louisville, Ky. Teakettle	July 9, 1867.
65, 251	McGrath, R. M., assignor to self and J. H. Gallagher, Lafayette, Ind. Sawing machine	May 23, 1867.
72, 312	McGregor, David L., Charlestown, Mass. Back-band fastener	Dec. 17, 1867.
68, 639	McGregory, D. H., Detroit, Mich. Making butter	Sept. 10, 1867.
62, 051	McGrew, Charles, Bloomington, Ill. Bee hive	Feb. 12, 1867.
61, 849	McGrew, James G., Caledonia, Minn. Seeding machine	Feb. 5, 1867.
64, 238	McGuffin, Shannon, Rising Sun, Ind. Churn dasher	Apr. 30, 1867.
	McGuire, J., and H. Lefevre. (See Lefevre & McGuire.)	
69, 233	McGuire, Joseph R., Warren, Ohio. Carriage circle	Sept. 24, 1867.
	McHenry, F. L. (See Tibbles, T. Henry, assignor.)	
67, 784	McHugh, Daniel, Mainville, Ohio. Frame for mosquito bars	Aug. 13, 1867.
65, 927	McIlhenny, George A., Washington, D. C. Manufacture of illuminating gas	June 18, 1867.
71, 106	McIlroy, Thomas, New York, N. Y. Invalid and fracture bedstead	Nov. 19, 1867.
67, 328	McInroy, Donald, New York, N. Y. Machine for drying sized or dyed cord, skirt wire, webbing, &c. (Antedated July 20, 1867)	July 30, 1867.
72, 313	McIntire, J. N., New York, N. Y. Sash stopper. (Antedated December 5, 1867)	Dec. 17, 1867.
64, 436	McIntire, John S., Chicago, Ill. Oil can	May 7, 1867.
66, 373	Same.....Sleigh runner for buggies	July 2, 1867.
	McIntire, O. K., et al. (See Franklin, McIntire & Whiteley.)	
63, 915	McIntire, William A., Springfield, Mass. Machine for making cartridge shells	Apr. 16, 1867.
61, 551	McIntosh, Clark, Utica, N. Y. Seed sower	Jan. 29, 1867.
63, 916	McIntyre, John W., Memphis, Tenn. Cotton press	Apr. 16, 1867.
	McIrvin, J. R., and Samuel Mills. (See Mills & McIrvin.)	
	McKay Heeling Machine Company. (See Edson, William F., assignor.) (Reissue.)	
	Same.....(See Saloshinsky, Herman, assignor) (Reissue.)	
	McKay, H. E., and J. S. McKaye. (See McKaye & McKay.)	
	Same.....(Design.)	
	Same.....(Design.)	
68, 222	McKay, Robert G., Cleveland, Ohio. Machine for making spikes	Aug. 27, 1867.
2, 717	McKaye, J. S., and H. E. McKay, New York, N. Y. Statuette	Aug. 6, 1867.
2, 748	Same.....(Design)	Aug. 13, 1867.
2, 769	Same.....(Design)	Aug. 27, 1867.
2, 825	McKee, H. Sellers, Pittsburg, Pa. Ornamenting table glassware	Nov. 5, 1867.
69, 234	McKee, James W., Brooklyn, N. Y. Clamp strap for school books	Sept. 24, 1867.
65, 760	McKeen, Thomas Cato, assignor to the New York Submarine Company, Irvington, N. J. Diving apparatus	June 11, 1867.
71, 033	McKeever, John, New York, N. Y. Hoop skirt	Nov. 19, 1867.
	McKelvey, J., and J. Davis. (See Davis & McKelvey.)	
61, 015	McKenna, Alexander, John, and Thomas, Pittsburg, Pa. Barreling cock	Jan. 8, 1867.
66, 099	McKenney, A., Portland, Me., and S. Carpenter, Patten, Me. Boot-lacing device	June 25, 1867.
65, 252	McKenzie, Alexander, assignor to self and William C. Davis, Newport, Ky. Paddle wheel	May 28, 1867.
66, 511	McKenzie, George, Great Britain. Manufacture of illuminating gas	July 9, 1867.
72, 216	McKenzie, James F., deceased, by George Miller, executor, Colony of Victoria. Steam generator	Dec. 17, 1867.
68, 097	McKenzie, John, Portland, Me. Churn	Aug. 27, 1867.
62, 662	McKibben, J., Lima, Ohio. Combined bridle and halter	Mar. 5, 1867.
	McKinley, Arshal H., Higginsport, Ohio. Socket for auger handles and braces	
68, 767	McKinney, C. B., Houston, Ohio. Flood gate	Sept. 10, 1867.
64, 239	McKinney, E. R., Lacon, Ill. Gate	Apr. 30, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 681	McKinney, J. A., Griggsville, Ill. Evaporator	Jan. 1, 1867.
68, 768	McKinney, William S., Cincinnati, Ohio. Shaft coupling	Sept. 10, 1867.
61, 676	McKnight, G., Hebron, N. Y. Churn	Jan. 29, 1867.
64, 240	McKnight, G. L., Worcester, Mass. Dividers and calipers	April 30, 1867.
65, 253	Same.....Calipers	May 28, 1867.
	McKnight, John. (See Scheetz & Adams, assignors.)	
	McLain, John, and Jared Kelsey. (See Kelsey & McLain.)	
	McLain, John, and Joseph Chenoweth. (See Chenoweth & McLain.)	
69, 008	McLaughlin, Francis, Boston, Mass. Brush	Sept. 17, 1867.
60, 920	McLaughlin, James, Duncannon, Pa. Car coupling	Jan. 1, 1867.
64, 124	Same.....Railway switch	April 23, 1867.
67, 443	McLaughlin, James, and Charles W. Jones, assignor to selves and William C. King, Duncannon, Pa. Railroad switch	Aug. 6, 1867.
66, 374	McLaughlin, John, Brooklyn, N. Y. Register	July 2, 1867.
64, 994	McLaughlin, Samuel, Philadelphia, Pa. Brick	May 21, 1867.
	McLazen & Stevens. (See Root, John, assignor.)	
67, 329	McLea, William J., assignor to self and Charles F. Young, Buffalo, N. Y. Alarm whistle	July 30, 1867.
60, 767	McLean, A. S. and James P., Brooklyn, N. Y. Breast pads. (Antedated December 12, 1866)	Jan. 1, 1867.
70, 346	McLean, George, assignor to self and Joel P. Stillwell and George Deland, Brooklyn, N. Y. Burning fluid	Oct. 29, 1867.
66, 608	McLean, James H., St. Louis, Mo. Dredging machine	July 9, 1867.
63, 071	McLean, James P., Brooklyn, N. Y. Piston packing	Mar. 19, 1867.
63, 072	Same.....Piston-rod packing	Mar. 19, 1867.
63, 073	Same.....Packing for manholes of steam generators	Mar. 19, 1867.
	McLean, James P., and David W. Hendrickson. (See Hendrickson & McLean.)	
	Same.....same.	
63, 804	McLellan, William H., assignor to the St. Charles Street Railroad Company, New Orleans, La. Fare box	April 16, 1867.
64, 021	McMahel, John, Hamilton, Ohio. Toy	April 23, 1867.
65, 411	McManus, F. M., Ellensburg Center, N. Y. Axles for wagons, &c	June 4, 1867.
67, 204	McManus, Philip C., Troy, N. Y. Steam engine slide valve	July 30, 1867.
68, 893	McMaster, J. M., Rochester, N. Y. Clothes wringer	Sept. 17, 1867.
61, 442	McMichael, John, assignor to Joseph Wright, Philadelphia, Pa. Wood-turning lathe	Jan. 22, 1867.
	McMillan, James, and Charles H. Lavis. (See Lavis & McMillan)	
69, 924	McMillan, John G., Baltimore, Md. Apparatus for preserving fruits, meats, &c	Oct. 15, 1867.
67, 785	McMillan, W. H., and Stephen Devoe, New York, N. Y. Center bit	Aug. 13, 1867.
70, 591	McMillen, William, assignor to self and Z. King, Milan, Ohio. Lifting jack	Nov. 5, 1867.
63, 917	McMillin, John S., Pittsburg, Pa. Application of steam power to the capstans of vessels	April 16, 1867.
71, 317	McMinn, George W., assignor to self and Robert T. Relley, Cincinnati, Ohio. Car spring	Nov. 26, 1867.
72, 661	McMinn, J. H., deceased, by Theodore J. McMinn, administrator, Logansport, Ind. Mill spindle	Dec. 24, 1867.
67, 063	McMore, A. A., Brooklyn, N. Y. Desk and table	July 23, 1867.
62, 663	McMullen, John N., West Liberty, Ohio. Invalid chair	Mar. 5, 1867.
	McMurray, James S., et al. (See Killman, A., assignor.)	
63, 167	McMurray, R., Washington, D. C. Trunk	Mar. 26, 1867.
66, 100	McMurtry, John, Lexington, Ky. Spike	June 25, 1867.
	McMurtry, John, and J. A. Roebing. (See Roebing & McMurtry).....(Reissue.)	
	McNall, J. H., and Charles Wilson. (See Wilson & McNall.)	
64, 241	McNary, William H., Brooklyn, N. Y. Knitting machine	April 30, 1867.
	McNaught, A., and A. T. Dunbar. (See Dunbar & McNaught.)	
	Same.....same.	
68, 523	McNeil, D. C., De Witt, Iowa. Churn	Sept. 3, 1867.
65, 928	McNeiley, Levi T., Danville, Mo. Identifying box	June 18, 1867.
69, 461	McNeill, John, New York, N. Y. Tucking attachment for sewing machine	Oct. 1, 1867.
69, 687	McNett, Eli L., Canton, Pa. Governor	Oct. 8, 1867.
	McNiel, Solomon. (See Beard, A. M., assignor.)	
2, 519	McNulty, B. H., Philadelphia, Pa., and William Kern, Mansfield, Ohio, assignors of one-third interest to Stephen Bonsall. Apparatus for tanning.....(Reissue.)	Mar. 19, 1867.
60, 921	McOmber, Abner, Schenectady, N. Y. Artificial arm	Jan. 1, 1867.
71, 197	Same.....Artificial leg	Nov. 19, 1867.
65, 929	McOmber, Isaac H., El Paso, Ill. Weather strip	June 18, 1867.
68, 376	Same.....Gate	Sept. 3, 1867.
62, 145	McPherson, Theodore, assignor to John McPherson, Burlington, N. J. Fastening for carriage curtains	Feb. 19, 1867.
70, 876	McPherson, William, New York, N. Y. Machine for planing metals	Nov. 12, 1867.
64, 550	McPherson, William H., Dapby, N. Y. Horse rake	May 7, 1867.
66, 865	Same.....same	July 16, 1867.
72, 662	McRae, Hamilton S., Muncie, Ind. School desk	Dec. 24, 1867.
67, 562	McReynolds, W. A., Elkton, Ky. Table fan	Aug. 6, 1867.
	McRobert, Charles S., and Joel E. Giles. (See Giles & McRobert.)	
69, 571	McSherry, Daniel E., Dayton, Ohio. Rice and seed drill tooth	Oct. 8, 1867.
63, 410	McTaggart, John, Rochester, N. Y. Grain cleaner	April 2, 1867.
67, 205	McTarnahan, Francis, Santa Clara county, Cal. Churn dasher	July 30, 1867.
69, 925	McWilliams, Gabriel, Fostoria, Ohio. Sheep shed and rack	Oct. 15, 1867.
70, 451	McWorter, Solomon, Barry, Ill. Evaporator for sorghum and other sirups	Nov. 5, 1867.
61, 677	Mead, Charles V., Hamilton, N. Y. Roller for wringers	Jan. 29, 1867.
71, 198	Mead, Gideon C., Guilford, N. Y. Hay raker and loader	Nov. 19, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 355	Mead, Matthias, Lowell, Mass. Cooking stove	Oct. 1, 1867.
70, 347	Same..... Portable radiating furnace	Oct. 29, 1867.
69, 009	Mead, William S., New York, N. Y. Mechanical movement	Sept. 17, 1867.
65, 583	Meador, George, Prairie Centre, Ill. Potato digger	June 11, 1867.
65, 584	Same..... Mop head	June 11, 1867.
65, 930	Meentcheon, Samuel M., Philadelphia, Pa. Method of adjusting rollers	June 18, 1867.
71, 199	Medlicott, Arthur D., Windsor Locks, Conn. Safety hatch for warehouses	Nov. 19, 1867.
64, 437	Mee, Barney, Troy, N. Y. Hose coupling	May 7, 1867.
	Mee, John, Lowell, Mass. Knitting loom	(Extension) April 22, 1867.
	Same..... Warp-net fabrics	(Extension) April 22, 1867.
61, 848	Mee, William. (See Hutton, Robert, assignor.)	
	Meech, Harrison B., Fort Edward, N. Y. Proces of treating straw and other materials for manufacture of paper pulp	Feb. 5, 1867.
67, 563	Meehan, John, Newark, N. J. Tanning	Aug. 6, 1867.
71, 200	Meek, P. Gray, Bellefonte, Pa. Printers' galley	Nov. 19, 1867.
69, 827	Meeker, Edwin, Bridgeport, Conn. Manufacture of carriage clips	Oct. 15, 1867.
65, 254	Meggenhofen, Edward, deceased, by E. Meggenhofen, administratrix, Germany. Steam safety valve	May 28, 1867.
72, 519	Megill, S. C., Newark, N. J. Railway switch. (Antedated December 14, 1867)	Dec. 24, 1867.
63, 074	Megown, John, New London, Mo. Churn	Mar. 19, 1867.
62, 868	Megquier, C. F., Eureka, Ill. Cultivator	Mar. 12, 1867.
63, 411	Mehary, William J., Philadelphia, Pa. Spark arrester	April 2, 1867.
66, 726	Meili, Jacob, and John Fisher. (See Fisher & Meili.)	
71, 401	Meinert, Carl, Newburyport, Mass. Mode of printing photographs	July 16, 1867.
70, 102	Meinhard, Charles A., Fort Wayne, Ind. Machine for planing and slotting	Nov. 26, 1867.
62, 281	Meissner, Julius H., New York, N. Y. Grate	Oct. 22, 1867.
	Mejia, Henry A., Mexico. Many-barrelled gun	Feb. 19, 1867.
65, 105	Melcher, George B. (See Warner, Joseph B., assignor.)	
70, 348	Melcher, James, Minneapolis, Minn. Bag holder	May 28, 1867.
	Melcher, John W., assignor to self and John J. Sprague, Oshkosh, Wis. Detachable whiffletree	Oct. 29, 1867.
68, 769	Melcher, Josiah F., Bloomington, Ill. Washing machine	Sept. 10, 1867.
67, 330	Meldrum, John B., Paterson, N. J. Floor cloth and carpeting	July 30, 1867.
71, 034	Same..... same	Nov. 19, 1867.
64, 849	Mellen, George H., Alexandria, Va. Composition for making elastic hand stamps	Feb. 5, 1867.
68, 770	Same..... Composition for elastic hand stamps	Sept. 10, 1867.
63, 412	Mellen, John O., assignor to L. G. Quinlin, jr., St. Louis, Mo. Drying apparatus	April 2, 1867.
63, 918	Mellen, M., Richland Station, N. Y. Stump extractor	April 16, 1867.
66, 512	Melling, John, Rochester, N. Y. Process for preparing wood for the manufacture of labels, tags, &c.	July 9, 1867.
60, 688	Same..... Passenger register	Oct. 8, 1867.
69, 356	Mellinger, Christian K., Millersville, Pa. Carriage pole	Oct. 1, 1867.
60, 768	Mellinger, M., Dayton, Ohio. Cane stripper	Jan. 1, 1867.
63, 279	Mellish, Henry, assignor to David Lyman, Washington Whitney, and Gilman Waite, Walpole, N. H. Machine for making fruit baskets	Mar. 26, 1867.
63, 280	Same..... Machine for cutting the bottoms of fruit baskets	Mar. 26, 1867.
63, 414	Same..... Machine for cutting out the bodies of fruit baskets	April 2, 1867.
63, 415	Same..... Machine for cutting toy pails from wood	April 2, 1867.
68, 524	Mellyn, Martin J., Roxbury, Mass. Adjusting thills to carriages	Sept. 3, 1867.
69, 689	Same..... Cutting tool	Oct. 8, 1867.
72, 663	Same..... Mode of securing fellocs	Dec. 24, 1867.
70, 239	Melotte, G. D., Watertown, N. Y. Clutch for hay forks	Oct. 29, 1867.
64, 125	Melsom, Samuel, Erie, Pa. Paint oil	April 23, 1867.
63, 919	Melvin, Charles T., Providence, R. I. Razor strap	April 16, 1867.
	Melvin, Jerome B. (See Stimson, Lucius S., assignor.)	
63, 920	Melvin, Jerome B., assignor to self and Edward B. Howe, Lowell, Mass. Ventilating bung for casks, &c.	April 16, 1867.
68, 771	Memmert, Charles, Georgetown, D. C. Wardrobe trunk	Sept. 10, 1867.
68, 640	Mendel, Louis, Albany, N. Y. Safety attachment for watch chains	Sept. 10, 1867.
67, 786	Mendenhall, A., Cerro Gordo, Ind. Calculating machine	Aug. 13, 1867.
70, 349	Mendenhall, Daniel, Fairfield, Iowa. Tree protector	Oct. 29, 1867.
64, 438	Mendenhall, N. M., and J. Judd, Terre Haute, Ind. Hand spinning machine	May 7, 1867.
70, 877	Mendenhall, Stephen C., Richmond, Ind. Hand loom	Nov. 12, 1867.
65, 412	Mendenhall, William D., Farmington, Ill. Plow-share	June 4, 1867.
61, 349	Mengel, Herrmann, Philadelphia, Pa. Instrument for guiding tailors in cutting out coats and vests	Jan. 22, 1867.
2, 808	Mensing, Ferdinand, New York, N. Y. Trade mark	(Design) Oct. 22, 1867.
	Menuez, A. L. (See Richards, John R., assignor.)	
	Same..... same	
	Mercien, Andrew, et al. (See Lanagan, Michael, assignor.)	
	Mercereau, T. W. V. P. (See Crofoot, Horace, assignor.)	
70, 035	Meredith, A., and P. P., Maxintuckee, Ind. Hand loom	Nov. 19, 1867.
72, 217	Meredith, Edmund, assignor to self and J. S. Sellers, Philadelphia, Pa. Dry gas meter	Dec. 17, 1867.
68, 772	Meredith, Samuel W., and David Mulligan, Greensburg, Ind. Exterior bed for farm wagons	Sept. 10, 1867.
61, 946	Meriam, J. B., Cleveland, Ohio. Apparatus for extracting paraffine from oil, &c.	Feb. 12, 1867.
70, 592	Meriam, Rufus N., Worcester, Mass. Planing machine	Nov. 5, 1867.
67, 129	Merick, Eldrige J., Rochester, N. Y. Dental plate	July 23, 1867.
	Meriden Britannia Company. (See Wilcox, Horace C., assignor)	(Design)
	Same..... same	(Design)
	Same..... same	(Design)
	Same..... same	(Design)

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Meriden Britannia Company. (See Wilcox, Dennis C., assignor).....(Design.)	
	Same.....(See Lyman, William W., assignor.)	
	Same.....(See Babbitt, S. C., assignor.)	
	Meriden Manufacturing Company. (See Snow, Oliver, assignor.)	
71, 895	Meriwether, Frederick, Tamola, Miss. Uterine supporter.....	Dec. 10, 1867.
72, 520	Merklee, George F., New York, N. Y. Hot-air furnace.....	Dec. 24, 1867.
63, 738	Merlett, John, Bound Brook, N. J. Spike. (Antedated April 1, 1867)	Apr. 9, 1867.
	Mero, jr., Spencer, and Abel Hunt. (See Hunt & Mero.)	
68, 098	Merriam, E. D., and S. Aldrich, La Grange, Ohio. Bed-bottom spring.....	Aug. 27, 1867.
60, 769	Merriam, M. H., assignor to self and E. L. Norton, Charlestown, Mass. Feed mechanism for sewing machines.....	Jan. 1, 1867.
72, 748	Merriam, Scovil S., assignor to self and Daniel W. Talcott, New York, N. Y. Whip hanger.....	Dec. 31, 1867.
64, 021	Merriam, Truman, and A. G. Allen, Waterloo, Wis. Steam generator. (Antedated April 19, 1867).....	Apr. 23, 1867.
68, 377	Merrick, Cyrus H., Pittsburg, Pa. Steam engine.....	Sept. 3, 1867.
	Merrick, Edwin F., et al. (See Twitchell, Charles S., assignor.)	
63, 281	Merrick, J. Vaughan, Philadelphia, Pa. Steam engine.....	Mar. 26, 1867.
63, 548	Merrick, S., New Brighton, Pa. Car-body frame.....	Apr. 2, 1867.
63, 378	Merrifield, Lewis, La Grange Centre, Ind. Washing machine.....	Sept. 3, 1867.
64, 685	Merrill, Allen N., Batavia, Ill. Kettle.....	May 14, 1867.
63, 282	Merrill, Daniel C., South Paris, Maine. Churn.....	Mar. 26, 1867.
	Merrill, Edward. (See Driggs, James D., assignor.)	
	Merrill, Freeman C. (See Pettingill, Charles B., assignor.)	
67, 130	Merrill, G. L., Chicago, Ill. Machine for cleaning and assorting cranberries.....	July 23, 1867.
64, 181	Merrill, Helem, Brooklyn, N. Y. Method of sprinkling liquids in refining sugar.....	Apr. 23, 1867.
64, 182	Same.....Discharger for centrifugal machines.....	Apr. 23, 1867.
64, 183	Same.....Feeder for centrifugal machine.....	Apr. 23, 1867.
64, 347	Same.....Mode of using steam for heating and evaporating.....	Apr. 30, 1867.
72, 314	Merrill, John S., Newtown, Md. Window-sash supporter.....	Dec. 17, 1867.
64, 783	Merrill, Joshua, Boston, Mass. Metal beam.....	May 14, 1867.
67, 666	Merrill, J. W., and E. H. Lawrence, Berlin, Wis. Pump.....	Aug. 13, 1867.
72, 414	Merrill, Rufus S., assignor to self and William Carleton, Boston, Mass. Burner for hydrocarbon fluids.....	Dec. 17, 1867.
70, 878	Merrill, S. T., Beloit, Wis. Bleaching stock for paper.....	Nov. 12, 1867.
60, 922	Merriman, Andrews T., Rutland, Vt. Machine for squaring files.....	Jan. 1, 1867.
69, 690	Merritt, A. N., Gardner, Mass. Butter cutter.....	Oct. 8, 1867.
70, 036	Merritt, Charles, South Weymouth, Mass. Apparatus for dyeing hair.....	Nov. 19, 1867.
	Merritt, C. C., et al. (See Lombard, C. E., assignor.)	
62, 555	Merritt, George, New York, N. Y. Pencil-point protector.....	Mar. 5, 1867.
2, 595	Same.....same.....(Reissue).....	May 7, 1867.
	Merritt, Henry. (See Tracy, Sylvester L., assignor.)	
70, 452	Merritt, Henry B., assignor to I. H. Merritt, St. Louis, Mo. Cotton-bale tie.....	Nov. 5, 1867.
2, 520	Merritt, Ira, assignor through mesne assignments to himself, Abington, Mass. Knife.....(Reissue).....	Mar. 19, 1867.
	Merritt, Ira, et al. (See Tirrell, J. P., assignor.)	
72, 066	Merritt, Israel J., New York, N. Y. Dry dock.....	Dec. 10, 1867.
62, 665	Merritt, James C., New York, N. Y. Retainer for neck ties.....	Mar. 5, 1867.
2, 706	Merritt, James C., assignor to self and Oscar J. Merritt, New York, N. Y. Eyelet. (Design).....	July 16, 1867.
72, 067	Merritt, John, New York, N. Y. Knife and fork cleaner. (Antedated Dec. 4, 1867)	Dec. 10, 1867.
62, 664	Merrymon, J. M., Indianapolis, Ind., and W. M. Dunn, Gurleystown, Ala. Cotton-seed planter.....	Mar. 5, 1867.
69, 572	Mersereau, William T., Newark, N. J. Curtain fixture.....	Oct. 8, 1867.
71, 511	Mershon, George B., Philadelphia, Pa. Folding or lunch box.....	Nov. 26, 1867.
72, 521	Mershon, Ralph S., Zanesville, Ohio. Graver.....	Dec. 24, 1867.
65, 255	Mertens, F., Cumberland, Md. Mode of bracing and staying boats.....	May 28, 1867.
	Mervine, Samuel P., jr. (See Schatt, John, assignor.)	
64, 022	Mervia, Joseph, New York, N. Y. Button hole for paper collars. (Antedated April 8, 1867).....	Apr. 23, 1867.
	Meserve, John L. (See Rundlett, John, assignor.)	
65, 256	Mesler, John H., Symmes Corner, Ohio. Compound for cure of hog cholera.....	May 28, 1867.
70, 010	Messenger, Charles, Cleveland, Ohio. Tool for opening sheet-metal cans.....	Oct. 22, 1867.
62, 282	Messex, Abel, Waynesboro', Va. Medicine.....	Feb. 19, 1867.
67, 331	Messick, Walter M., Louisville, Ky. Circular swinging cradle and baby-walker.....	July 30, 1867.
70, 037	Messinger, Joseph, Springfield, Vt. Brush holder.....	Nov. 19, 1867.
	Messinger, Joseph et al. (See Lewis, W. A., assignor.)	
	Messinger, Joseph, and H. H. Mason. (See Mason & Messinger.)	
	Same.....same.....	
	Same.....same.....	
69, 462	Messler, M. D., New Lebanon, Ohio. Fence.....	Oct. 1, 1867.
69, 235	Messler, William A., Eureka, Ill. Door holder.....	Sept. 24, 1867.
67, 997	Messmer, Henri, assignor to self and Isaac Hey, jr., Newark, N. J. Preparing vegetable fibres for textile and other fabrics.....	Aug. 20, 1867.
66, 375	Metcalfe, G. W., Hummelstown, Pa. Apparatus to cure horses of cribbing.....	July 2, 1867.
	Metropolitan Rotary Engine Company. (See Ortlieb, Frederick, assignor.)	
	Metropolitan Washing Machine Company. (See Foster, C. A., assignor.) (Reissuc.)	
	Same.....(See Rowell, Warren, assignor.)	
70, 879	Mets, E., assignor to self and A. Cram, Rochester, N. Y. Slide for extension tables.....	Nov. 12, 1867.
70, 453	Metten, George R., assignor to Horace Baldwin, St. Louis, Mo. Fountain pen.....	Nov. 5, 1867.
	Metz, W., and George Sugg. (See Sugg & Metz.)	
	Metzger, Charles H., and Edward Schindler. (See Schindler & Metzger.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, invention or discovery.	Date.
	Meyer & Mueller. (See Schiffer, John, assignor.)	
68, 641	Myer, Charles F. W., Oconomowock, Wis. Leather hose.	Sept. 10, 1867.
2, 546	Meyer, Chas. T., ass't to Ed. C. Sampson, Bergen, N. J. Floor oil cloth. (Design)	Jan. 8, 1867.
2, 579	Same. same. (Design)	Feb. 12, 1867.
2, 580	Same. same. (Design)	Feb. 12, 1867.
2, 581	Same. same. (Design)	Feb. 12, 1867.
2, 635	Same. Floor oil cloth or carpet pattern. (Design)	Apr. 30, 1867.
2, 636	Same. same. (Design)	Apr. 30, 1867.
2, 637	Same. same. (Design)	Apr. 30, 1867.
2, 638	Same. same. (Design)	Apr. 30, 1867.
2, 639	Same. same. (Design)	Apr. 30, 1867.
2, 640	Same. same. (Design)	Apr. 30, 1867.
2, 653	Same. same. (Design)	May 14, 1867.
2, 730	Same. Floor oil cloth and carpet pattern. (Design)	Aug. 6, 1867.
2, 731	Same. Floor oil cloth or carpet pattern. (Design)	Aug. 6, 1867.
2, 770	Same. Carpet or oil cloth pattern. (Design)	Aug. 27, 1867.
2, 783	Same. Carpet pattern. (Design)	Sept. 24, 1867.
2, 787	Same. same. (Design)	Sept. 24, 1867.
2, 788	Same. same. (Design)	Sept. 24, 1867.
2, 789	Same. same. (Design)	Sept. 24, 1867.
64, 686	Meyer, Frederick, Newark, N. J. Machine for grinding scale pivots.	May 14, 1867.
69, 691	Same. Scoop for scales.	Oct. 8, 1867.
61, 016	Meyer, Jacob P., Waukesha, Wis. Device for protecting horses' necks.	Jan. 8, 1867.
64, 687	Myer, James, jr., New York, N. Y. Knife sharpener.	May 14, 1867.
2, 762	Same. same. (Reissue)	Sept. 10, 1867.
66, 101	Meyer, L. Otto P., Bethlehem, Pa. Manufacture of safety matches.	June 25, 1867.
60, 770	Meyer, Philip P., New York, N. Y. Method of making sheet metal vessels of two thicknesses.	Jan. 1, 1867.
61, 628	Meyer, Robert, Buffalo, N. Y. Buckle fastening.	Jan. 29, 1867.
72, 522	Meyer, William A., Indianapolis, Ind. Composition for tempering steel springs.	Dec. 24, 1867.
60, 923	Meyers, F. H., Wilmington, Del. Car coupling.	Jan. 1, 1867.
	Meyers, Peter, administrator, &c. (See Young, Emanuel.)	
62, 146	Michael, F., Gratis, Ohio. Apparatus for granulating sugar.	Feb. 19, 1867.
62, 147	Same. Evaporator.	Feb. 19, 1867.
71, 777	Michel, Charles E., assignor to Frederick Von Phul, St. Louis, Mo. Mineral water.	Jan. 8, 1867.
64, 784	Michelbacher, Abraham, New York, N. Y. Peat gathering machine.	May 14, 1867.
66, 376	Same. Machine for disintegrating peat.	July 2, 1867.
63, 921	Michell, John, West Farms, N. Y. Matting for floor covering.	Apr. 16, 1867.
69, 463	Michener, Thomas C., St. Louis, Mo. Needle setter for sewing machines.	Oct. 1, 1867.
	Mickle, William H., and H. J. Harwood. (See Harwood & Mickle.)	
63, 549	Middlebrook, S. S., Sandy Hook, Conn. Hat blocking machine.	Apr. 2, 1867.
65, 413	Same. Felting machine.	June 4, 1867.
67, 332	Middlefield, William A., Harrisburg, Pa. Fence.	July 30, 1867.
	Middleton, William A. (See Patton, William P., assignor.)	
64, 892	Mifflin, Lloyd, Germantown, Pa. Solar chronometer.	May 21, 1867.
63, 075	Mignon, J. B. J., and S. H. Rouart, France. Apparatus for compressing air.	Mar. 19, 1867.
61, 082	Milbank, Isaac M., Greenfield Hill, Conn. Breech-loading fire-arm.	Jan. 8, 1867.
61, 751	Same. same.	Feb. 5, 1867.
62, 223	Same. Metallic priming cartridges.	Feb. 19, 1867.
65, 585	Same. Breech-loading firearm.	June 11, 1867.
2, 716	Same. Metallic cartridge. (Reissue)	Aug. 6, 1867.
67, 787	Miles, Alfred S., Brooklyn, N. Y. Combination of brush and rubber.	Aug. 13, 1867.
71, 778	Miles, George W., Philadelphia, Pa. Mosquito net in window blinds.	Dec. 3, 1867.
68, 773	Miles, G. W., assignor to Hosler Miles, Michigan City, Ind. Machine for driving spokes in wagon wheels.	Sept. 10, 1867.
61, 350	Miles, Isaac L., Charlestown, Mass. Mode of printing on glass.	Jan. 22, 1867.
62, 666	Same. Apparatus for printing on glass.	Mar. 5, 1867.
69, 926	Same. Philadelphia, Pa. Composition for producing elastic forms for printing.	Oct. 15, 1867.
61, 083	Miles, J. and E. P., Bloomingdale, Ind. Plow.	Jan. 8, 1867.
72, 315	Miles, Myron, Middlesex, N. Y. Horse rake.	Dec. 17, 1867.
63, 169	Miles, Purches, New York, N. Y. Curtain fixture. (Antedated March 15, 1867).	Mar. 26, 1867.
62, 032	Miles, Purches, assignor to Theodore Mace, New York, N. Y. Sausage stuffer.	Feb. 12, 1867.
68, 774	Miles, R. E., Louisville, Ky. Attachment for breast collar.	Sept. 10, 1867.
67, 564	Miles, Smith, Fabius, N. Y. Portable fence.	Aug. 6, 1867.
61, 084	Millar, Alexander, assignor to self and E. A. G. Roulstone, Roxbury, Mass. Drinking cup.	Jan. 8, 1867.
67, 896	Millar, Alexander, assignor to self and Alfred Odiorne, Roxbury, Mass. Oiler and filer.	Aug. 20, 1867.
65, 823	Millar, Henry W., Utica, N. Y. Apparatus for heating cheese vats.	June 18, 1867.
60, 771	Millar, Wm. J., McKeesport Borough, Pa. Apparatus for steering vessels by steam.	Jan. 1, 1867.
72, 664	Same. Car coupling.	Dec. 24, 1867.
	Miller, A. M., and John Burt. (See Burt & Miller.)	
71, 896	Miller, Abraham S., assignor to self, J. P. James and Chas. Folsom, Zanesfield, Ohio. Railroad signal.	Dec. 10, 1867.
61, 443	Miller, Benjamin F., New York, N. Y. Caloric radiator for stove pipes.	Jan. 22, 1867.
64, 126	Same. Pavement.	Apr. 23, 1867.
71, 630	Same. Ventilating cowl.	Dec. 3, 1867.
64, 127	Miller, Charles, St. Louis, Mo. Loom. (Antedated April 10, 1867).	Apr. 23, 1867.
65, 498	Miller, Charles D., assignor to self and C. H. Warner, West Meriden, Conn. Attaching thills to carriages.	June 4, 1867.
68, 775	Miller, Charles G., Springfield, Ohio. Harvester.	Sept. 10, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, invention or discovery.	Date.
70, 734	Miller, Charles G., Cincinnati, Ohio. Cowl or chimney cap	Nov. 12, 1867.
61, 552	Miller, Charles H., Dayton, Ohio. Cloth-gathering attachment to sewing machine	Jan. 29, 1867.
71, 201	Miller, Charles H., Buffalo, N. Y. Snap book	Nov. 19, 1867.
62, 353	Miller, Charles H., assignor to self and Isaac S. Dengler, Frederick, Pa. Padlock	Feb. 26, 1867.
68, 223	Miller, Charles H., assignor to self, T. W. Foye, and E. L. Cook, Buffalo, N. Y. Snap book	Aug. 27, 1867.
71, 510	Miller, Chas. H., assignor to Chas. Harrison, Buffalo, N. Y. Valve for water closets	Nov. 26, 1867.
69, 461	Miller, Daniel W., and Michael Brestle, jr., Middletown, Pa. Car coupling	Oct. 1, 1867.
63, 922	Miller, D. K., Bernville, Pa. Alarm lock for tills	Apr. 16, 1867.
69, 465	Miller, Edward, Milwaukee, Wis. Shifting seat for vehicles	Oct. 1, 1867.
	Miller, E., & Co. (See Marcy, John J., assignor.)	
	Same (See Baldwin, George E., assignor.)	
	Miller, E. L. et al. (See Goodes, E. A., assignor.)	
	Same same	
	Miller, E. L., and E. A. Goodes. (See Goodes & Miller.)	
71, 402	Miller, Felix, and Hyppolite Pernot, New York, N. Y. Bung extractor	Nov. 26, 1867.
61, 947	Miller, Frederick J., Brooklyn, N. Y. Caster frame	Feb. 12, 1867.
70, 593	Miller, F. R., and E. Prescott, Pittsburg, Pa. Sash support and fastener	Nov. 5, 1867.
	Miller, Geo., executor of Jas. F. McKenzie, deceased. (See McKenzie, James F.)	
69, 236	Miller, G. M., and H. Mund, Chicago, Ill. Burglar-proof window and door grates	Sept. 24, 1867.
71, 897	Miller, Henry, Ronald Township, Mich. Spinning wheel	Dec. 10, 1867.
62, 768	Miller, H. B., and M. P. Weston, Grand Rapids, Mich. Broom head	Mar. 12, 1867.
69, 112	Miller, Henry J., Nashua, N. H. Bootjack and blacking brush	Sept. 24, 1867.
	Miller, Henry J. (See Thomas, John A., assignor.)	
63, 283	Miller, Hermann, Hoboken, N. J. Paint can	Mar. 26, 1867.
2, 592	Same same (Reissue)	May 7, 1867.
	Miller, Henry T., and James M. Hammitt. (See Hammitt & Miller.)	
68, 776	Miller, Israel, Bryan, Ohio. Device for setting animal traps	Sept. 10, 1867.
70, 594	Miller, jr., J., Baltimore, Md. Mode of securing wheels on axles	Nov. 5, 1867.
66, 609	Miller, Jacob, Canton, Ohio. Harvester rake	July 9, 1867.
66, 983	Same same	July 23, 1867.
72, 523	Same Harvester dropper	Dec. 24, 1867.
69, 927	Miller, Jacob, Carrollton, Ohio. Car coupling	Oct. 15, 1867.
70, 103	Same same	Oct. 22, 1867.
	Miller, Jacob, and Frederick Denzler. (See Denzler & Miller.)	
	Miller, Jacob R., and William P. Patton. (See Patton & Miller.)	
61, 629	Miller, James, New York, N. Y. Boring tool	Jan. 29, 1867.
65, 499	Miller, James, Ovid, Mich. Bag fastener	June 4, 1867.
71, 038	Miller, James and James, jr., England. Elastic gusset for wearing apparel	Nov. 19, 1867.
68, 379	Miller, Jeremiah, Pittsburg, Pa. Curbing	Sept. 3, 1867.
71, 039	Miller, Job, Warren, R. I. Knitting-machine needle	Nov. 19, 1867.
61, 630	Miller, Job, Warren, R. I., and Jason A. Bidwell, East Boston, Mass. Knitting-machine needle	Jan. 29, 1867.
63, 076	Miller, John, Buffalo, N. Y. Bung for casks, barrels, &c.	Mar. 19, 1867.
63, 569	Miller, John D., Russellville, Pa. Hitching strap	Sept. 3, 1867.
69, 010	Miller, J. H., Milwaukee, Wis. Weather strip for doors	Sept. 17, 1867.
67, 897	Miller, John S., assignor to self and L. L. Davis, Springfield Mass. Car spring. (Antedated August 5, 1867.)	Aug. 20, 1867.
	Miller, John S., and N. C. Stiles. (See Stiles and Miller.)	
62, 215	Miller, John T., Iowa Falls, Iowa. Ditching plow	Feb. 19, 1867.
61, 553	Miller, Joseph, Cuba, N. Y. Car coupling	Jan. 29, 1867.
63, 805	Same Manufacture of sheet iron	Apr. 16, 1867.
66, 727	Miller, Joseph, Alliance, Ohio. Weather strip	July 16, 1867.
61, 085	Miller, Joseph A., New York, N. Y. Steam generator	Jan. 8, 1867.
61, 086	Same same	Jan. 8, 1867.
62, 494	Same same	Feb. 26, 1867.
63, 284	Same Street crossing and sewer inlet	Mar. 26, 1867.
63, 923	Same Steam generator	Apr. 16, 1867.
64, 128	Same Chimney or ventilator	Apr. 23, 1867.
2, 504	Miller, Joseph R., assignor to the American Submarine Tunnel Co., New York, N. Y. Submarine tunnel (Reissue)	Mar. 12, 1867.
	Miller, Joseph R., deceased, by William Miller, administrator, Pensacola, Fla. Submarine tunnel (Extension)	July 30, 1867.
65, 106	Miller, Lewis, Akron, Ohio. Harvester rake	May 23, 1867.
70, 735	Same Dropper for harvesters	Nov. 12, 1867.
	Miller, Lewis, and Richard B. Walker. (See Jenkins, John V., ass'r.) (Reissue.)	
	Same same (Reissue.)	
	Same (See Kennedy, Albert H., assignor.) (Reissue.)	
	Same (See Jenkins, John V., assignor.)	
69, 466	Miller, L. B., Jersey City, N. J. Machine for milling twist drills	Oct. 1, 1867.
66, 984	Miller, L. H., Baltimore, Md. Burglar and fire-proof safe	July 23, 1867.
60, 772	Miller, Max, Brooklyn, N. Y. Toy wind wheel	Jan. 1, 1867.
64, 242	Miller, Moses, East Gaines, N. Y. Land roller	Apr. 30, 1867.
72, 749	Miller, Philip, Sharpsburg, Pa. Window shutter	Dec. 31, 1867.
64, 551	Miller, P. L., Mechanicsburg, Pa. Gate	May 7, 1867.
70, 880	Miller, S., and J. S. McClellan, Champaign county, Ohio. Awning	Nov. 12, 1867.
71, 509	Same same	Nov. 26, 1867.
	Miller, Samuel, and Moses Lewis. (See Lewis & Miller.)	
67, 206	Miller, Stewart, and Ira J. Chase, Barrington, Ill. Fanning mill	July 30, 1867.
	Miller, Warner. (See Thiry, F., assignor.)	
62, 869	Miller, W. D., Enon, Ohio. Automatic wagon brake	Mar. 12, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 678	Miller, W. H., Brandenburg, Ky. Die for bending nozzles of coffee pots.....	Jan. 29, 1867.
69, 011	Same..... Combined rake and spade.....	Sept. 17, 1867.
68, 642	Miller, W. K., assignor to C. Aultman & Co., Canton, Ohio. Harvester.....	Sept. 10, 1867.
62, 053	Miller, Warren P., San Francisco, Cal. Fireplace.....	Feb. 12, 1867.
64, 893	Same..... New York, N. Y. Grindstone.....	May 21, 1867.
70, 736	Same..... San Francisco, Cal. Fan blower.....	Nov. 12, 1867.
67, 333	Miller, Wesley, assignor to Francis E. Beal, Granville S. Webster, Edward J. Sawyer, and Paul P. Todd, New York, N. Y. Corset.....	July 30, 1867.
64, 785	Miller, William, Cincinnati, Ohio. Hoisting machine.....	May 14, 1867.
	Miller, William, and Joseph and John Scott. (See Scott & Miller.)	
63, 285	Miller, William H., Philadelphia, Pa. Packing for piston rods.....	Mar. 26, 1867.
64, 088	Same..... Fibrous packing for steam engines.....	May 14, 1867.
64, 995	Same..... Manufacture of packing for stuffing boxes of steam engines, pumps, &c.	May 21, 1867.
68, 099	Miller, William H. and George W., West Meriden, Conn. Cartridge ejector for breech-loading fire-arms.....	Aug. 27, 1867.
64, 786	Same..... Breech-loading fire-arm.....	May 14, 1867.
2, 768	Same..... same..... (Reissue).....	Oct. 1, 1867.
61, 631	Miller, William Jesse, Linesville, Pa. Medicine.....	Jan. 29, 1867.
66, 023	Miller, William M., Tulpehocken, Pa. Meat cutter.....	June 25, 1867.
69, 227	Miller, Wyatt W., Safe Harbor, Pa. Fagot for beams.....	Sept. 24, 1867.
70, 011	Same..... Construction of fagot for beams.....	Oct. 23, 1867.
67, 334	Milligan, John F., St. Louis, Mo. Cotton bale tie.....	July 30, 1867.
2, 554	Milligan, John F., assignor to Joseph W. Branch and Joseph Crookes, St. Louis, Mo. Cotton bale tie..... (Reissue).....	Apr. 9, 1867.
69, 113	Milligan, John F., assignor to self and J. W. Branch, St. Louis, Mo. Cotton bale tie.....	Sept. 24, 1867.
63, 649	Milligan, Patrick Francis, Washington, D. C. Cheek on car conductors.....	Apr. 9, 1867.
64, 552	Milliken, D. L., Brattleboro', Vt., and O. M. Pillsbury, Claremont, N. H. Joint for stovepipes.....	May 7, 1867.
62, 148	Milliken, Francis, Boston, Mass. Apparatus for heating and cooking by steam.....	Feb. 19, 1867.
61, 229	Milliken, Royal B., Springfield, Vt. Pocket knife. (Antedated January 5, 1867).....	Jan. 15, 1867.
	Milliken, William H., and George Johnson. (See Johnson & Milliken.)	
	Milligar, Henry. (See Gearing, F., assignor.)	
	Millington, Norman, and Dennis J. George, deceased, by S. M. George, Abraham B. Gardner, and Leland J. Mattison, executors, Shaftsbury, Vt. Machine for figuring carpenters' squares..... (Extension).....	Oct. 4, 1867.
63, 416	Millison, Francisque, France. Gas engine.....	Apr. 2, 1867.
	Millison, James B. (See Chappell, Isaac H., assignor.)	
72, 062	Millocchan, A., assr to R. N. Perlee, New York, N. Y. Manufacture of lampblack.....	Dec. 10, 1867.
67, 898	Mills, Anson, Fort Bridger, Utah Ter. Cartridge belt.....	Aug. 30, 1867.
61, 850	Mills, A. J., Scott, N. Y. Churn.....	Feb. 5, 1867.
64, 129	Mills, A. J., and E. M. Hewitt, Scott, N. Y. Clothes dryer.....	Apr. 23, 1867.
	Mills, C. W., et al. (See Chichester, Lewis S., assignor.)	
	Mills, Ezekiel, and Hugh L. McAvoy. (See McAvoy & Mills.)	
69, 828	Mills, E. W., assignor to the Empire Wind Wheel Manufacturing Company, Syracuse, N. Y. Wind wheel.....	Oct. 15, 1867.
67, 788	Mills, Francis, Mt. Vernon, Ind. Machine for bending tires.....	Aug. 13, 1867.
64, 894	Mills, Francis E., San Francisco, Cal. Door indicator.....	May 21, 1867.
	Mills, Francis E., and Isaac Rowell. (See Rowell & Mills.)	
69, 829	Mills, Henry L., St. Paul, Minn. Artificial leg.....	Oct. 15, 1867.
69, 573	Mills, James E., Brooklyn, N. Y. Manufacture of chloride of zinc.....	Oct. 8, 1867.
68, 536	Mills, John H., Boston, Mass. Steam engine.....	Mar. 5, 1867.
65, 921	Mills, Jonathan, assignor to self, Lewis J. Brown, Charles S. Spofford, and Henry Van Lutheran, Des Moines, Iowa. Brick machine.....	June 18, 1867.
63, 286	Mills, Luke S., Brooklyn, N. Y. Portable boiler for pitch, &c.....	Mar. 26, 1867.
68, 100	Mills, Mortimer B., East Mendon, N. Y. Churn.....	Aug. 27, 1867.
66, 163	Mills, Samuel, and J. R. McIrvin, assignors to James J. Robinson, Clinton, Ill. Wheelwrights' machine.....	June 25, 1867.
61, 230	Mills, Simeon, Madison, Wis. Carriage thill coupling.....	Jan. 15, 1867.
68, 101	Same..... Machine for grinding peat.....	Aug. 27, 1867.
72, 665	Same..... Car coupling.....	Dec. 24, 1867.
	Millward, Frank. (See James, Charles H., assignor.)	
70, 240	Millward, J. C., New York, N. Y. Ornamenting glass.....	Oct. 29, 1867.
68, 574	Milne, James, Scotland. Car coupling.....	Oct. 8, 1867.
64, 023	Milroy, John, Scotland. Excavator.....	Apr. 23, 1867.
71, 040	Milroy, J. W., Galveston, Ind. Drain tile machine.....	Nov. 19, 1867.
	Milson, George, et al. (See Henrage, Milson, and Spendelow.)	
2, 555	Miltmore, J. H., Chicago, Ill. Lantern..... (Reissue).....	Apr. 9, 1867.
2, 527	Mingis, W. S., New York, N. Y. Round comb..... (Design).....	Jan. 1, 1867.
2, 528	Same..... same..... (Design).....	Jan. 1, 1867.
2, 555	Same..... same..... (Design).....	Jan. 15, 1867.
63, 650	Minnich, Simon B., assignor to self and H. K. Burkholder, Landisville, Pa. Stop jointed manure drag.....	Apr. 9, 1867.
64, 996	Minnis, Adam, Canton township, Mich. Potato digger.....	May 21, 1867.
61, 231	Minniss, Thomas S., Meadville, Pa. Locomotive for plowing, &c.....	Jan. 15, 1867.
64, 629	Same..... Car coupling.....	May 14, 1867.
69, 692	Same..... Sted brake.....	Oct. 8, 1867.
66, 513	Minor, Benjamin W., and Allen Colburn, Boston, Mass. Tailor's crayon sharpener.....	July 9, 1867.
67, 207	Minor, John O., Wapello, Iowa. Hedge shears.....	July 30, 1867.
68, 224	Minor, John W., and David P. Ward, New Bedford, Mass. Machine for filling ruts and leveling roads.....	Aug. 27, 1867.
69, 012	Same..... Three-wheeled vehicle.....	Sept. 17, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 878	Minor, P. E., Schenectady, N. Y. Material for the manufacture of glass.....	Dec. 31, 1867.
68, 777	Minuse, Horatio, Milan, Ohio. Carriage plow.....	Sept. 10, 1867.
	Mitchell, Allen & Co. (See Hilton, Richard H., assignor.)	
	Same..... (See Hutchinson, William B., assignor.)	
65, 107	Mitchell, Charles E., New Britain, Conn. Snap hook.....	May 23, 1867.
66, 985	Mitchell, C. E., and M. Moriarty, assignors to Charles E. Mitchell and Philander Evans, Bangor, Maine. Mustache guard.....	July 23, 1867.
64, 787	Mitchell, C. H., Bristow Station, Ky. Medical compound.....	May 14, 1867.
	Mitchell, Charles W., and William Conner. (See Conner & Mitchell.)	
69, 830	Mitchell, G. W., New York, N. Y. Baking pan.....	Oct. 15, 1867.
61, 752	Mitchell, Henry, Dayton, Ohio. Handle for sadirons.....	Feb. 5, 1867.
	Mitchell, Henry, and George Thompson. (See Johnson & Thompson, ass'rs.) (Reissue.)	
72, 879	Mitchell, H. H., Mineral Point, Wis. Hand loom.....	Dec. 31, 1867.
67, 444	Mitchell, H. S., and C. Search, Hublersburg, Pa. Corn planter.....	Aug. 6, 1867.
72, 069	Mitchell, James, La Porte, Ind. Car brake.....	Dec. 10, 1867.
72, 316	Mitchell, Jehu, Newark, Ohio. Washing machine.....	Dec. 17, 1867.
63, 924	Mitchell, John L., Buffalo, N. Y. Hotel register.....	Apr. 16, 1867.
60, 773	Mitchell, Matthew, Crown Point, Ind. Hay elevator.....	Jan. 1, 1867.
67, 729	Mitchell, M. F., and W. B. Chapman, Waukau, Wis. Snap hook.....	Aug. 13, 1867.
70, 595	Mitchell, Robert, Great Britain. Cylinder of steam hammers.....	Nov. 5, 1867.
63, 925	Mitchell, S. A., Alstead Center, N. H. Apparatus for feeding liquids to evaporating pans or boilers.....	Apr. 16, 1867.
68, 225	Mitchell, S. J., St. Louis, Mo. Cotton bale tie.....	Aug. 27, 1867.
64, 295	Mitchell, Thomas and Thomas H., Albany, N. Y. Steam generator.....	May 21, 1867.
72, 666	Mitchell, Thomas A., Washington, D. C. Fastening for carriage curtains.....	Dec. 24, 1867.
	Mitchell, Timothy S. (See Porter, Benjamin F., assignor.)	
	Mitchell, Vance & Co. (See Vance, Samuel B. H., assignor.)	
	Mitchell, W. A., and John P. Verree. (See Verree & Mitchell.)	
	Mitchell, William A., et al. (See Pratt, Daniel R., assignor.)	
69, 013	Mittendorf, Henry, York, Pa. Apparatus for drawing and preserving malt liquor.....	Sept. 17, 1867.
2, 701	Mix, E. M., Westfield, N. Y. Rim lock..... (Design)	July 9, 1867.
2, 702	Same..... Manlius, N. Y. Rim lock..... (Design)	July 9, 1867.
	Modena Hat Company. (See Loewenberg, Henry, assignor)..... (Reissue.)	
	Moebius, C. E. L., and E. G. F. Arndt. (See Arndt & Moebius.)	
62, 966	Moegling, Christopher, Milwaukee, Wis. Grinding mill.....	Mar. 19, 1867.
73, 317	Same..... Ventilator for four mills.....	Dec. 17, 1867.
62, 354	Moeschler, E. L., Rochester, N. Y. Machine for gauging the size of loaves of bread.....	Feb. 26, 1867.
	Moesta, Henry, and Oswald Hesselbacher. (See Hesselbacher & Moesta.)	
	Moffatt, Samuel. (See Russell, Jacob, assignor.)	
63, 550	Moffitt, John R., Chelsea, Mass. Apparatus for molding and vulcanizing articles of rubber.....	Apr. 2, 1867.
66, 242	Mohr, John, Detroit, Mich. Railway chair.....	July 2, 1867.
71, 598	Mole, Charles, England. Boots and shoes.....	Dec. 10, 1867.
61, 851	Moller, William, New York, N. Y. Cooling animal coal.....	Feb. 5, 1867.
72, 524	Molineux, Edward L., New York, N. Y. Putting up blueing and other dyes.....	Dec. 24, 1867.
69, 774	Molyneux, James, assignor to the Bordentown Machine Company, Bordentown, N. J. Excavator.....	Jan. 1, 1867.
	Molyneux, J., and P. Bloomsburg, jr. (See Bloomsburg & Molyneux.)	
	Same..... same.	
67, 790	Momeny, George O., Locust Point, Ohio. Bob sleigh.....	Aug. 13, 1867.
70, 241	Money, William, assignor to self and Edgar McCloud, Paterson, N. J. Fastening for umbrella runners.....	Oct. 29, 1867.
70, 881	Monk, John H., Brooklyn, N. Y. Machine for tempering skirt wire. (Antedated November 2, 1867.)	Nov. 12, 1867.
2, 430	Monnier, Alfred, Philadelphia, Pa. Process of purifying metallic oxides. (Reissue.)	Jan. 1, 1867.
71, 631	Monnin, Dietz, France. Clock case.....	Dec. 3, 1867.
66, 866	Monroe, Benjamin B., Jackson, Mich. Wagon brake.....	July 16, 1867.
66, 867	Monroe, Frederic, Charlestown, Mass. Flour box.....	July 16, 1867.
66, 728	Monroe, Joshua, assignor to self and J. Gardner, New York, N. Y. Lacer for knee braces, &c.....	July 16, 1867.
	Monroe, L. M., and Samuel Porter. (See Wood, Merritt L., assignor.)	
69, 114	Monroe, Ossian C., Poultney, Vt. Machine for renovating and cleaning feathers.....	Sept. 24, 1867.
2, 771	Monse, H. J. and John T., Louisville, Ky. Trade mark..... (Design)	Aug. 27, 1867.
	Monson, Charles. (See Hotchkiss, Bennet, assignor.)	
71, 508	Montgomery, James, Croton, N. Y. Method of manufacturing tubular bodies.....	Nov. 26, 1867.
62, 355	Montgomery, J. A., Columbus, Ohio. Machine for sharpening fence pickets.....	Feb. 26, 1867.
67, 677	Montgomery, Lucius, Newstead, N. Y. Lime kiln.....	Aug. 13, 1867.
63, 677	Montgomery, Richard, New York, N. Y. Curved, corrugated steel plate.....	Mar. 19, 1867.
2, 668	Same..... Sheet metal beam..... (Reissue)	July 2, 1867.
	Same..... Same..... (Extension)	July 8, 1867.
72, 667	Montrose, James H., New York, N. Y. Hinged fishing rod.....	Dec. 24, 1867.
	Montross, C. A., et al. (See Hawley, B. R., assignor.)	
	Mood, L., and C. M. Clinton. (See Clinton & Mood.)	
	Same..... same.	
61, 632	Moody, George L., New York, N. Y. Annular petroleum burner for hot air, steam, and hydrocarbon fluids.....	Jan. 29, 1867.
62, 870	Moody, John, England. Floating battery or light-house.....	Mar. 12, 1867.
61, 753	Moody, Joseph G., New York, N. Y. Vessels and tanks for holding hydrocarbon and other liquids.....	Feb. 5, 1867.
	Moody, Joseph G., and Edward Richmond. (See Richmond & Moody.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 997	Moody, Parker, Gloucester, Mass. Hawse pipe	May 21, 1867.
68, 525	Moody, W. A., Montezuma, Iowa. Cultivator	Sept. 3, 1867.
	Moody, W. A., and T. J. Shipley. (See Shipley & Moody.)	
	Moors, T. J., et al. (See Holden, Moors, Stratton & Reynolds.)	
65, 684	Moon, Alexander, Maquoketa, Iowa. Pump	June 11, 1867.
72, 415	Mooney, George, Providence, R. I. Gas burner	Dec. 17, 1867.
69, 831	Mooney, Lawrence, Baltimore, Md. Kneeling case for churches	Oct. 15, 1867.
	Moore, A. A., and W. P. Ford. (See Ford & Moore.)	
72, 880	Moore, A. N., North Cohocton, N. Y. Plow	Dec. 31, 1867.
70, 242	Moore, Charles, and Arthur P. Emery, New York, N. Y. Rotary meter or motor ..	Oct. 29, 1867.
63, 417	Moore, Charles C., New York, N. Y. Blotter	Apr. 2, 1867.
70, 454	Moore, Cyrus, assignor to self and Abel Blakeslec, East Saginaw, Mich. Lubricating oil	Nov. 5, 1867.
69, 014	Moore, E. J., East Boston, Mass. Tube expander	Sept. 17, 1867.
	Moore, Frederic H. (See Billings, Joseph E., assignor.)	
69, 693	Moore, Freeman, and John A. Baker, Carrollton, Ohio. Car coupling	Oct. 8, 1867.
62, 557	Moore, George R., Lyons, Iowa. Damper for flat-iron heaters	Mar. 5, 1867.
63, 287	Same..... Heating stove	Mar. 26, 1867.
63, 926	Same..... Coal stove	Apr. 16, 1867.
66, 610	Same..... same	July 9, 1867.
67, 791	Same..... Illuminated door for heating stove	Aug. 13, 1867.
71, 262	Same..... Car coupling	Nov. 19, 1867.
71, 203	Same..... same	Nov. 19, 1867.
71, 632	Same..... Construction of corrugated sheet-metal boilers	Dec. 3, 1867.
71, 507	Moore, Gilpin, Moline, Ill. Plow	Nov. 26, 1867.
67, 131	Moore, Gilpin, assignor to Deere & Co., Moline, Ill. Die for making plow braces ..	July 23, 1867.
68, 102	Moore, Gilpin, assignor to self and Deere & Co., Moline, Ill. Plow	Aug. 27, 1867.
68, 643	Moore, Gilpin, assignor to John and C. H. Deere, S. H. Velle, and G. W. Vinton, Moline, Ill. Cultivator	Sept. 3, 1867.
	Moore, H. A., et al. (See Rhoads, C. W., assignor.)	
64, 533	Moore, H. C., Springfield, Mass. Peat machine. (Antedated March 26, 1867.)	May 7, 1867.
65, 685	Moore, H. C., assignor to self and Charles Robinson, Springfield, Mass. Skate	June 11, 1867.
65, 414	Moore, Henry F., and James S. Blaisdell, assignors to Henry F. Moore, Medford, Mass. Hanging wagon seats	June 4, 1867.
	Moore, Hugh K. (See Carey, Augustus C., assignor.)	
	Same..... same	
70, 104	Moore, James D., Grinnell, Iowa. Calender for watch cases	Oct. 22, 1867.
63, 739	Moore, J. H., Warren, Mass. Carriage	Apr. 9, 1867.
68, 451	Moore, Jasper P., Boston, Mass. Carriage jack	Sept. 3, 1867.
64, 439	Moore, John H., Binghamton, N. Y. Method of moving buildings	May 7, 1867.
70, 596	Same..... Apparatus for moving buildings	Nov. 5, 1867.
64, 550	Moore, Joseph, San Francisco, Cal. Friction pawl	May 7, 1867.
61, 555	Moore, Joseph H., Chicago, Ill. Ventilating apparatus for railroad cars	Jan. 29, 1867.
69, 357	Same..... Ventilator for railroad cars	Oct. 1, 1867.
72, 218	Moore, J. W., Cambridgeport, Mass. Slotting machine	Dec. 17, 1867.
70, 243	Moore, Josephus, Bushnell, Ill. Plow	Oct. 29, 1867.
67, 335	Moore, J. K., Millville, N. J. Fertilizer	July 30, 1867.
66, 034	Moore, S. W., Albion, N. Y. Bean puller	June 25, 1867.
62, 871	Moore, Thomas B., Bridesburg, Pa. Bed bottom	Mar. 12, 1867.
60, 775	Moore, Thomas C., assignor to self and William A. Fallis, Wilmington, Ohio. Smoothing iron	Jan. 1, 1867.
70, 737	Moore, William B., Winchester, Mo. Preservative backing for leather	Nov. 12, 1867.
	Moorhead, John M. (See Shepard, William A., assignor.)	
64, 243	Moorhead, Clark, and Isaac Grier, Lewiston Ill. Washing machine	April 30, 1867.
	Moorhouse, William, and Adolph Rock. (See Rock & Moorhouse.)	
	Moos, John. (See Gans, Alois, assignor.)	
70, 597	Mora, Antonio L., New York, N. Y. Hinge	Nov. 5, 1867.
66, 611	Moraban, Bernard, Brooklyn, N. Y. Clothes broom or whisk	July 9, 1867.
66, 612	Same..... Brush holder	July 9, 1867.
2, 730	Same..... same	(Reissue)
62, 356	Moran, Francis E., Milburn, Ill. Cotton planter	Aug. 20, 1867.
72, 525	Moran, R. W., Chicago, Ill. Corn planter	Feb. 26, 1867.
	Morange, I. K. (See Kingsland, C., assignor.)	Dec. 24, 1867.
61, 852	Moravek, August, Hungary. Corn harvester	Feb. 5, 1867.
	More, Charles C. (See Harrington, E. F. and J., assignors)	(Reissue.)
62, 357	More, E. A., St. Louis, Mo. Cover for oil cans. (Antedated Feb. 15, 1867.)	Feb. 26, 1867.
62, 667	Morhouse, Levi, Baron, Wis. Bag tie	Mar. 5, 1867.
66, 243	Morey, J. G., and W. S. Bright. (See Bright & Morey.)	
	Morrit, Clarence, Baltimore, Md. Condenser for stills	July 2, 1867.
	Morford, W. H., et al. (See Goodes, E. A., assignor.)	
	Same..... same	
67, 336	Morgan, Curtis C., Auburn, N. Y. Knife cleaner	July 30, 1867.
67, 337	Morgan, David G., Jordan, N. Y. Window curtain	July 30, 1867.
2, 677	Morgan, Dayton, Chillicothe, Ohio. Soldier's monument	June 18, 1867.
2, 688	Morgan, Elisha, Springfield, Mass. Envelope	June 23, 1867.
68, 868	Same..... Mucilage stand	July 16, 1867.
63, 927	Morgan, jr., John, Wheeling, West Va. Bolt and rivet machine	Apr. 16, 1867.
64, 896	Same..... same	May 21, 1867.
66, 869	Morgan, John E., Deerfield, N. Y. Harrow	July 16, 1867.
70, 598	Morgan, John F., assignor to Cornelius S. Hurlbut, Boston, Mass. Lunch box	Nov. 5, 1867.
63, 806	Morgan, Joseph, Springfield, Mass. Hay loader	Apr. 16, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Morgan, N., and W. J. Garland. (See Garland & Morgan.)	
72, 526	Morgan, W., and T. Jones. (See Jones and Morgan.) Morgenstern, William, assignor to self and Charles Herold, Hartford, Conn. Breech-loading fire-arms.	Dec. 24, 1867.
66, 377	Moriarty, M., and C. E. Mitchell. (See Mitchell & Moriarty.) Morillon, Theodule, and Ursin Naquin, Lafourche Parish, La. Apparatus for treating cane juice with sulphurous acid gas.	July 2, 1867.
62, 149	Morley, Isaac, Pittsburg, Pa. Brick machine.	Feb. 19, 1867.
68, 644	Morrell, James A., Chicago, Ill. Hinge. (Antedated Aug. 26, 1867)	Sept. 10, 1867.
70, 244	Same.....Pump	Oct. 29, 1867.
70, 738	Same.....Machine for setting up staves in barrels. (Antedated Oct. 16, 1867).	Nov. 12, 1867.
68, 526	Morriell, Robert M., Plymouth, Ind. Clothes dryer.	Sept. 3, 1867.
63, 807	Morrill, Charles, New York, N. Y. Pendulum level and sight combined.	Apr. 16, 1867.
65, 551	Morris, Charles, assignor to self, George Richards, and Stanley C. Hylton, Stockton Township, N. J. Marking attachment for plows.	Apr. 2, 1867.
60, 776	Morris, David, Bartlett, Ohio. Rotary harrow.	Jan. 1, 1867.
60, 924	Morris, jr., Eli, New Haven, Conn. Handle for saw.	Jan. 1, 1867.
69, 928	Morris, E. F., and R. J. Green, Cicero, N. Y. Combined hoe and potato digger.	Oct. 15, 1867.
2, 443	Morris, George L., Taunton, Mass. Nicking screw heads. (Reissue)	Jan. 1, 1867.
60, 925	Morris, George M., Cohoes, N. Y. Lubricating device.	Jan. 1, 1867.
64, 130	Same.....Oiling device for journal boxes.	Apr. 23, 1867.
62, 054	Morris, Jacob F., assignor to self and Calvin Lockrow, Lansingburg, N. Y. Device for lubricating the axles of vehicles.	Feb. 12, 1867.
67, 064	Morris, James P., Bloomington, Ill. Car coupling.	July 23, 1867.
	Morris, Matthias K., and Andrew Roysce. (See Roysce & Morris.)	
65, 415	Morris, Thomas, McGregor, Iowa. Fence.	June 4, 1867.
70, 455	Morris, Thomas, assignor to self, John Morris, and Thomas C. Knowles, England. Compensating forge crane.	Nov. 5, 1867.
63, 651	Morris, William, Elkhart City, Ill. Animal trap.	Apr. 9, 1867.
	Morris, William, and Lorenzo B. Hayes. (See Hayes & Morris.)	
67, 065	Morris, William H., Cold Spring, N. Y. Cartridge box.	July 23, 1867.
	Morrisc, J., et al. (See Brown, Burnham & Morrisc.)	
	Morrison, C. W. (See Thoraburg, Harris W., assignor.)	
70, 245	Morrison David H., Dayton, Ohio. Iron bridge.	Oct. 29, 1867.
63, 552	Morrison, Duncan, Portland, Me. Cane, umbrella, dagger, and camp-stool combined.	Apr. 2, 1867.
71, 506	Same.....Apparatus for converting rotary into reciprocating motion.	Nov. 26, 1867.
72, 881	Morrison, Duncan, assignor to self and William Hammond, Portland, Me. Motor for carriages.	Dec. 31, 1867.
	Morrison, G. L., et al. (See Kennel, Smith & Morrison.)	
62, 434	Morrison, H., Steubenville, Ohio. Foot rest and kneeling board.	Feb. 26, 1867.
	Morrison, John A., et al. (See Stace & Baker, assignors.)	
69, 467	Morrison, W. B., Muskegon, Mich. Dough kneader.	Oct. 1, 1867.
	Morrissey, John. (See Turner, Edward A., assignor.)	
70, 456	Morse, Andrew J., Boston, Mass. Hose coupling.	Nov. 5, 1867.
	Morse, E. (See Stebbins, Darius, assignor.)	
63, 808	Morse, E. L., St. Louis, Mo. Compress for cotton, &c.	Apr. 16, 1867.
64, 024	Morse, F. B., New Haven, Conn. Joint for carriage top braces.	Apr. 23, 1867.
65, 761	Same.....Joint for carriage braces. (Antedated May 21, 1867).	June 11, 1867.
65, 762	Same.....Method of manufacturing shackles for carriage thills.	June 11, 1867.
67, 208	Same.....Whiffletree coupler. (Antedated June 7, 1867)	July 30, 1867.
68, 570	Same.....Whiffletree iron.	Sept. 3, 1867.
	Morse, F. B., and G. Gregory. (See Gregory & Morse.)	
64, 690	Morse, George Frederick, Portland, Maine. Throttle valve.	May 14, 1867.
62, 495	Morse, G. Livingston, Harrison, N. J. Croqueterie.	Feb. 26, 1867.
63, 928	Morse, H. L., assignor to S. A. Morse, New Bedford, Mass. Turning lathe.	Apr. 16, 1867.
	Morse, James et al. (See Sykes, Chester W., assignor.)	
72, 750	Morse, John F., Oshkosh, Wis. Steam engine valve.	Dec. 31, 1867.
70, 599	Morse, John H., Peoria, Ill. Permutation lock for doors, &c. Antedated Oct. 30, 1867	Nov. 5, 1867.
69, 468	Morse, J. Madison, Sandwich, Ill. Cultivator.	Oct. 1, 1867.
60, 358	Morse, Monroe and Charles H., Franklin, Mass. Machine for pressing hats.	Oct. 1, 1867.
	Morse, Stephen, Springfield, Mass. Iron car brake. (Extension)	Aug. 19, 1867.
63, 929	Morse, S. A., New Bedford, Mass. Clamp.	Apr. 16, 1867.
66, 613	Morse, S. E. and G. L., Harrison, N. J. Submarine telegraph cable.	July 9, 1867.
68, 304	Morse, William, Boston, Mass. Line holder.	Aug. 27, 1867.
64, 440	Morse, William A., Philadelphia, Pa. Stair rod.	May 7, 1867.
67, 899	Morse, William A., assignor through mesne assignments to self and John G. Powell, Philadelphia, Pa. Pen holder and eraser.	Aug. 20, 1867.
62, 406	Morse, W. A., and J. G. Powell, Philadelphia, Pa. Combined eraser and pen handle. Same. (See Powell & Morse.)	Feb. 26, 1867.
71, 041	Morsell, J. Ferguson, Stamford, Conn. Spring buckle.	Nov. 19, 1867.
67, 338	Morse, J., Philadelphia, Pa. Square.	July 30, 1867.
61, 754	Mortimer, Samuel, assignor to Charles W. Gilbert, Leicester, Mass. Mechanism for operating the picker staves of looms.	Feb. 5, 1867.
62, 872	Mortou, Frank, Kingston, Mass. Strainer.	Mar. 12, 1867.
68, 226	Morton, H. F., West Sumner, Maine. Sleigh brake.	Aug. 27, 1867.
63, 078	Morton, John, Winchester, Ind. Railroad track lifter.	Mar. 19, 1867.
63, 418	Same.....Water tank for railroads.	Apr. 2, 1867.
72, 527	Same.....Railroad track lifter. (Antedated Dec. 7, 1867).	Dec. 24, 1867.
65, 416	Morton, M. A. and D. F., Angola, N. Y. Fruit gatherer.	June 4, 1867.

List of patents of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 257	Morton, William F., New Haven, Conn. Carriage wheel	May 23, 1867.
	Mortou, William H., and Charles Scott. (See Scott & Morton.)	
66, 102	Morvan, Arthur G., South Bergen, N. J. Making photographic transfers	June 25, 1867.
61, 444	Moseley, Charles B., and Lucius L. Woolley, Medford, Mass. Copy holder	Jan. 22, 1867.
	Moseley, H. N. (See Guptail, Daniel, assignor.)	
2, 849	Moseley, William F., Brooklyn, N. Y. Paper collar	Dec. 17, 1867.
65, 932	Moser, Benjamin, and David Yellott, Brooklyn, N. Y. Stud fastening	June 18, 1867.
	Moser, George E., and J. P. Hoagland. (See Hoagland & Moser.)	
67, 339	Moser, Ignatz, Cincinnati, Ohio. Wardrobe or closet	July 30, 1867.
71, 318	Moser, William C., East Nantmeal township, Pa. Butter worker	Nov. 26, 1867.
	Moses, Luther T., and H. C. Hart. (See Hart & Blakeslee, assignors.)	
69, 359	Mosher, Henry W., assignor to self and Edward C. Dudley, Aurora, Ill. Cut-off for water spouts	Oct. 1, 1867.
	Mosher, Isaac H., and John J. Harris. (See Harris & Mosher.)	
	Mosher, W. W., et al. (See Bailey, Alonzo E., assignor.)	
72, 882	Mosman, D. F., Cambridge, Mass. Steam-engine governor	Dec. 31, 1867.
64, 788	Mosman, George, Chicopee, Mass. Carpet stretcher	May 14, 1867.
64, 897	Moss, George A., New York, N. Y. Box for blueing and other powders	May 21, 1867.
	Moss, J. A. (See Purviance, A. J., assignor.)	
70, 105	Moss, Robert T., Cambridge, Ohio. Buckle attachment	Oct. 22, 1867.
	Moss, Samuel. (See Col., Gilbert M., assignor)	(Reissue.)
72, 883	Moitch, M. C., assignor to self and W. F. Smirall, Covington, Ky. Rotary brick machine	Dec. 31, 1867.
67, 998	Mott, Alfred H., Daniel Wyner, and Lawrence Brink, Lockport, N. Y. Roofing composition	Aug. 23, 1867.
65, 763	Mott, Gershom, Big Run, Ohio. Water elevator	June 11, 1867.
69, 575	Mott, John, Danville, Cal. Implement or wrench	Oct. 8, 1867.
2, 619	Mott, J. L., Mott Haven, N. Y. Wash stand	Apr. 16, 1867.
2, 620	Same	Apr. 16, 1867.
64, 555	Mougeot, Pierre B., France. Manufacture of soap	May 7, 1867.
60, 614	Moulton, E. S., Plymouth, Mich. Bag holder	July 9, 1867.
68, 305	Moulton, Gilman, Cambridge, Mass. Bill holder	Aug. 27, 1867.
70, 246	Moulton, James G., Boston, Mass. Bootjack	Oct. 29, 1867.
61, 232	Moulton, Stephen, Hartford, Conn. Sewing-machine shuttle	Jan. 15, 1867.
66, 244	Same	July 2, 1867.
66, 035	Mowry, De Witt C., Milford, Mass. Boot crimper	June 25, 1867.
2, 826	Same	Dec. 31, 1867.
70, 106	Mowry, George L., Scott, N. Y. Sawing machine	Oct. 22, 1867.
70, 600	Moyer, Charles P., Womelsdorf, Pa. Instrument for administering balls to horses	Nov. 5, 1867.
68, 894	Moyer, John M., Pittsburg, Pa. Brick machine	Sept. 17, 1867.
72, 528	Mozart, Don J., Newark, N. J. Watch	Dec. 24, 1867.
72, 318	Mozier, William R., Higginsville, Ill. Seed planter	Dec. 17, 1867.
71, 505	Muckle, Edward A., Philadelphia, Pa. Magic watch case	Nov. 26, 1867.
	Mudge, C., and L. E. Lee. (See Lee & Mudge.)	
71, 504	Mudge, Lander, Springfield, Ohio. Bed bottom	Nov. 26, 1867.
	Mudgett, William T. (See Bingham, Albert, assignor.)	
	Muehle, Bernard H. (See Devereaux, Robert, assignor.)	
	Mueller & Meyer. (See Schiffer, John, assignor.)	
64, 556	Mulchahey, John, assignor to self and Charles Mulchahey, Springfield, Mass. Belt punch	May 7, 1867.
71, 319	Mullally, William, Boston, Mass. Top-spinning sword	Nov. 26, 1867.
70, 247	Mullally, William, assignor to Howard Tilden, Boston, Mass. Lamp	Oct. 29, 1867.
62, 055	Mullee, William, Franklin, Pa. Process of preparing India-rubber	Feb. 12, 1867.
67, 792	Muller, Charles C. Wolfram, New Orleans, La. Breech-loading ordnance	Aug. 13, 1867.
	Muller, Eberhardt, and Alexander Mackey. (See Mackey & Muller.)	
2, 596	Muller, John M., Cobleskill, N. Y. Tanning	May 7, 1867.
71, 224	Muller, Joseph, and Friederich Kaiser, Philadelphia, Pa. Flutina melodeon	Nov. 19, 1867.
2, 562	Muller, Nicholas, New York, N. Y. Clock case	Jan. 22, 1867.
2, 563	Same	Jan. 22, 1867.
	Mulligan, David, and Samuel W. Meredith. (See Meredith & Mulligan.)	
	Mulligan, John, and John H. Hare. (See Hitecock, Robert, assignor.)	
61, 556	Mulloy, Nathan P., Waltham, Mass. Knife cleaner. (Antedated Jan. 19, 1867)	Jan. 29, 1867.
64, 441	Mulvey, John B., Versailles, Ky. Window	May 7, 1867.
69, 360	Mumber, W. H., and E. E. Bean. (See Bean & Mumber.)	
	Mummer, John, Middletown, Ohio. Water wheel. (Antedated Sept. 23, 1867)	Oct. 1, 1867.
	Mund, H., and G. M. Miller. (See Miller & Mund.)	
62, 873	Munger, Alfred S., Chicopee Falls, Mass. Breech-loading fire-arm	Mar. 12, 1867.
71, 042	Munger, D. T., Waterbury, Conn. Machine for making ball chains	Nov. 19, 1867.
61, 948	Munger, George N., New Haven, Conn. Dumping wagon	Feb. 12, 1867.
65, 626	Munger, J. S., Olean, N. Y. Carpet-stretcher and holder	June 11, 1867.
66, 870	Munger, Theodore, Cedar Falls, Iowa. Gate	July 16, 1867.
71, 573	Same	Nov. 26, 1867.
62, 967	Munger, Wallace T., assignor to Thomas Kennedy, Branford, Conn. Attaching door knobs to their shanks	Mar. 19, 1867.
62, 968	Munger, Wallace T., assignor to the Branford Lock Works, Branford, Conn. Adjustable escutcheon for night latches	Mar. 19, 1867.
71, 502	Munger, Wallace T., assignor to Thomas Kennedy, Branford, Conn. Attaching knobs to the spindles of door locks	Nov. 26, 1867.
61, 853	Munn, W. A., Milwaukee, Wis. Mode of attaching spouts to sheet-metal vessels	Feb. 5, 1867.
	Munukhuysen, Howard. (See Neal & Startzman, assignors.)	
	Munroe, Alexander, and Isaac Osgood. (See Osgood & Monroe.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 553	Munroe, Ansil W., Brooklyn, N. Y., and Isaac C., Rahway, N. J. Process of enameling hard gutta percha, &c.	Apr. 2, 1867.
63, 079	Munroe, John L., Burlington, Mass. Hay rake.	Mar. 19, 1867.
	Munson, Edmund, Utica, N. Y. Eye for mill stones. (Extension).	July 18, 1867.
	Munson, E. S., et al. (See Rice, William B., assignor.)	
63, 419	Munson, Francis, Chicago, Ill. Filing and recording bonds, &c.	Apr. 2, 1867.
61, 087	Munson, Francis, assignor to self and J. W. Layman, Cincinnati, Ohio. Return grace hoop.	
61, 854	Munson, Ira, Wayne, Michigan. Scraper.	Jan. 8, 1867.
66, 164	Munson, John D., Tyre, N. Y. Sheep rack.	Feb. 5, 1867.
	Munson, Norman C. (See Stevens, Levi, assignor.)	June 25, 1867.
	Munson, Perry, and J. M. Brooks. (See Brooks & Munson.)	
67, 565	Munson; Philo H., assignor to self and Elias Brecht, Franklin township, Pa. Washing machine.	Aug. 6, 1867.
72, 070	Munson, William C., deceased, by Hannah Munson, administratrix, Rockford, Ill. Automatic table for teaching.	Dec. 10, 1867.
	Murch, Harvey, Lebanon, N. H. Mop head. (Extension).	May 23, 1867.
71, 899	Murden, Alfred, and Henry L. Cooper, assignors to selves and Francis Warner, New Haven, Conn. Water cooler and refrigerator.	Dec. 10, 1867.
72, 071	Murdock, John G., Cincinnati, Ohio. Hydrant.	Dec. 10, 1867.
61, 557	Murphy, John, Brandon, Vt. Composition for polishing stoves.	Jan. 29, 1867.
66, 871	Murphy, John, Albany Ga. Cultivator.	July 16, 1867.
2, 855	Murphy, John, New York, N. Y. Pistol barrel. (Design).	Dec. 31, 1867.
	Murphy, John, and Martin Divincy. (See Black, Robert, assignor.)	
68, 527	Murphy, William H., Versailles, Ohio. Padlock, &c.	Sept. 3, 1867.
64, 131	Murray, Felix, Pittsburg, Pa. Apparatus for rolling clevises and plow shares.	Apr. 23, 1867.
62, 284	Murray, George, Cambridgeport, Mass. Stilts.	Feb. 19, 1867.
72, 529	Murray, George, assignor to self and John C. Chapman, Cambridgeport, Mass. Valve for steam and other engines.	Dec. 24, 1867.
69, 361	Murray, J. Howard, assignor to self, T. S. Murray, and A. Jameson, Trenton, N. J. Vise.	Oct. 1, 1867.
66, 514	Murray, John N., Chicago, Ill. Printers' chase.	July 29, 1867.
61, 445	Murray, Michael C., West Acton, Mass. Railway chair.	Jan. 22, 1867.
	Murray, S. W., and B. P. Lamason. (See Lamason & Murray.)	
	Murray, T. S. and J. H. (See Jameson, A., assignor.)	
66, 615	Murray, Thomas W., New York, N. Y. Steering apparatus.	July 9, 1867.
67, 066	Same..... Rudder.	July 3, 1867.
68, 452	Same..... Car-brake and starting apparatus.	Sept. 3, 1867.
71, 043	Murray, William, Chicago, Ill. Hoisting machine.	Nov. 19, 1867.
	Murray, W. H. and G. B. Durkee. (See Durkee & Murray.)	
62, 056	Murray, William M., Tiffin, Ohio. Machine for dressing stone.	Feb. 12, 1867.
62, 874	Murrill, James H., Baltimore, Md. Valve gear for oscillating engines.	Mar. 12, 1867.
70, 248	Muss, John, Quincy, Ill. Automatic valved and filtering water leader.	Oct. 29, 1867.
64, 998	Musselman, Christian C., Somerset, Pa. Combined press for cheese and other purposes.	May 21, 1867.
	Musselman, H. A. (See Kirk, Blanchard V., assignor.)	
2, 549	Musselman, Henry D., Lancaster, Pa. Bottom of a frying pan. (Design).	Jan. 15, 1867.
72, 072	Musson, R. B., Clampaign, Ill. Cleaner for lamp chimney.	Dec. 10, 1867.
63, 170	Myer, Charles F., Troy, N. Y. Ash sifter.	Mar. 26, 1867.
62, 769	Myers, D. C., South Bend, Ind. Harrow.	Mar. 12, 1867.
61, 755	Myer, M. A., Decatur, Ill. Boot and shoe blacking machine.	Feb. 5, 1867.
71, 403	Myers, Edward, assignor to Lane & Bodley, Cincinnati, Ohio. Planing machine.	Nov. 26, 1867.
64, 132	Myers, George H., Philadelphia, Pa. Steam engine slide valve.	Apr. 23, 1867.
61, 756	Myers, Henry M., Allegheny, Pa. Mode of constructing shovels.	Feb. 5, 1867.
64, 691	Same..... Manufacture of shovels.	May 14, 1867.
61, 233	Myers, Jeremiah, Dorchester, Mass. Glassware press.	Jan. 15, 1867.
71, 501	Myers, John F., Noah and Worley Leas, Kokomo, Ind. Furnace for steam boilers.	Nov. 26, 1867.
67, 566	Myers, John M., Louisville, Ky. Breast collar and spreader for double harness.	Aug. 6, 1867.
67, 132	Myers, Joseph, Camden, Pa. Sleigh brake.	July 23, 1867.
64, 348	Myers, J. W., Lyons, Iowa. Churn.	Apr. 30, 1867.
61, 234	Myers, Myer and Maurice, and William Hill, England. Apparatus for the use of smokers.	Jan. 15, 1867.
61, 235	Myers, Peter, Newton, Ill. Carriage thill coupling.	Jan. 15, 1867.
64, 557	Myers, P. M., J. W. Walsler, and John Spangler, Canton, Ohio. Beehive. (Ante-dated November 7, 1866).	May 7, 1867.
63, 740	Myers, S. L., and George Willison, Massillon, Ohio. Machine for polishing wagon spokes.	Apr. 9, 1867.
	Myers, William P., et al. (See Volkmar, Charles, jr., assignor.)	
65, 258	Myler, William, assignor to George W. Johnson, Wheeling, West Va. Roofing material.	May 28, 1867.
	Mystic River Hardware Manufacturing Co. (See Watrous, Joseph, jr., assignor.)	
71, 500	Nace, Warren J., assignor to self and George L. Hafer, Tippecanoe City, Ohio. Device for cleaning stove pipes.	Nov. 26, 1867.
62, 770	Nagle, Samuel R. (See Early, Sallie Ann, assignor.)	
	Nagele, John, Duncansville, Pa. Manufacture of artificial stone.	Mar. 12, 1867.
	Naquin, Ursin, and Theodule Morillon. (See Morillon & Naquin.)	
69, 469	Naramore, E. M., assignor to self and W. M. Naramore, North Underhill, Vt. Thill coupling.	Oct. 1, 1867.
69, 115	Nard, Nils, Havre De Grace, Md. Trunk lock.	Sept. 24, 1867.
	Nash, J. O. and J. E., et al. (See Tirrell, J. P., assignor.)	
61, 855	Nash, William, New Britain, Conn. Saw set.	Feb. 5, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 349	Nash, William, Corning, N. Y. Hay rack. Same. (See Lovv, John, assignor.)	Apr. 30, 1867.
68, 103	Nash, William H., Reading, Mass. Frame for window screens.	Aug. 27, 1867.
63, 930	Nason, Edward, William, and Oliver K., Orneville, Maine. Draught attachment for vehicles.	Apr. 16, 1867.
68, 306	Nason, J., and J. F. Wilson, Boston, Mass. Gate for railroad crossings. Nason, Joseph, & Co. (See Saunders, David, assignor.)	Aug. 27, 1867.
61, 236	Natcher, J. L., and E. Kohn. (See Kohn & Natcher.)	Jan. 15, 1867.
65, 359	Nathan, A. F., New Haven, Conn. Skirt elevator.	May 28, 1867.
70, 350	Nathan, Joseph, Washington, D. C. Bottle stopper. Same. Egg holder.	Oct. 29, 1867.
72, 884	National Screw Company. (See Ayres, J. A., assignor.) Same. same.	Dec. 31, 1867.
2, 550	Naves, Benjamin H., Philadelphia, Pa. Pump piston. Naylor, Francis, et al. (See Lewis, Price & Naylor). (Reissue.)	Jan. 15, 1867.
71, 330	Naylor, Jos., Newark, N. J. Copying press. (Antedated Dec. 18, 1866). (Design.)	Nov. 26, 1867.
67, 662	Neagle, Louis F., Philadelphia, Pa. Adjustable mirror.	Aug. 13, 1867.
62, 558	Neal, D. B., Mount Gilead, Ohio. Apparatus for defeating and evaporating sorghum juice. Neal, Daniel B., assignor to self and Kingsland, Allen & Clark, Mount Gilead, Ohio. Apparatus for defeating sorghum juice and other liquids. (Antedated February 17, 1867)	Mar. 5, 1867.
63, 283	Neal, D. S., assignor to self and J. B. Blood, Lynn, Mass. Farm gate.	Mar. 26, 1867.
65, 417	Neal, John, Sheboygan, Wis. Churn.	June 4, 1867.
66, 872	Neal, J. W., Big Lick, Va. Cackle and garlic separator.	July 16, 1867.
66, 165	Neal, J. W., and W. H. Starzman, assignors through mesne assignments to J. W. Neal and Howard Munnikhusen, Big Lick, Va. Weighing apparatus.	June 25, 1867.
64, 244	Neale, Geo. F., and Louis Amede, South Boston, Mass. Glass annealing apparatus.	Apr. 30, 1867.
65, 687	Neale, James, assignor to self and Mathew T. Higgins, Trenton, N. J. Saw. Nealy, jr., James. (See Rollins, L. F., assignor.)	June 11, 1867.
66, 729	Nebinger, George R., Lewisberry, Pa. Hinge. (Antedated July 5, 1867)	July 16, 1867.
65, 500	Needham, Daniel, assignor to self, Jesse A. Locke, and C. M. Hovey, Groton, Mass. Apparatus for charging soda fountains.	June 4, 1867.
64, 999	Needham, Joseph and George Henry, assignors to James Graham Grey, England. Breech-loading fire-arm.	May 21, 1867.
67, 340	Needham, Richard, England. Steam boiler. (Patented in England Dec. 26, 1861) ...	July 30, 1867.
65, 108	Neely, J., and Simeon Allen, Buckingham county, Va. Manufacture of alcoholic spirits.	May 28, 1867.
62, 668	Neemes, William, Pittsburg, Pa. Molding pulley.	Mar. 5, 1867.
64, 350	Neer, Adam, Bellefontaine, Ohio. Gravel wagon.	Apr. 30, 1867.
61, 237	Neer, Charles, Brooklyn, N. Y. Dynamometer.	Jan. 15, 1867.
64, 692	Neff, jr., John, Pultney, N. Y. Pruning shears.	May 14, 1867.
68, 307	Neff, Peter, Cincinnati, Ohio. Table knife. Negbaur, Louis. (See Reay, George H., assignor.)	Aug. 27, 1867.
66, 730	Neikirk, D. F., Republic, Ohio. Horse hay fork.	July 16, 1867.
70, 882	Neilson, Allan, Allegheny, Pa. Washing machine.	Nov. 12, 1867.
65, 933	Neilson, George, Boston, Mass. Lamp burner.	June 18, 1867.
72, 219	Same. Lamp.	Dec. 17, 1867.
62, 057	Nellis, John H., Richmondville, N. Y. Attaching bits to braces.	Feb. 12, 1867.
65, 674	Nelson, Charles, assignor to self and Louis Klueber, New York, N. Y. Toy torpedo and explosive compound.	June 11, 1867.
72, 668	Nelson, Charles J., Rockford, Ill. Rocking chair.	Dec. 24, 1867.
64, 442	Nelson, D. B., Elmira, N. Y. Shovel.	May 7, 1867.
62, 669	Nelson, Franklin, Wyandotte, Mich. Straightening railroad rails.	Mar. 5, 1867.
70, 107	Nelson, G. A., Chicago, Ill. Card rack.	Oct. 22, 1867.
63, 741	Nelson, Jacob K., Green Point, N. Y. Screw cutter. Nelson, John, and Jacob Behel. (See Behel & Nelson.)	Apr. 9, 1867.
65, 000	Nelson, Mortimer, New York, N. Y. Machine for making type molds.	May 21, 1867.
65, 511	Same. Machinery for forming molds for stereotype or electrotype plates.	June 4, 1867.
62, 058	Nelson, William, Boston, Mass. Construction of papier maché matrices for stereotype plates. Nelson, W. H., and Leman Wiard. (See Wiard & Nelson.)	Feb. 12, 1867.
62, 969	Nesbitt, John, assignor to self and Levi B. Tyng, Northfield, Vt. Steam engine slide valve.	Mar. 19, 1867.
72, 885	Nester, John, Portland, Oregon. Scribe hook for weather-boarding.	Dec. 31, 1867.
68, 453	Nettleton, John L., New Haven, Conn. Tool.	Sept. 3, 1867.
69, 015	Neubert, F. W., Pittsburg, Pa. Truss.	Sept. 10, 1867.
2, 618	Neuburg, Joseph and Ignaz, assignors to Ignaz Neuburg, New York, N. Y. Cooking apparatus and refrigerator. (Reissue) ..	May 21, 1867.
62, 358	Neudecker, Gabriel, St. Louis, Mo. Removing tobacco plugs from molds.	Feb. 26, 1867.
70, 012	Same. Process of preparing tobacco.	Oct. 22, 1867.
61, 058	Neumann, Casar, New York, N. Y. Hoop skirt.	Jan. 8, 1867.
62, 059	Neumann, Heilmann, New York, N. Y. Buckle. Neumann, Joseph, and Charles Wilhelm. (See Wilhelm & Neumann). (Design.) Same. same. (Design.)	Feb. 12, 1867.
62, 670	Neumann, Marcus, New York, N. Y. Apparatus for distilling and rectifying spirituous liquors.	Mar. 5, 1867.
66, 378	Neumeyer, Gustav Adolph, Germany. Powder for fire-arms and for blasting.	July 2, 1867.
63, 554	Neumeyer, Henry, Millerstown, Pa. Spiral hay fork.	Apr. 2, 1867.
71, 779	Neveil, George J., Philadelphia, Pa. Retaining and releasing hook.	Dec. 3, 1867.
68, 645	Nevens, Robert B., assignor to self and Sulliman Bushee, Lowell, Mass. Bed bottom.	Sept. 10, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 778	Neve, Gold, Foster, and David Brosey, Pittsburg, Pa. Shaft coupling.....	Sept. 10, 1867.
69, 362	Nevins, Webster, Falmouth, Maine. Axle.....	Oct. 1, 1867.
70, 249	New, J. I., and C. H. Doty. (See Doty, A. E., assignor.) Newberry, William, Clarksville, Mo. Churn..... Newbould, John A. (See Delkescamp, Adolph, assignor.) Newbro, S. D. (See Richter, William, assignor.)	Oct. 29, 1867.
69, 470	Newbrough, J. B., and E. Fagen, New York, N. Y. Composition for imitation rubber.	Oct. 31, 1867.
70, 250	Same..... Mode of treating caoutchouc, gutta-percha, and similar gums.....	Oct. 29, 1867.
65, 934	Newby, William H., Seymour, Ind. Tanning compound.....	June 18, 1867.
71, 633	Newcomb, Albert C., and Benjamin Lyon, assignors to selves and Samuel W. Porter, Springfield, Mass. Cartridge box..... Newcomb, G. S., & Co. (See Porter, D'Arcy, assignor.)	Dec. 3, 1867.
65, 688	Newcomb, Rachel, South Brooklyn, N. Y. Liniment.....	June 11, 1867.
66, 245	Newell, Amos, New York, N. Y. Revolving harrow and cultivator.....	July 2, 1867.
72, 350	Newell, Augustus W., Bradford, Pa. Steam generator.....	Dec. 24, 1867.
62, 671	Newell, Lewis T., Springville, N. Y. Corn sheller..... Newell, Lucian D., and Moses R. Greeley. (See La Riviere, F. C., assignor.)	Mar. 5, 1867.
60, 777	Newell, Thomas, Oskaloosa, Iowa. Stovepipe thimble..... New England Portable Gas Works Co. (See Gilbert, Barker & Ives, assignors.) New England Vulcanite Hide Co. (See Towers, Wm. H., assignor)..... (Reissue.)	Jan. 1, 1867.
72, 076	Newhall, Erastus, Lynn, Mass. Boot and shoe heel. (Antedated Dec. 3, 1867.)	Dec. 10, 1867.
66, 166	Newhall, John F., Waltham, Mass. Needle case.....	June 25, 1867.
66, 246	Newham, Joseph, Kent, Ohio. Railway rail coupling.....	July 2, 1867.
70, 351	Newhart, Jacob, Terre Haute, Ind. Plow clevis..... New Haven Folding Chair Company. (See Dann, Isaac N., assignor.)	Oct. 29, 1867.
66, 986	Newlan, L. J., assignor to self and Stephen F. Mack, Barton, N. Y. Bolt cutter.....	July 23, 1867.
62, 672	Newland, Mark, Dayton, Ohio. Washing machine.....	Mar. 5, 1867.
68, 104	Newlon, Edward, Monmouth, Ill. Cultivator.....	Aug. 27, 1867.
64, 245	Newman, jr., A. B., Watkins, N. Y. Box for propagating plants.....	Apr. 30, 1867.
64, 558	Newman, Carlton, San Francisco, Cal. Pot for melting glass.....	May 7, 1867.
67, 567	Newman, John J., assignor to Erwin Wilson & Co., Middletown, Ohio. Clothes dryer.....	Aug. 6, 1867.
68, 308	Newton, Chauncey W., et al. (See Welsh, J. A., assignor.) Newton, Daniel, Southington, Conn. Hitching post for animals.....	Aug. 27, 1867.
71, 404	Newton, Earl C., Batavia, Ill. Carriage shaft and pole coupling.....	Nov. 26, 1867.
61, 446	Newton, Henry E., assignor to self and Wm. A. Newton, Manchester, N. H. Broom.....	Jan. 22, 1867.
63, 680	Newton, Isaac H., Oakfield, Mich. Saw mill.....	Mar. 19, 1867.
2, 728	Newton, Jonah, assignor through mesne assignments to Henry Diston and James E. Atwood, New York, N. Y. Method of securing cutters to rotary disks. (Reissue.)	Aug. 13, 1867.
66, 873	Newton, J. M., Norwalk, Conn. Door spring..... Newton, William A. (See Dexter, John A., assignor.) New York Quartz Company. (See Van Derburgh, Geo. E., assignor)..... (Reissue.) New York Rubber Company. (See Alden, H. A., assignor.) Same..... same. Same..... same.	July 16, 1867.
2, 590	New York Submarine Company. (See McKeen, Thomas Cato, assignor.) Ney, Elemir J., assignor to the Lowell Manufacturing Company, Lowell, Mass. Carpet pattern..... (Design)	Feb. 26, 1867.
2, 591	Same..... same..... (Design)	Feb. 26, 1867.
2, 592	Same..... same..... (Design)	Feb. 26, 1867.
2, 593	Same..... same..... (Design)	Feb. 26, 1867.
2, 754	Same..... same..... (Design)	Aug. 20, 1867.
2, 755	Same..... same..... (Design)	Aug. 20, 1867.
2, 756	Same..... same..... (Design)	Aug. 20, 1867.
2, 757	Same..... same..... (Design)	Aug. 20, 1867.
2, 758	Same..... same..... (Design)	Aug. 20, 1867.
2, 759	Same..... same..... (Design)	Aug. 20, 1867.
2, 760	Same..... same..... (Design)	Aug. 20, 1867.
2, 761	Same..... same..... (Design)	Aug. 20, 1867.
2, 762	Same..... same..... (Design)	Aug. 20, 1867.
2, 763	Same..... same..... (Design)	Aug. 20, 1867.
2, 764	Same..... same..... (Design)	Aug. 20, 1867.
2, 765	Same..... same..... (Design)	Aug. 20, 1867.
65, 418	Neynaber, A. F. W., Philadelphia, Pa. Boiler feeder.....	June 4, 1867.
69, 116	Nichol, A. M., Granville, Ohio. Fence.....	Sept. 24, 1867.
69, 471	Nichols, Ambrose J., North Providence, R. I. Warper and dresser plate.....	Oct. 1, 1867.
69, 472	Nichols, Bradford W., Phoenix Village, R. I. Picker for looms.....	Oct. 1, 1867.
70, 457	Nichols, C. H., and D. Upton. (See Upton & Nichols.) Nichols, Edgar G., Beaufort, S. C. Implement for transplanting flowers, &c.....	Nov. 5, 1867.
61, 856	Nichols, Enos S., assignor to J. H. Prentice, New Haven, Conn. Curved spring for hat brims.....	Feb. 5, 1867.
63, 779	Nichols, G. H., et al. (See Chichester, Lewis S., assignor.) Nichols, G. W., Chicago, Ill. Total insulator of telegraph line and apparatus.....	Sept. 10, 1867.
60, 927	Nichols, George W., River Falls, Wis. Logging skid..... Nichols, Horatio, and Alonzo E. Bailey. (See Bailey & Nichols.) Nichols, H. K. (See Wixted, James, assignor.)	Jan. 1, 1867.
67, 568	Nichols, Isaac C., Union, N. Y. Beefsteak preparer.....	Aug. 6, 1867.
70, 352	Nichols, Josiah H., assignor to self, A. H. North, and G. W. Leunt, New Britain, Conn. Manufacturing knives and forks.....	Oct. 29, 1867.
66, 987	Nichols, Thomas W., Trout Creek, N. Y. Soap.....	July 23, 1867.
60, 927	Nichols, William D., Chicago, Ill. Wind mill.....	Jan. 1, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 117	Nichols, William D., and Nelson W. Clark, Chicago, Ill. Plow	Sept 24, 1867.
65, 689	Nichols, W. H., East Hampton, Conn. Sleigh bell	June 11, 1867.
66, 874	Nichols, W. H., assignor to J. H. Abell, East Hampton, Conn. Call bell	July 16, 1867.
	Nichols, W. L., and J. P. Avery. (See Avery & Nichols.)	
66, 515	Nicholson, E., Rockport, Ohio. Gate latch	July 9, 1867.
64, 246	Nicholson, Jas. N., Philadelphia, Pa. Apparatus for manufacturing lap-welded tubes	Apr. 30, 1867.
61, 447	Nicholson, John, Allegheny, Pa. Pump	Jan. 22, 1867.
69, 576	Same.....Feed water heater	Oct. 8, 1867.
	Nicholson, Joseph. (See Lavery, W. A., assignor.)	
	Nicholson, Joseph, et al. (See Allen, Thomas, assignor.)	
	Nickels, John B., and Moses Chandler. (See Chandler & Nickels.)	
	Nickerson, Charles W., and Josiah Holmes. (See Holmes & Nickerson.)	
61, 351	Nickerson, D. P., Cleveland, Ohio. Center board and box for vessels	Jan. 22, 1867.
63, 289	Same.....Ship's davit and winch	Mar. 26, 1867.
65, 109	Same.....Car wheel	May 28, 1867.
67, 569	Same.....Windlass	Aug. 6, 1867.
71, 044	Nickerson, Enoch, Provincetown, Mass. Combined pump and reservoir	Nov. 19, 1867.
70, 458	Nickerson, H. B., Boston, Mass. Machine for cutting teeth of file blanks	Nov. 5, 1867.
	Nickerson, Sparrow M. (See Holman, Calvin J., assignor).....(Reissue.)	
	Nickerson, Thatcher. (See Kenney, T. W., assignor.)	
68, 720	Nickson, Richard, Akron, Ohio. Carriage joint	Sept. 10, 1867.
71, 045	Nicolai, J., Boston, Mass. Folding chair	Nov. 19, 1867.
2, 748	Nicolson, Samuel, Boston, Mass. Wooden pavement.....(Reissue.)	Aug. 20, 1867.
71, 205	Nicour, Octave, France. Photographic apparatus	Nov. 19, 1867.
2, 585	Nieberg, C. L., ass'or to Sargent & Co., New Haven, Conn. Coffin handle.....(Design)	Feb. 19, 1867.
2, 586	Same.....same.....same.....(Design)	Feb. 19, 1867.
2, 647	Same.....same.....same.....(Design)	May 7, 1867.
2, 648	Same.....same.....same.....(Design)	May 7, 1867.
2, 649	Same.....same.....same.....(Design)	May 7, 1867.
69, 929	Niebergall, Julius, New York, N. Y. Mechanical movement	Oct. 15, 1867.
	Niedringhaus, Frederick G. (See Everett, Sheldon B., assignor.)	
71, 900	Niedringhaus, F. G. and William F., St. Louis, Mo. Construction of stamped sheet-metal kettles	Dec. 10, 1867.
69, 230	Nietscke, J. D., Somerset, Ohio. Coffin	Sept. 24, 1867.
72, 751	Niles, Peter H., Boston, Mass. Sewing guide	Dec. 31, 1867.
68, 380	Niles, Peter H., assignor to self and Augustus Russ, Boston, Mass. Hose coupling	Sept. 3, 1867.
70, 251	Niles, W. F., Leominster, Mass. Rosette for bridles	Oct. 29, 1867.
64, 351	Niman, J. A., and B. Fidler, Mansfield, Ohio. Machine for bending tires	Apr. 30, 1867.
62, 673	Nimmo, George, Jersey City, N. J. Sash supporter	Mar. 5, 1867.
64, 352	Same.....Manufacture of fire brick	Apr. 30, 1867.
2, 621	Same.....Manufacture of black lead crucibles.....(Reissue)	May 21, 1867.
65, 110	Same.....Furnace for heating and welding	May 28, 1867.
70, 459	Same.....Eye for pickaxes	Nov. 5, 1867.
	Same.....(See Laing, John, assignor.)	
65, 731	Nissen, Ingver P., Davenport, Iowa. Washing machine. (Antedated Mar. 12, 1867.)	July 16, 1867.
67, 570	Niver, W. A., Scott, N. Y. Sleigh brake	Aug. 6, 1867.
2, 537	Nobel, A., assignor to the United States Blasting Oil Company, New York, N. Y. Explosive compound.....(Div. A, reissue)	Apr. 2, 1867.
2, 538	Same.....Process of producing an explosive compound.....(Div. B, reissue)	Apr. 2, 1867.
66, 616	Noble, Butler G., New York, N. Y. Extract of sea clams	July 9, 1867.
66, 732	Same.....Article of food from oyster juice	July 16, 1867.
2, 683	Noble, D. J., New Boston, Ill. Cultivator.....(Reissue)	July 16, 1867.
72, 531	Noble, George H., Lowell, Mass. Step for spindles	Dec. 24, 1867.
66, 167	Noble, James M., Delhi, Iowa. Washing machine	June 25, 1867.
71, 046	Noble, Jay, Rochester, N. Y. Lever for railroad cars	Nov. 19, 1867.
62, 771	Noble, S. Henry, Chicago, Ill. Sleigh	Mar. 12, 1867.
63, 681	Nobles, Milton V., Elmira, N. Y. Boat detaching tackle	Mar. 19, 1867.
63, 682	Same.....same	Mar. 19, 1867.
65, 834	Same.....Life boat	Mar. 19, 1867.
65, 835	Same.....Boat detaching tackle	June 18, 1867.
67, 793	Nobles, Milton V., Elmira, N. Y., and Judson Holecomb, assignors to selves and John C. Nobles, Towanda, Pa. Broom head	Aug. 13, 1867.
71, 780	Nobles, M. V., assignor to self and John C. Nobles, Elmira, N. Y. Apparatus for exterminating vermin	Dec. 3, 1867.
72, 886	Nobles, W. H., St. Paul, Minn. Smoke-extinguisher for boilers	Dec. 31, 1867.
65, 260	Noek, Joseph, Washington, D. C. Trunk lock	May 23, 1867.
65, 261	Same.....same	May 28, 1867.
	Same.....Philadelphia, Pa. Hinge for inkstand covers.....(Extension)	Dec. 10, 1867.
72, 631	Nogerath, Rufina, France. Coating and metallizing fabrics	Dec. 24, 1867.
64, 353	Nohl, E. W., Ripon, Wis. Manufacturing glass and pottery metal	Apr. 30, 1867.
65, 586	Nohl, Eugene William, assignor to self and Edward Daniels, Ripon, Wis. Furnace for reducing metallic ores	June 11, 1867.
72, 319	Nolan, Nicholas, New York, N. Y. Propeller	Dec. 17, 1867.
72, 669	Noland, John, Philadelphia, Pa. Machine for bending metal	Dec. 24, 1867.
62, 445	Nonamaker, J. H., Middletown, Pa. Reversible dumping sled	Feb. 26, 1867.
64, 133	Same.....Farm gate	Apr. 23, 1867.
67, 341	Norcross, Joseph W., East Boston, Mass. Clothes-line hook block	July 30, 1867.
	Nordyke, David, et al. (See Underwood & Johnson, assignors.)	
61, 448	Norman, L. R., and W. F. Dieterichs, Jr., St. Louis, Mo. Brick kiln	Jan. 22, 1867.
61, 449	Norman, L. R., and W. F. Dieterichs, St. Louis, Mo. Brick kiln	Jan. 22, 1867.
71, 781	Norris, Alonzo, Spencer, N. Y. Water elevator	Dec. 3, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Norris, George W. (See Russell, R. M., assignor.)	
	Same.....(See Wood, Henry, assignor.)	
	Norris, Richard and Henry L. (See Rarhaert, Lucian, assignor.)	
	North, A. H., and G. W. Leunt. (See Nichols, Josiah H., assignor.)	
	North, Frederick H. (See Porter, J. H., assignor.)	
	Same.....(See Pillard, Oliver E., assignor.)	
68, 781	North, Henry S., assignor to self and W. and B. Douglas, Middletown, Conn. Snap hook.....	Sept. 10, 1867.
72, 220	North, John, New York, N. Y. Brick machine.....	Dec. 17, 1867.
71, 901	North, O. B., assignor to O. B. North & Co. New Haven, Conn. Breast strap slide.....	Dec. 10, 1867.
	Northampton Indelible Pencil Company. (See Hale, William B., assignor.)	
	Northrop, William, and Gideon S. Granger. (See Granger & Northrop.)	
	Northrup, James, and Charles W. Gage. (See Gage & Northrup.)	
65, 587	Northway, I. G., Kenosha, Wis. Brace for supporting threshing machines.....	June 11, 1867.
61, 450	Norton, C. P., Roseville, Ill. Cultivator.....	Jan. 22, 1867.
70, 883	Norton, Edwin and J. S. B., Boston, Mass. Dish washer.....	Nov. 12, 1867.
63, 935	Norton, E. D., Bradford, Pa. Lamp.....	June 18, 1867.
	Norton, E. L. (See Merriam, M. H., assignor.)	
63, 171	Norton, E. Q., assignor to self and Alpheus Patten, Bangor, Maine. Knife and watch key combined. (Antedated March 13, 1867.).....	Mar. 26, 1867.
	Norton, E. Q. and A. H. (See Durgin, J. W., assignor.)	
70, 108	Norton, H. B., Rochester, N. Y. Potato digger.....	Oct. 22, 1867.
	Norton, Marcus P., et al. (See Johnson & Steuernagel, assignors.)	
67, 571	Nott, Aaron B., Fairhaven, Mass. Swing.....	Aug. 6, 1867.
	Nott, Copley A., and Elisha H. Tobey. (See Tobey & Nott.)	
72, 670	Nott, J. V. Henry, New York, N. Y. Construction of checkers.....	Dec. 24, 1867.
	Noyes, A. L. (See Lesner, Augustus S., assignor.)	
	Noyes, Daniel, Abington, Mass. Machine hammer.....(Extension)..	Oct. 24, 1867.
69, 016	Noyes, Elfmec M., Binghamton, N. Y. Curry-comb.....	Sept. 17, 1867.
72, 221	Noyes, George, assignor to Andrew Leighton and M. L. Whitney, Pownal, Me. Hay press.....	Dec. 17, 1867.
68, 105	Noyes, George W., Norwich, Conn. Car coupling.....	Aug. 27, 1867.
	Noyes, Joseph P., and Hial Hodges. (See Hodges & Noyes.)	
68, 309	Noyes, Nathan S., Plymouth, Mich. Potato digger.....	Aug. 27, 1867.
62, 436	Noyes, Walter B., Dorchester, N. H. Saw-mill.....	Feb. 26, 1867.
66, 217	Noyes, jr., William, Newburyport, Mass. Machine for shaving horn.....	July 2, 1867.
63, 419	Noyes, William H., Franklin, Pa. Pump.....	June 4, 1867.
65, 936	Nudd, Amos, Waupun, Wis. Melodeon, &c.....	June 18, 1867.
64, 354	Nugent, William, North Providence, R. I. Picker motion for looms.....	Apr. 30, 1867.
61, 238	Nulson, A., E. Haneisen, and A. Wagner, assignors to A. Nulson & Co., Cincinnati, Ohio. Brick machine.....	Jan. 15, 1867.
68, 106	Numan, J. D., J. T. Wilkinson, and E. W. Cook, assignors to J. D. Numan, J. T. Wilkinson, J. T. Wilkinson, jr., N. B. Chase, and J. L. Ashby, Lockport, N. Y. Cement for roofing.....	Aug. 27, 1867.
64, 134	Nunn, R. J., Savannah, Ga. Land conveyance.....	Apr. 23, 1867.
64, 355	Same.....Steam generator.....	Apr. 30, 1867.
68, 381	Nunn, Richard J., Savannah, Ga. Wood screw.....	Sept. 3, 1867.
	Nutt, James. (See Wallwork, M., assignor.)	
	Same.....(See Snelling, P. H., assignor.)	
71, 902	Nutting, Abel, Quincy, Mass. Snow plow.....	Dec. 10, 1867.
	Nutting, F. E. (See Richardson, William L., assignor.)	
66, 617	Nutz, F. J., and Philip Estes, Leavenworth, Kansas. Governor.....	July 9, 1867.
61, 017	Nye, Alexander G., Weymouth, Mass. Method of separating hard rubber for porcelain teeth.....	Jan. 8, 1867.
	Nye, Chauncey. (See Slack, Thomas A., assignor.)	
	Nye, C., and A. F. Summers. (See Summers & Nye.)	
63, 172	Nye, Edward C. H., Acushnet, Mass. Cross-bow.....	Mar. 26, 1867.
65, 937	Nye, Thomas, Westbrook, Me. Rocking chair and trunk.....	June 18, 1867.
64, 789	Oadhoudt, Josiah, St. Anthony's Falls, Minn. Corn harvester.....	May 14, 1867.
71, 933	Oakford, Isaac R., Philadelphia, Pa. Steam generator.....	Dec. 10, 1867.
61, 679	Oakley, F., assignor to self and John Wills, England. Egg and cream beater.....	Jan. 23, 1867.
70, 884	Oatley, William R., Rochester, N. Y. Hook for travelers.....	Nov. 12, 1867.
	Oats, Alfred A. (See Atwood, George B., assignor.)	
66, 168	Ober, Albert, assignor to self, James T. and Samuel F. Ober, Beverly, Mass. Toilet glass.....	June 25, 1867.
66, 875	Ober, G. H., Newburg, Ohio. Wheelwrights' machine for tenoning spokes.....	July 16, 1867.
66, 988	Same.....Wood planing machine.....	June 23, 1867.
69, 263	Ober, Maria A., Chazy, N. Y. Churn dasher.....	Oct. 1, 1867.
	Oberlander, George. (See Waldron, Josiah V., assignor.)	
67, 209	O'Blenis, Smith, assignor to self and C. H. Stark, Greensburg, Pa. Car coupling.....	July 30, 1867.
66, 989	Obrecht, Henry, Mahanoy City, Pa. Meat chopper.....	July 23, 1867.
71, 904	O'Brien, P. B., and William E. Sparks, assignors to P. B. O'Brien, New Haven, Conn. Caster for furniture.....	Dec. 10, 1867.
	Ochs, George, et al. (See Sykes, Chester W., assignor.)	
69, 577	O'Connor, John, assignor to self and E. M. Ketchum, Buffalo, N. Y. Lathe chuck.....	Oct. 8, 1867.
68, 895	Odell, A., New York, N. Y. Attaching thills to carriages.....	Sept. 17, 1867.
	Odierno, Alfred. (See Miller, Alexander, assignor.)	
	O'Donald, James. (See Robinson, R. W., assignor.)	
	Oechler, Joseph. (See Bennett, Andrew, assignor.)	
72, 320	Oehme, Ferd. Gust., Plymouth, Mass. Sail releasing apparatus.....	Dec. 17, 1867.
	Oesterle, H. A., and Company. (See Hasenbuhler, Stephen, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 765	Ogborn, Harrison, Richmond, Ind. Winnowing screen	June 11, 1867.
70, 855	Same..... Fanning mill, grain and seed separator	Nov. 12, 1867.
71, 236	Same..... Animal trap	Nov. 19, 1867.
71, 524	Same..... Stove-pipe damper	Nov. 26, 1867.
71, 782	Same..... Candlestick	Dec. 3, 1867.
61, 674	Ogborn, Harrison, assignor to self and John W. Free, Richmond, Ind. Straw cutter.	Mar. 5, 1867.
62 875	Ogg, George, Lacon, Ill. Harrow	Mar. 12, 1867.
64, 693	Ogier, Thomas L., West Chester, Pa. Buckle	May 14, 1867.
70, 460	O'Hara, Charles M., England. Propeller for vessels. (Antedated Oct. 26, 1867.)	Nov. 5, 1867.
67, 445	O'Harra, David Jones, and Clark Brown Thompson, Empire City, Nevada. Furnace for roasting ores	Aug. 6, 1867.
66, 618	Ohlenslager, A., assignor to Henry L. Lansing and George H. Chase, Jersey City, N. J. Locomotive ash pan	July 9, 1867.
63, 742	O'Kane, James, New York, N. Y. Die for forming hinges. (Antedated April 1, 1867.)	July 9, 1867.
66, 248	O'Kane, J., assignor to Edward H. Hotchkiss, New York, N. Y. Draw plate. (Antedated June 20, 1867.)	July 2 1867.
64, 247	Oký, Joseph B., assignor to self and W. A. Schofield, Indianapolis, Ind. Combined stove-cover lifter, hammer, &c.	Apr. 30, 1867.
	Oldbrook, Christian. (See Ball, Levi B., assignor.)	
71, 405	Olden, Lucius M., Pana, Ill. Beehive	Nov. 26, 1867.
72, 074	Oldershaw, J. B., Baltimore, Md. Portable hot-air conductor	Dec. 10, 1867.
63, 809	Olds, A. M., New York, N. Y. Vegetable slicer	Apr. 16, 1867.
61, 694	Same..... Folding seat	May 14, 1867.
65, 588	Same..... Self-adjusting wrench	June 11, 1867.
65, 589	Same..... Pliers	June 11, 1867.
66, 103	Same..... Spring hinge	June 25, 1867.
66, 036	Olds, A. M., assignor to J. W. Hauxhurst, New York, N. Y. Mucilage bottle. (Antedated June 12, 1867.)	June 25, 1867.
63, 290	Olds, A. W., Green Oak, Mich. Field fence	Mar. 26, 1867.
64, 559	Olds, E. F., South Lyons, Mich. Field roller	May 7, 1867.
70, 739	Same..... Lyon, Mich. Land roller	Nov. 12, 1867.
	Olds, E. F., and Daniel A. Smith. (See Smith & Olds.)	
68, 782	Olds, H., Syracuse, N. Y. Slide for extension tables	Sept. 10, 1867.
66, 516	Olds, Luther, Battle Creek, Mich. Stove-pipe shelf	July 9, 1867.
71, 634	Oleff, B. J., Milwaukee, Wis. Spring bed bottom	Dec. 3, 1867.
69, 832	Oleendorf, Garret J., assignor to self and John Wood. Middlefield, N. Y. Stump extractor	Oct. 15, 1867.
72, 075	Olendorf, Garret J., and Albert O. Parshall, Middlefield, N. Y. Vine holder	Dec. 10, 1867.
71, 207	Olhaber, Clement, assignor to Woodrow, Mears & Company, Cincinnati, Ohio. Water boiler for cooking stoves	Nov. 19, 1867.
2, 732	Olhaber, Clement, Cincinnati, Ohio, and Nicholas S. Vedder, Troy, N. Y., assignors to Woodrow, Mears & Co. Cook's stove. (Design)	Aug. 6, 1867.
	Oliver, Charles P., and Theodore P. Howell. (See Howell & Oliver.)	
67, 446	Oliver, David, Oxford, Ohio. Fence post	Aug. 6, 1867.
66, 619	Oliver, H. W., assignor to Mason H. Thorpe, New Haven, Conn. Spice grater	July 9, 1867.
67, 210	Oliver, Paul A., Elizabeth, N. J. Bayonet attachment	July 30, 1867.
62, 216	Ollom, Peter, Muncie, Ind. Well-boring auger	Feb. 19, 1867.
61, 695	Olmstead, E. A F., New York, N. Y. Sweeping machine for railroads	May 14, 1867.
67, 572	Olmstead, E. H., Savannah, Ga. Railway car seat	Aug. 6, 1867.
67, 342	Olmstead, John A., New York, N. Y. Boat and trunk	July 30, 1867.
	Olmsted, B. F., and J. W. Doty. (See Doty & Olmsted.)	
66, 876	Olmsted, E. B., Washington, D. C. Packing apparatus for envelope machines	July 16, 1867.
66, 877	Same..... Cutting and gumming apparatus for envelope machines	July 16, 1867.
66, 878	Same..... Folding and printing bed for envelope machines	July 16, 1867.
70, 601	Same..... Machine for making paper bags	Nov. 5, 1867.
61, 689	Olmsted, Joseph, Knoxville, Ill. Magnetic brake for cars	Jan. 8, 1867.
66, 879	Olmsted, L. H., Stamford, Conn. Drop hammer	July 16, 1867.
65, 420	Olmsted, Leveritt H., assignor to Wright & Smith, Newark, N. J. Tightening and loosening wheels on shafts	June 4, 1867.
67, 900	Olmsted, O. B., Beloit, Wis. Adjustable stove-pipe shelf	Aug. 20, 1867.
65, 590	Olney, James A., Providence, R. I. Machine for making paper tubes	June 11, 1867.
	Onderdonk, R. (See Fitzgerald, Daniel, assignor.)	
	O'Neill, Michael. (See Colby, Charles, assignor.)	
63, 331	O'Neill, Andrew, Portsmouth, Ohio. Sheet copper plate for culinary vessels	Aug. 27, 1867.
	Same..... (See Knight, George H., assignor.)	
64, 898	O'Neill, John H., New Haven, Conn. Car coupling	May 21, 1867.
64, 696	Onions, William, St. Louis, Mo. Cotton-bale tie	Mar. 14, 1867.
71, 047	Onk, John G., Owensville, Ohio. Show stand	Nov. 19, 1867.
	Opie, W. S., et al (See Quick, Opie & Farrand.)	
61, 090	Oppenheimer, Solomon, Peru, Ind. Constructing latch bolts	Jan. 8, 1867.
67, 343	Same..... Buck-saw frame	July 30, 1867.
67, 999	Orbeton, W. W. S., Haverhill, Mass. Hinge and blind supporter	Aug. 23, 1867.
65, 111	Ordrer, J. L., Cleveland, Ohio. Pipe wrench	May 28, 1867.
	Ornamental Wood Manufacturing Company. (See May, William H., assignor.)	
	Orne, James H. (See Hubbell, William Wheeler, assignor.)	
66, 733	Orr, Adrian V. B., Steelville, Pa. Car coupling	July 16, 1867.
67, 077	Orr, James H., assignor, through mesne assignments, to self and Lewis Graves, Long Island City, N. Y. Chamber pall	July 23, 1867.
67, 669	Orr, William, jr., and George F. Wright, Clinton, Mass. Machine for making paper boxes	Aug. 13, 1867.
72, 752	Orr, Wilson J., Manorville, Pa. Cow-catcher for preventing accidents on railroads	Dec. 31, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Orsborné, D. M., and A. F. Boon. (See Boon & Osborne.)	
71, 048	Orth, Samuel, Philadelphia, Pa. Machine for cutting pasteboard, &c.	Nov. 19, 1867.
68, 382	Ortlieb, Frederick, Williamsburg, N. Y. Condenser.	Sept. 3, 1867.
71, 206	Ortlieb, Frederick, assignor to the Metropolitan Rotary Engine Company, Williamsburg, N. Y. Rotary engine.	Nov. 19, 1867.
69, 118	Orton, Gerritt V., et al. (See Doane, Orton & London.)	
	Orvis, Charles B., assignor to John B. Davidson, St. Louis, Mo. Treating bone-black for filtering sugar.	Sept. 24, 1867.
63, 743	Osborn, Dwight J., Windsor Locks, Conn. Sash supporter.	Apr. 9, 1867.
70, 252	Osborn, George K., Brooklyn, N. Y. Lamp burner.	Oct. 29, 1867.
	Osborn, Victoria A., and Charles L. Alexander. (See Alexander & Osborn.)	
	Osborne, Louis. (See Hill & Burnham, assignors.)	
64, 560	Osborne, S. M., Hamilton, N. Y. Combined wagon brake and dumping device.	May 7, 1867.
62, 675	O-sbourne, William John, and G. B. Massey, New York, N. Y. Hose coupling.	Mar. 5, 1867.
	Osgood, Charles. (See Smith, Henry K., assignor.)	
	Same..... same.	
72, 222	Osgood, Clark, assignor to self and Frederick A. Prince, Cape Elizabeth, Me. Railroad rail.	Dec. 17, 1867.
65, 001	Osgood, Elijah R., Columbus, Ohio. Shingle machine.	May 21, 1867.
61, 239	Osgood, Enoch, Boston, Mass. Cotton-gin and picker.	Jan. 15, 1867.
63, 744	Osgood, Isaac, Utica, N. Y., and Alexander Munroe, German Falls, N. Y. Apparatus for dyeing, bleaching, washing, and drying yarns and thread.	Apr. 9, 1867.
69, 239	Ostrom, Henry W., Grand Rapids, Mich. Harrow cultivator.	Sept. 24, 1867.
	Ostrom, John G., and Garret G. Lansing. (See Lansing & Ostrom.)	
2, 842	O'Sullivan, D., Leicester, Mass. Trade mark. (Design.)	Nov. 26, 1867.
63, 301	O'Thayne, P., New York, N. Y. Ironing machine.	Mar. 26, 1867.
62, 783	Otis, Charles R., and Norton P., Yonkers, N. Y. Valve for steam engines.	Sept. 10, 1867.
	Otis Company. (See Wilson, George, assignor.) (Design.)	
63, 083	Ott, Benedict, La Crosse, Wis. Clothes tongs.	Mar. 19, 1867.
	Ott, John George. (See Devitt, George, assignor.)	
65, 112	Ottenheimer, Solomon, New York, N. Y. Sectional take-up for corset looms.	May 28, 1867.
	Otto, Nicol. Aug., and Eugen Langen. (See Langen & Otto.)	
65, 262	Onrousoff, Prince Nicolas, Russia. Portable camp bed.	May 28, 1867.
67, 068	Outwater, Jacob D. C., Newark, N. J. Potato digger.	July 23, 1867.
71, 525	Same..... Cultivator and potato digger combined.	Nov. 26, 1867.
64, 899	Outwater, Theron, Olcott, N. Y. Washing machine.	Jan. 29, 1867.
	Overbaugh, Abraham W., New York, N. Y. Portable blacking case. (Antedated May 16, 1867.)	May 21, 1867.
66, 990	Overhiser, William L., Stockton, Cal. Hay elevator.	July 23, 1867.
62, 876	Overpeck, I. E., and J. A., Overpeck's Station, Ohio. Cane stripper.	Mar. 12, 1867.
	Overton, R. C., and John Johnson. (See Johnson & Overton.)	
63, 931	Oviatt, George W., Potter Centre, N. Y. Wagon box.	Apr. 16, 1867.
61, 240	Owen, B., and B. Pickering, Dayton, Ohio. Combined tongs, lid-lifter, hook, &c.	Jan. 15, 1867.
72, 867	Owen, D. J., Springfield, Pa. Machine for boring hubs.	Dec. 31, 1867.
	Owen, James C., et al. (See Hadley, Samuel G., assignor.)	
72, 223	Owen, W. S., and J. B. Raines. (See Raines & Owen.)	
65, 002	Owen, W. W., and Daniel Kelley, Muskegon, Mich. Nutmeg grater.	Dec. 17, 1867.
	Owens, Bernard, St. Louis, Mo. Composition for ink.	May 21, 1867.
	Owens, Lane, Dyer & Company. (See Kirk, William A. L., assignor.)	
69, 119	Owens, Peter, Chicago, Ill. Carriage top.	Sept. 24, 1867.
62, 060	Oxer, W. J., Williamsport, Ind. Cultivator.	Feb. 12, 1867.
67, 794	Oyster, Christian, Chambersburg, Pa. Securing wheels of vehicles on their axles.	Aug. 13, 1867.
68, 383	Packard, Austin, Brooklyn, N. Y. Securing linings in stoves.	Sept. 3, 1867.
61, 241	Packard, Isaac T., Chicago, Ill. Reed and pipe musical instrument.	Jan. 15, 1867.
62, 217	Packard, L. S., West Stockbridge, Mass. Railroad switch.	Feb. 19, 1867.
66, 880	Paeker, Charles W., Philadelphia, Pa. Hat box.	July 16, 1867.
67, 133	Same..... Ice cream freezer.	July 23, 1867.
	Paeker, jr., George W. (See Greenman, Thomas S., assignor.)	
69, 573	Packer, T. G., Mexico, N. Y. Broom head.	Aug. 6, 1867.
63, 240	Paddock, J. N., Oswego, N. Y. Dish and vegetable washer.	Sept. 24, 1867.
61, 949	Paddock, Harvin, St. Johnsbury, Vt. Hardening iron.	Feb. 12, 1867.
69, 833	Paddock, O., Watertown, N. Y. Ice cream freezer.	Oct. 15, 1867.
61, 680	Page, Abby, H., assignor through mesne assignments to William B. and Nathaniel A. Rhoads and David Lyman, South Boston, Mass. Clothes wringer.	Jan. 29, 1867.
61, 857	Page, Charles, West Meriden, Conn. Toy driver and spinner.	Feb. 5, 1867.
68, 806	Page, C. D., Rochester, N. Y. Brick press.	Sept. 17, 1867.
	Page, Clark D. (See Ferguson, Wm. H., assignor.)	
62, 437	Page, James T., Rochester, N. Y. Gridiron.	Feb. 26, 1867.
69, 578	Page, jr. Nathan, Danvers, Mass. Pump.	Oct. 8, 1867.
70, 886	Page, Nathaniel E., assignor to self and Elijah Whitney, Rutland, Vt. Railway chair.	Nov. 12, 1867.
64, 561	Page, Phillip A., assignor to self, William Brooks, and Albert Loomis, Palmer, Maine. Die for swaging calks for horseshoes.	May 7, 1867.
	Page, P. S., and Thomas S. Williams. (See Williams & Page.) (Reissue.)	
64, 443	Page, Samuel, Chelsea, Mass. Composition for painting and varnishing.	May 7, 1867.
66, 037	Page, Samuel, McAllisterville, Pa. Evaporating pan.	June 25, 1867.
66, 517	Same..... Fruit picker.	July 9, 1867.
72, 321	Same..... Horse hay fork.	Dec. 17, 1867.
2, 708	Page, T. C., Chicopee, Mass. Sewing machine. (Design.)	Oct. 1, 1867.
71, 049	Page, William W., Troy, N. Y. Stairs.	Nov. 19, 1867.
70, 461	Page, William W., assignor to Arnold H. Holdridge and Daniel E. Paris, Troy, N. Y. Cover for tea-kettles, &c.	Nov. 5, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 900	Paget, Arthur, Great Britain. Knitting machine.....	May 21, 1867.
70, 602	Paine, Bird, McMinnville, Tenn. Medical compound.....	Nov. 5, 1867.
68, 646	Paine, B. F., Roseville, Ill. Running gear for vehicles.....	Sept. 10, 1867.
63, 022	Paine, Calvin H., assignor to self and William D. Hilton, Providence, R. I. Gate.....	Apr. 16, 1867.
65, 591	Same..... Gate.....	June 11, 1867.
65, 592	Same..... Fence.....	June 11, 1867.
68, 384	Paine, Clinton J., Young America, Ill. Canning fruit.....	Sept. 3, 1867.
69, 120	Same..... Painesville, Ohio. Cotton bale tie.....	Sept. 24, 1867.
68, 310	Paine, Halbert E., Milwaukee, Wis. Steam plow.....	Aug. 27, 1867.
62, 218	Paine, Joseph C., Dubuque, Iowa. Revolving bread toaster.....	Feb. 19, 1867.
70, 603	Paine, Thomas N., and Samuel Stephens, Grass Valley, Cal. Ore separator and concentrator.....	Nov. 5, 1867.
70, 887	Paine, William L., Boston, Mass. Card holder for trunks.....	Nov. 12, 1867.
70, 740	Painter, B. C., Mechanicsburg, Pa. Flask for casting tayeres.....	Nov. 12, 1867.
70, 253	Painter, Frank, East Hampton, Mass. Tension regulator for looms.....	Oct. 29, 1867.
	Palmer, A., et al. (See Kirkup, Lancelot, assignor.).....	
	Palmer, Albert, et al. (See Hill, Samuel L., assignor.)..... (Reissue.)	
71, 209	Palmer, Alonzo, Hudson, Mich. Home fastener.....	Nov. 19, 1867.
64, 248	Palmer, Charles H., Newark, N. J. Pocket knife.....	Apr. 39, 1867.
72, 753	Palmer, Dolpras D., Waltham, Mass. Machine for pegging boots and shoes.....	Dec. 31, 1867.
68, 227	Palmer, Earl, Solon, N. Y. Ingrain rakes.....	Aug. 27, 1867.
61, 352	Palmer, George, Littlestown, Pa. Washing machine.....	Jan. 22, 1867.
61, 353	Same..... Clothes wringer.....	Jan. 22, 1867.
69, 241	Same..... Joints of railroad rails.....	Sept. 24, 1867.
	Palmer, G. E. (See Gibbons, Samuel, assignor.).....	
67, 795	Palmer, George H., New Bedford, Mass. Mortise knob latch.....	Aug. 13, 1867.
65, 113	Palmer, George N., Greene, N. Y. Horse rake and hay spreader.....	May 28, 1867.
68, 647	Same..... Instrument for obliterating strictures in ducts or natural passages for animal fluids.....	Sept. 10, 1867.
61, 559	Palmer, H. D., Cleveland, Ohio. Roller for wringing machine.....	Jan. 29, 1867.
72, 532	Palmer, Harvey D., and James H. Beard, Leonidas, Mich. Sleigh.....	Dec. 24, 1867.
61, 242	Palmer, H. H., Rockford, Ill. Bed bottom.....	Jan. 15, 1867.
64, 697	Palmer, H. S., Norwell, Mich. Manure distributor.....	May 14, 1867.
68, 784	Palmer, Ira A., Monmouth, Ill. Cultivator.....	Sept. 10, 1867.
65, 826	Palmer, Isaac H., Lodi, Wis. Method of unloading grain.....	June 18, 1867.
68, 228	Same..... Stump extractor.....	Aug. 27, 1867.
66, 279	Palmer, J., Cleveland, Ohio. Roof for railroad cars.....	July 2, 1867.
72, 224	Palmer, John S., Providence, R. I. Manufacture of jewelry.....	Dec. 17, 1867.
68, 454	Palmer, Joseph, Concord, N. H. Dies for making heads for elliptic springs.....	Sept. 3, 1867.
67, 574	Palmer, J. C., New York, N. Y. Rudder.....	Aug. 6, 1867.
68, 229	Same..... Plate warmer.....	Aug. 27, 1867.
69, 579	Palmer, Josiah Foreman, Auburn, N. Y. Reel.....	Oct. 8, 1867.
69, 834	Palmer, L. E., Le Roy, Pa. Plow wheel.....	Oct. 15, 1867.
70, 013	Palmer, L. F., Endfield, N. Y. Wagon axles and gearing.....	Oct. 22, 1867.
72, 888	Palmer, Milton J., Syracuse, N. Y. Coupling for whiffletrees.....	Dec. 31, 1867.
	Palmer, M. J., and Wm. E. Warner. (See Warner & Palmer.).....	
66, 249	Palmer, Nat., Newcastle, Maine. Window washer.....	July 2, 1867.
69, 778	Palmer, Nelson, assignor to self and T. G. Palmer, Hudson, N. Y. Treshing machine.....	Jan. 1, 1867.
60, 928	Same..... same.....	Jan. 1, 1867.
61, 129	Same..... same.....	Jan. 1, 1867.
64, 790	Palmer, Nelson, assignor to self, Sidney W. and I. Foreman Palmer, Auburn, N. Y. Bench plane.....	May 14, 1867.
70, 462	Palmer, P. A., Troy, N. Y. Grate.....	Nov. 5, 1867.
62, 150	Palmer, Stewart B., Syracuse, N. Y. Low-water alarm for steam generators.....	Feb. 19, 1867.
61, 018	Palmer, S. W., J. F., and N., assignors to selves and David Lyman, Auburn, N. Y. Mangle.....	Jan. 8, 1867.
	Palmer, V. S., and J. B. Nickels. (See Chandler & Nickels, assignors.).....	
63, 933	Palmer, W. W., Hudson, Mich. Home fastener.....	Apr. 16, 1867.
70, 280	Palmiter, C. D., assignor to S. A. Webb, Oswego, N. Y. Friction clutch pulley.....	Nov. 12, 1867.
67, 575	Palmiter, Noyes, Scott, N. Y. Washing machine.....	Aug. 6, 1867.
2, 665	Palser, J. B., and Gardner Howland, Fort Edward, N. Y. Manufacture of paper pulp..... (Reissue.)	July 2, 1867.
2, 730	Same..... Apparatus for the manufacture of paper pulp..... (Div. 1, reissue.)	Aug. 13, 1867.
2, 731	Same..... Manufacture of paper pulp..... (Div. 2, reissue.)	Aug. 13, 1867.
69, 580	Pangle, David, Belmont, Ohio. Sheep house.....	Oct. 8, 1867.
61, 560	Pan-on, William, Quincy, Mass. Stuffing hides and skins.....	Jan. 29, 1867.
70, 463	Pape, William R., Great Britain. Breech-loading fire-arms. (Patented in England, May 29, 1866).....	Nov. 5, 1867.
65, 421	Paradis, P., and R. Reilly, Rochester, N. Y. Centre plate for stove tops.....	June 4, 1867.
63, 048	Paraf, Alfred, France. Dyeing and printing textile fabrics and compounds therefor.....	Mar. 19, 1867.
63, 420	Same..... Process of cleaning textile fabrics and yarns soiled in dyeing.....	Apr. 2, 1867.
64, 135	Same..... Copper coated iron rolls for printing and finishing.....	Apr. 23, 1867.
67, 447	Same..... Manufacture of ammonia.....	Aug. 6, 1867.
69, 121	Same..... New York, N. Y. Mod. of producing black in dyeing and printing.....	Sept. 24, 1867.
72, 322	Same..... France. Mode of treating sponge for producing textile fabrics.....	Dec. 17, 1867.
	Pardee, Egbert E. (See Bassett, M. L., assignor.).....	
65, 263	Pardee, Isaac, Vineland, and R. C. Parvin, assignors to R. C. Parvin, Forest Grove, N. J. Stump extractor.....	May 28, 1867.
60, 930	Pardee, Phineas, New Haven, Conn. Car brake.....	Jan. 1, 1867.
61, 561	Same..... Animal trap.....	Jan. 29, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 889	Paret, Charles A., Nashville, Tenn. Blacking brush	Nov. 12, 1867.
71, 321	Parham, George J., Harrodsburg, Ind. Animal trap	Nov. 26, 1867.
66, 620	Paris, Daniel E., Troy, N. Y. Cooking stove	July 9, 1867.
67, 344	Same..... same	July 30, 1867.
67, 673	Same..... same	Aug. 13, 1867.
70, 890	Same..... Ash sifter	Nov. 12, 1867.
72, 754	Same..... Stove grate	Dec. 31, 1867.
	Same..... (See Hyde, James R., assignor) (Reissue.)	
	Same..... same (Reissue.)	
	Same..... (See Spaulding, Samuel B., assignor.)	
	Paris, Daniel E., and Arnold H. Holdridge. (See Page, William W., assignor.)	
	Parish, James, assignor to self and Joseph Cresto, Chicago, Ill. Drag hook	Dec. 24, 1867.
71, 526	Park, H. A. S., and J. H. Van Pelt, Cumberland, Md. Washing compound	Nov. 26, 1867.
62, 061	Park, J. A., Lansing, Mich. Door and gate latch	Feb. 12, 1867.
72, 755	Park, jr., James, Pittsburg, Pa. Manufacture of steel and iron	Dec. 31, 1867.
60, 931	Park, Jesse K., Marlborough, N. Y. Damping brush	Jan. 1, 1867.
62, 676	Park, John, Joliet, Ill. Construction of houses	Mar. 5, 1867.
69, 835	Same..... Washing machine. (Antedated Oct. 3, 1867)	Oct. 15, 1867.
	Park, John. (See Carter, John T., assignor.)	
71, 905	Park, Staats N., Bloomsburg, N. J. Railway frog	Dec. 10, 1867.
	Parker, Charles. (See Goodyear & Parker, assignors.)	
	Same..... (See Buckley, Chauncey, assignor.)	
	Same..... (See Kingsley, Charles L., assignor.)	
	Same..... same	
69, 364	Parker, Charles, and William Vogler, Canterbury, N. H. Carriage step	Oct. 1, 1867.
63, 934	Parker, Chauncey C., Brooklyn, N. Y. Curtain fixture	Apr. 16, 1867.
	Parker, C. H. (See Bullard, Ira S., assignor.)	
66, 380	Parker, C. H., and G. N. Copeland, assignors to Charles H. Parker, Cortland, N. Y. Drain for waste water	July 2, 1867.
63, 745	Parker, Edwin and Thos. S., Schenectady, N. Y. Steam-engine slide valve	Apr. 9, 1867.
64, 136	Parker, Ephraim, Marlow, N. H. Stove-pipe damper	Apr. 23, 1867.
	Parker, F. B., et al. (See Holt, Henry F., assignor.)	
65, 432	Parker, Gardner R., assignor to Dodge & Wellington, Worcester, Mass. Centring and squaring chucks	June 4, 1867.
71, 407	Parker, Henry, Leesburg, Miss. Wagon	Nov. 26, 1867.
	Parker, J., et al. (See Kirkup, Lancelot, assignor.)	
71, 650	Parker, James, assignor to W. W. Wood and R. H. Lamsen, Great Britain. Apparatus for raising fluids	Nov. 19, 1867.
62, 407	Parker, John, Milroy, Ind. Plow	Feb. 26, 1867.
	Parker, John S. (See Dean, Chester F., assignor.)	
62, 219	Parker, Julius, assignor to Charles Parker, Meriden, Conn. Hinge	Feb. 19, 1867.
62, 970	Parker, J. H., J. T. Hall, and Isaac Pierce, Trenton, N. Y. Horse hay fork	Mar. 19, 1867.
68, 230	Parker, J. N., Darlington, Wis. Lifting jack	Aug. 27, 1867.
	Parker, Marshall W., et al. (See Sykes, Chester W., assignor.)	
64, 356	Parker, Sannuel J., Williamsport, Pa. Automatic boiler feeder	Apr. 30, 1867.
61, 243	Parker, Sidney, Chicago, Ill. Railroad frog	Jan. 15, 1867.
63, 291	Parker, Simon B., New York, N. Y. Safety attachment for pocketbooks	Mar. 26, 1867.
69, 836	Parker, Thomas H., and Daniel Kellison, Parkersburg, Ill. Corn planter	Oct. 15, 1867.
64, 357	Parker, William F., Andover, Mass. Drilling machine	Apr. 30, 1867.
65, 423	Parker, W. F., Meriden, Conn. Automatic feeder for bolt blanks	June 4, 1867.
	Parker, W. F., and S. W. Goodyear. (See Goodyear & Parker.)	
69, 122	Parkhurst, Darius, St. Louis, Mo. Saw-mill head block	Sept. 24, 1867.
67, 901	Parkhurst, S. R., assignor to Emily R. Parkhurst, Bloomfield, N. J. Machine for cleaning wool	Aug. 23, 1867.
62, 877	Parkhurst, Ziba, Milford, Mass. Machine for removing burrs from wool	Mar. 12, 1867.
2, 659	Parkinson, Robert B., Philadelphia, Pa. Bottle and cap. (Design)	May 28, 1867.
66, 881	Parks, Franklin B., Cambridgeport, Mass. Folding lunch box	July 16, 1867.
65, 690	Parks, Hiram, Athens, N. Y. Pump	June 11, 1867.
70, 891	Same..... Straw cutter	Nov. 12, 1867.
70, 464	Parks, Robert, Philadelphia, Pa. Tag	Nov. 5, 1867.
72, 225	Parks, Robert, and E. J. Spangler, Philadelphia, Pa. Machine for folding envelopes	Dec. 17, 1867.
61, 911	Parks, R. B. and J. R. Neponset, Ill. Cultivator	Jan. 8, 1867.
62, 677	Parks, Volney, Fort Wayne, Ind. Adding machine	Mar. 5, 1867.
68, 648	Parlin, William H., Canton, Ill. Corn cultivator	Sept. 10, 1867.
65, 691	Parlour, Joseph Thomas, Brooklyn, N. Y. Keel block or rest	June 11, 1867.
72, 226	Parmele, O. R., Aurora, Ill. Stake holder for cars	Dec. 17, 1867.
67, 345	Parmele, William A., New Haven, Conn. Blower	July 30, 1867.
	Parmeleo, Horace, and William H. Bonnell. (See Sangster, Hugh, assignor.)	
67, 134	Parmelee, John H., assignor to self and William Ball, Chicopee, Mass. Collar	July 23, 1867.
	Parrish, jr., Dillwyn. (See Dotterer, D. H., assignor.)	
72, 416	Parrish, Nathau, Kalamazoo, Mich. Fan blower	Dec. 17, 1867.
61, 019	Parrott, William P., and John J. Bordman, Boston, Mass. Ore crusher	Jan. 8, 1867.
65, 593	Same..... Apparatus for amalgamating and collecting gold and silver from ores	June 11, 1867.
62, 878	Parry, George T., Philadelphia, Pa. Preventing incrustation of steam boilers	Mar. 12, 1867.
64, 025	Same..... Steam generator water gauge	Apr. 23, 1867.
64, 026	Same..... Boiler feeder	Apr. 23, 1867.
	Same..... Anti-friction box. (Extension)	July 15, 1867.
	Parshall, Albert O., and Garro' J. Olendorf. (See Olendorf & Parshall.)	
71, 527	Parshall, Charles H., Detroit, Mich. Anti friction journal for car wheels, &c	Nov. 26, 1867.
	Parson, George John, and Thomas Adams. (See Adams & Parson.)	
62, 438	Parsons. Alexander, Portland, Maine. Lamp burner	Feb. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 473	Parsons, C. C., Boston, Mass. Pipe and bolt cutter. (Antedated Sept. 18, 1867)....	Oct. 1, 1867.
	Parsons, C. C., and E. F. Prentiss. (See Prentiss & Parsons.)	
	Same.....same.	
66, 169	Parsons, H. W., and L. L. Wooster, Whitney's Point, N. Y. Attachment for spading forks and shovels.....	June 25, 1867.
	Parsons, John, et al. (See Higginbotham, Theophilus, assignor.)	
62, 772	Parsons, J. H., Quincy, Mich. Car coupling. (Antedated March 1, 1867).....	Mar. 12, 1867.
66, 381	Parsons, John H., Quincy, Mich. Sealing wax stamp.....	July 2, 1867.
71, (51)	Same.....Label holder for railroad cars.....	Nov. 19, 1867.
71, 635	Same.....Paper clip.....	Dec. 3, 1867.
	Parsons, John W., et al. (See Johnson & Steuerragel, assignors.)	
64, 444	Parsons, L. J., assignor to self and Henry Reynolds, New Haven, Conn. Attaching bits in braces.....	May 7, 1867.
61, 858	Parsons, Milo J., deceased, by Mary E. Parsons, administratrix, Hillsdale, Mich. Washing machine.....	Feb. 5, 1867.
	Parsons, William J., et al. (See Haigh & Robertson, assignors.)	
69, 930	Partington, William, Philadelphia, Pa. Apparatus for cooling malt liquors.....	Oct. 15, 1867.
64, 137	Partridge, Benoni F., Syria-use, N. Y. Looming frame.....	Apr. 23, 1867.
65, 264	Partridge, jr., B. F., Columbus, Ky. Locomotive pilot.....	May 28, 1867.
63, 935	Partridge, James A., assignor to self and E. D. Wright, Lowell, Mass. Wrench.....	Apr. 16, 1867.
	Partridge, John A., and C. A. Harper. (See Harper & Partridge.)	
	Parvin, R. C., and Isaac Pardee. (See Pardee & Parvin.)	
64, 138	Passmore, H. E., and G. A. Heckert, York, Pa. Railroad switch.....	Apr. 23, 1867.
	Paterson, G. W. (See Birch, John P., assignor.)	
	Same.....same.	
2, 692	Paterson, James, assignor to Edward Harvey, Elizabeth, N. J. Floor cloth pattern. (Design).....	July 2, 1867.
2, 850	Paterson, James, assignor to W. W. Gearn & Company, Elizabeth City, N. J. Oil- cloth pattern.....(Design).....	Dec. 17, 1867.
72, 323	Patric, C. E., Macedon, N. Y. Lifting apparatus for grain drills.....	Dec. 17, 1867.
71, 528	Patric, Charles E., and Lyman Bickford, Macedon, N. Y. Grain drill.....	Nov. 26, 1867.
69, 581	Patrick, J. D., San Francisco, Cal. Bull alley.....	Oct. 1, 1867.
61, 244	Patruilo, Edwards Juanes y, New York, N. Y. Machine for preparing the fiber of plants.....	Jan. 15, 1867.
	Pattee, John. (See Shalters, Leonard, assignor.)	
72, 533	Patten, Alphens. (See Norton, E. Q., assignor.)	
	Patten, George, Chester, Pa. Machine for removing molded forms from presses. (An- tedated Dec. 7, 1867).....	Dec. 24, 1867.
2, 444	Patten, G. M., Bath, Maine. Machine for making clinch rings.....(Reissue).....	Jan. 1, 1867.
	Patterson, Alfred S. (See Culver, Austin B., assignor.)	
62, 678	Patterson, Andrew, Birmingham, Pa. Die for making bells.....	Mar. 5, 1867.
2, 733	Same.....Manufacture of bells.....(Reissue).....	Oct. 29, 1867.
71, 322	Same.....Mode of tuning bells, &c.....	Nov. 26, 1867.
62, 579	Patterson, Elias C., Rochester, N. Y. Rein holder for carriages.....	Mar. 12, 1867.
66, 170	Patterson, Hudleson, Augusta, Mich. Track raiser for railways.....	June 25, 1867.
63, 779	Patterson, James L., Wheeler Station, Ind. Broom hanger.....	Jan. 1, 1867.
66, 621	Patterson, S. W., and S. Dewey, Mainesburg, Pa. Horse hay fork.....	July 9, 1867.
65, 424	Patterson, Thomas, New York, N. Y. Pump.....	June 4, 1867.
64, 698	Patterson, William, assignor to George T. Comins, Lowell, Mass. Clothes pin.....	May 14, 1867.
62, 679	Patterson, Wm. F., Vaceburg, Ky. Manufacture of paints and other compounds from bituminous slates, &c.....	Mar. 5, 1867.
66, 250	Patterson, William F., Charlestown, Mass. Expanding reamer.....	July 2, 1867.
61, 192	Pattin, Richard, Marietta, Ohio. Lamp chimney cleaner.....	Jan. 8, 1867.
63, 555	Pattison, G. C., assignor to self and Benjamin G. Harris, Baltimore, Md. Gaff for ships' spars.....	Apr. 2, 1867.
61, 245	Pattison, R. R., Chicago, Ill. Knife cleaner.....	Jan. 15, 1867.
66, 382	Pattison, Thomas, Little York, Cal. Water wheel.....	July 2, 1867.
	Patton, J. M., and W. W. Hubbell. (See Hubbell & Patton.)	
69, 582	Patton, William P., and Jacob R. Miller, Harrisburg, Pa. Oil cup.....	Oct. 8, 1867.
70, 109	Patton, William P., assignor to self, Thos. Weaver, and Isaac Lloyd, Harrisburg, Pa. Switch.....	Oct. 22, 1867.
72, 534	Patton, William P., assignor to Wm. A. Middleton, Harrisburg, Pa. Ice creeper.....	Dec. 24, 1867.
	Paudler, Joseph, and Chapman Lee. (See Lee & Paudler.)	
	Paul, H. F., and R. West. (See West & Paul.)	
71, 529	Paul, John R., Philadelphia, Pa. Apparatus for sponging cloth.....	Nov. 26, 1867.
70, 465	Paulus, E., Philadelphia, Pa. Watch key.....	Nov. 5, 1867.
	Pauly, John W., and Daniel Peters. (See Peters & Pauly.)	
	Same.....same.	
72, 324	Pauly, W., Collins Point, N. Y. Comb.....	Dec. 17, 1867.
61, 093	Paxson, W. W., Point Pleasant, Pa. Damper.....	Jan. 8, 1867.
	Payn, F. Y. (See Keyes, Gilson, assignor.)	
67, 448	Payne, Charles B., Bloomington, Ill. Truce buckle.....	Aug. 6, 1867.
61, 681	Payne, E. M., Waverly, N. Y. Folding bedstead and cot.....	Jan. 29, 1867.
61, 354	Payne, sr., Henry, Mt. Vernon, O. Device for preventing collisions on locomotives.....	Jan. 22, 1867.
71, 407	Payne, S., Louisville, Ky. Medical compound.....	Nov. 26, 1867.
72, 535	Payne, Thomas, Grand Rapids, Mich. Churn.....	Dec. 24, 1867.
68, 649	Payne, W. S., Petrol-um Center, Pa. Automatic self-closing barrel-filling apparatus.....	Sept. 10, 1867.
68, 038	Payson, Alonzo P., San Francisco, Cal. Gymnastic swing.....	June 25, 1867.
69, 123	Payson, Henry C., Haydenville, Mass. Car coupling.....	Sept. 24, 1867.
71, 604	Payson, Joseph R., Chicago, Ill. Window sash supporter.....	Nov. 5, 1867.
70, 892	Payson, Thomas K., New York, N. Y. Blacking box holder.....	Nov. 12, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 636	Pea, Ezekiel, Mechanicsburg, Pa. Fastening for gates and barn doors.	Dec. 3, 1867.
66, 682	Peabody, C. C. P., Calais, Maine. Steam engine valve gear.	Jan. 29, 1867.
67, 449	Peabody, G. W., East Hampton, and O. L. Cowles, Westfield, Mass. Machine for dressing and renovating feathers.	Aug. 6, 1867.
72, 076	Peabody, H. O., assignor to the Providence Tool Co., Providence, R. I. Breech-loading fire-arm.	Dec. 10, 1867.
72, 889	Peabody, S. G., Champaign, Ill. Cultivator.	Dec. 31, 1867.
62, 662	Peace, John, Camden, N. J. Pipe tongs and cutter.	Feb. 12, 1867.
62, 663	Same. Machine for bending skelps.	Feb. 12, 1867.
71, 408	Peacock, George, Selma, Ala. Cast-iron car wheel.	Nov. 26, 1867.
68, 231	Peacock, George H., Fairport, N. Y. Carburetting apparatus.	Aug. 27, 1867.
68, 311	Peacock, Jonathan, Rockford, Ill. Barrel wa-bing machine.	Aug. 27, 1867.
2, 761	Same. same. (Reissue).	Sept. 3, 1867.
61, 355	Peake, John L., assignor to self and Louis Guillaudeu, New York, N. Y. Wrench. (Antedated Jan. 6, 1867).	Jan. 22, 1867.
66, 383	Pearce, W. H., and M. Warne. (See Warne & Pearce.)	
66, 384	Peard, John, New York, N. Y. Settee for school rooms.	July 2, 1867.
62, 680	Same. School settee and desk.	Dec. 21, 1867.
69, 931	Pearsall, A., Atlanta, Ga. Draught pipe for locomotives.	Mar. 5, 1867.
64, 249	Pearsall, Andrew, Atlanta, Ga. Spark arrester.	Oct. 15, 1867.
63, 085	Pearsall, George T., Apalachin, N. Y. Carriage shackle.	Apr. 30, 1867.
71, 409	Pearson, Francis R., Germantown, Pa. Spinning jack.	Mar. 19, 1867.
70, 674	Same. Jack center for spinning machines.	Nov. 26, 1867.
69, 474	Pearson, Henry G., New York, N. Y. Pigeon hole for post office, &c.	Nov. 5, 1867.
64, 027	Pease, Buel D., Madison, Pa. Rein holder.	Oct. 1, 1867.
65, 594	Pease, Charles F. (See Folsom, George F., assignor.)	
63, 595	Pease, Dan, Floyd, N. Y. Smut mill.	Apr. 23, 1867.
67, 576	Pease, F. S., Buffalo, N. Y. Blast apparatus for carburetter.	June 11, 1867.
70, 014	Same. same.	June 11, 1867.
67, 211	Same. Apparatus for carburetting air.	Aug. 6, 1867.
62, 672	Same. Carburetter for locomotive head lights.	Oct. 22, 1867.
61, 859	Pense, Henry, Brockport, N. Y. Harvester.	July 30, 1867.
61, 451	Pease, Isaac T., Thompsonville, Conn. Fire alarm.	Dec. 24, 1867.
63, 746	Pease, James N., Panama, N. Y. Adjustable handle for shovels or forks.	Feb. 5, 1867.
2, 515	Pease, Julius A., New York, N. Y. Hat body.	Jan. 22, 1867.
70, 110	Pease, Warren H., and Hiram Knapp. (See Knapp & Pease.)	
71, 052	Peaslee, B. F., Lake Village, N. H. Knitting machine needle.	Apr. 9, 1867.
64, 699	Peaslee, Horace W., Malden Ridge, N. Y. Machine for washing paper stock. (Reissue)	Mar. 19, 1867.
64, 699	Peasley, John S., Providence, R. I. Machine for renovating feathers.	Oct. 22, 1867.
64, 699	Peatt, Marquis, Dexter, Mich. Belt tightener.	Nov. 19, 1867.
64, 699	Peachmann, Martin, assignor to self and J. F. C. Piekhardt, New York, N. Y. Bedstead fastening.	May 14, 1867.
65, 425	Peck, Aaron. (See Derrick, William E., assignor)	
69, 694	Peck Brothers & Co. (See Topham, William H., assignor.)	
70, 111	Peck, Cassius C., and Francis E. Engelhardt, New York, N. Y. Manufacture of durogel.	June 4, 1867.
70, 111	Peck, Duane, Rochelle, Ill. Mop wringer.	Oct. 8, 1867.
70, 333	Peck, Ezra, Chicago, Ill. Cultivator.	Oct. 22, 1867.
62, 285	Peck, George W., et al. (See Bennett, George W., assignor.)	
70, 254	Peck, H. D., assignor to William N. Ely, Newton, Mass. Thimble.	Oct. 29, 1867.
72, 890	Peck, Lewin A., Newton Corner, Mass. Thimble with guard cutter.	Feb. 19, 1867.
64, 028	Peck, Theodore P., Savannah, Ga. Smoke stack.	Oct. 29, 1867.
2, 827	Peck, Walter, Rockford, Ill. Windmill.	Dec. 31, 1867.
69, 475	Peck, Watson, York, Ill. Cooling milk.	Apr. 23, 1867.
72, 536	Same. Babcock's Grove, Ill. Apparatus for cooling milk. (Reissue).	Dec. 31, 1867.
61, 860	Peck, W. C., Wheeling, West Va. Churn.	Oct. 1, 1867.
64, 901	Peck, W. W., Cassapolis, Mich. Gate and barn door fastening.	Dec. 24, 1867.
66, 622	Peckover, Joseph, and Federal C. Adams. (See Adams & Peckover.)	
67, 795	Same. same.	
63, 086	Peddle, Charles R., Terre Haute, Ind. Pneumatic brake for railroad cars.	Feb. 5, 1867.
60, 933	Pedrick, Isaac, Bridgeton, N. J. Bedstead.	May 21, 1867.
60, 933	Pedrick, John C., Washington, D. C. Carburetting air.	July 9, 1867.
63, 292	Same. Process for treating petroleum.	Aug. 13, 1867.
71, 916	Peebels, Cary, Santa Clara, Cal. Adjustable handle for fruit boxes.	Mar. 19, 1867.
63, 087	Pecry, Alonzo. (See Hawkins, M. C., assignor.)	
65, 426	Pect, Rufus, Castile, N. Y. Subsoil plow.	June 4, 1867.
60, 933	Pect, Samuel J., New York, N. Y. Steam engine valve.	Jan. 1, 1867.
60, 933	Pect, Warren L., Maple Rapids, Mich. Horse power.	Jan. 1, 1867.
63, 292	Peffer, Walter S., Carlisle, Pa. Boot jack.	Mar. 26, 1867.
71, 916	Peirce, B. W., New Bedford, Mass. Chuck.	Oct. 22, 1867.
63, 087	Pell, Henry W., Rome, N. Y. Harvester.	Dec. 10, 1867.
71, 210	Pelletier, Antonio, Parkersburg, West Va. Composition for coating wood, cloth, metals, and for forming various articles.	Mar. 19, 1867.
62, 673	Same. Washington, D. C. Composition for coating wood, iron, paper, &c.	Nov. 19, 1867.
61, 216	Pelton, John, Brooklyn, Ill. Churn.	Dec. 24, 1867.
66, 626	Pelton, James B., assignor to D. H. Wood, Sandusky, N. Y. Carriage brace.	Jan. 15, 1867.
65, 938	Pelton, Joseph H., Cleveland, Tenn. Mechanical movement.	July 9, 1867.
67, 577	Pelton, Lorenzo D., and Joseph Barrow, assignors to selves and Alexis Green, Harrison, Ohio. Cultivator.	June 18, 1867.
61, 653	Pelton, T. G., Lyons, Iowa. Steam engine lubricator.	Aug. 6, 1867.
61, 653	Pember, H. H., New York, N. Y. Machine for cutting canvas, &c.	Jan. 29, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 890	Pember, H. H., New York, N. Y. Fid.....	Mar. 5, 1867.
64, 953	Same..... Card holder.....	May 21, 1867.
60, 780	Pemberton, Henry, Allegheny, Pa. Manufacture of sulphate of alumina, alum, and other aluminous compound.....	Jan. 1, 1867.
2, 431	Same..... Refining hydrocarbon oils and utilizing waste products therefrom..... (Reissue).....	Jan. 1, 1867.
2, 539	Same..... same..... (Reissue).....	Apr. 2, 1867.
64, 250	Same..... Manufacture of soap.....	Apr. 30, 1867.
64, 251	Pemberton, Henry, Allegheny, Pa., and B. Heinemann, Natrona, Pa. Box, can, or vessel for putting up alkali, caustic, &c.....	Apr. 30, 1867.
	Pemberton, Henry, <i>et al.</i> (See Clark, William N., assignor.)	
69, 695	Pence, Samuel, Eaton, Ohio. Animal trap.....	Oct. 8, 1867.
62, 220	Pendleton, Charity, Iowa City, Iowa. Washing machine.....	Feb. 19, 1867.
	Pendleton, John S., and H. Hayward. (See Hayward & Pendleton.)	
67, 212	Penfield, Chester, New Britain, Conn. Door bell.....	July 30, 1867.
	Penfield, Russell H. and Homer. (See Billings, Orson, assignor.)	
2, 467	Penn, W. P., Belleville, Ill. Seeding machine..... (Reissue).....	Jan. 29, 1867.
2, 640	Penn, Worden P., Jacob Geiss, and Jacob Brosius, Belleville, Ill. Grain drill..... (Reissue).....	June 4, 1867.
	Penney, J. W., and C. D. Snell. (See Snell & Penney.)	
71, 530	Pennie, Henry, New York, N. Y. Ice rack for refrigerators.....	Nov. 26, 1867.
72, 891	Pennock, Samuel, Kennett square, Pa. Railway car.....	Dec. 31, 1867.
66, 624	Penrose, Norwood, Philadelphia, Pa. Self-bailing surf and life boat.....	July 9, 1867.
61, 562	Peny, L. D., Laura, Ohio. Self-skimming sorghum evaporator.....	Jan. 29, 1867.
	Peoples' Brick Machine Company. (See Johnston, James J., assignor.)	
69, 242	Pepper, Calvin, assignor to Sidney Smith, Norfolk, Va. Coal stove.....	Sept. 24, 1867.
61, 563	Pepper, Daniel W., assignor to H. Everett, Philadelphia, Pa. Securing caps to metal cans.....	Jan. 29, 1867.
67, 578	Pepper, John, Lake Village, N. H. Portable door fastener. (Antedated July 30, 1867)	Aug. 6, 1867.
68, 107	Same..... Knitting machine.....	Aug. 27, 1867.
61, 247	Percival, George G., Philadelphia, Pa. Lighting gas by electricity.....	Jan. 15, 1867.
71, 323	Percival, Thomas, assignor to self, John D. and Rollin Defrees, Augusta, Maine. Machine for making tags and labels.....	Nov. 26, 1867.
65, 114	Perkins, B. F., North Adams, Mass. Vise.....	May 23, 1867.
68, 897	Same..... Holyoke, Mass. Steam trap.....	Aug. 27, 1867.
60, 781	Perkins, Charles H., Providence, R. I. Process of finishing sheet metal.....	Jan. 1, 1867.
64, 903	Perkins, Charles H., and Richard W. Comstock, Providence, R. I. Machine for swaging horseshoe blanks.....	May 21, 1867.
65, 265	Same..... Horseshoe machine.....	May 28, 1867.
68, 650	Perkins, D. T., and C. F. Hovey, Springfield, Mass. Hose coupling.....	Sept. 10, 1867.
72, 892	Same..... same.....	Dec. 31, 1867.
62, 773	Perkins, George B., Bridgeport, Conn. Ironing machine.....	Mar. 12, 1867.
65, 566	Perkins, George B., assignor to Burlock Manufacturing Company, Bridgeport, Conn. Shirt bosom.....	June 11, 1867.
64, 029	Perkins, Gustavus, Burlington, Vt. Machine for rolling dough, crushing sugar, &c.....	Apr. 23, 1867.
68, 898	Same..... Cooking stove.....	Sept. 17, 1867.
70, 466	Perkins, Howard, Mansfield, Mass. Rope-making machine.....	Nov. 5, 1867.
70, 255	Perkins, Joseph, Saco, Maine. Steering apparatus.....	Oct. 29, 1867.
	Perkins, Michael R. (See Foster, William H., assignor.)	
72, 077	Perkins, Stanhope England. Railway cross-ing. (Patented in England April 4, 1867)	Dec. 10, 1867.
62, 359	Perkins, S. H., and Thomas S. Gilbert, New Haven, Conn. Machine for making hoop skirts.....	Feb. 26, 1867.
63, 936	Same..... same.....	Apr. 16, 1867.
64, 030	Perkins, S. M., Morrison, Ill. Whiffletree hook.....	Apr. 23, 1867.
68, 528	Perkins, Seth W., Geneseo, Ill. Wire snap-hook.....	Sept. 3, 1867.
65, 692	Perkins, William G., Walden, Vt. Rolling screen for doors, windows, &c.....	June 11, 1867.
71, 907	Perr, M., New Orleans, La. Medical compound.....	Dec. 10, 1867.
72, 078	Perrée, R. N., Jersey City, N. J. Manufacture of lampblack.....	Dec. 10, 1867.
	Same..... (See Milloban, A., assignor.)	
2, 739	Perley, Charles, New York, N. Y. Operating ordnance..... (Reissue).....	Aug. 20, 1867.
65, 266	Pernot, Hypodite, and Felix Miller. (See Miller & Pernot.)	
	Perrin, Franklin, Cambridge, Mass. Preparation of palm-leaf warp and wool for weaving.....	May 28, 1867.
	Perrine, John, <i>et al.</i> (See Behel, Perrine & Buell.)	
63, 937	Perry, Alonzo, and Moses C. Hawkins, Edenboro', Pa. Pump.....	Apr. 16, 1867.
	Perry, A. J., & Co. (See Earden, John S., assignor.)	
	Same..... same.....	
64, 904	Perry, Bacchus, and Aaron Cornish, Lee, N. Y. Bolt holder.....	May 21, 1867.
	Perry, C., and T. Watson. (See Watson & Perry.)	
63, 083	Perry, Dan and Edwin, assignors to Orrin F. Perry, Pawtucket, R. I. Hooping casks.....	Mar. 19, 1867.
70, 605	Perry, Edward, Hopkinton, Mass. Wrench.....	Nov. 5, 1867.
	Perry, E. H., and C. F. Harlow. (See Harlow & Perry.)	
	Perry, E. L. (See Manheim, Charles, assignor.)	
61, 452	Perry, Edward, New York, N. Y. Cot or covering for rolls for spinning, &c.....	Jan. 22, 1867.
66, 518	Perry, Edward L., New York, N. Y., and William A. Torrey, Mount Clare, N. J. Manufacture of rubber hose.....	July 9, 1867.
71, 211	Perry, Frankla B., Northampton, Mass. Pocket cutlery.....	Nov. 19, 1867.
	Perry, George, and John A. Dodge. (See Dodge & Perry.)	
61, 564	Perry, George W., assignor to A. Perry & Co., Providence, R. I. Steam generator.....	Jan. 29, 1867.
	Perry, H., <i>et al.</i> (See Deen, Bolding & Perry.)	
64, 358	Perry, Horace L., Aurora, N. Y. Gang plow.....	Apr. 30, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 653	Perry, Horace L., Aurora, N. Y. Gang plow	Nov. 19, 1867.
	Perry, H. O. (See Lay, John L., assignor.)	
	Same..... same.	
	Same..... same.	
	Same..... same.	
	Same..... same.	
66, 251	Perry, Horatio O., Buffalo, N. Y. Hoisting machine for vessels	July 2, 1867.
2, 645	Perry, Horatio O., assignor to John D. Shepard, Buffalo, N. Y. Valve motion for steam engines	(Division A. Reissue)
2, 646	Same..... Valve for steam engines	(Division B. Reissue)
65, 003	Perry, Horatio O., and John L. Lay, Buffalo, N. Y. Steam engine	June 11, 1867.
69, 365	Perry, Marshall, assignor to self and George W. Gregory, New York, N. Y. Loose joint butt hinge	June 11, 1867.
64, 359	Perry, Oliver, W. N. Welles, and Clark Perry, Ortonville, Mich. Sheep-shearing table	Oct. 1, 1867.
72, 674	Perry, Oliver and Clark, Ortonville, Mich. same	Apr. 30, 1867.
71, 531	Perry, O. H., Cincinnati, Ohio. Molding machine	Dec. 24, 1867.
69, 017	Perry, Philander, Charlestown, Mass. Coffee pot	Nov. 26, 1867.
61, 950	Perry, Philander, Charlestown, Mass., and Joshua Brooks, Newton, Mass. Combined stamp holder and inkstand	Sept. 17, 1867.
	Perry, R. B., et al. (See Riter & Swann, assignors.)	Feb. 12, 1867.
	Perry, S., et al. (See Marsh, Thomas, assignor.)	
70, 893	Perry, Stephen and Joseph John, England. Inkstand	Nov. 12, 1867.
69, 243	Perry, Stuart, Newport, N. Y. Chain wheels for horse-power chain	Sept. 24, 1867.
2, 635	Perry, Stuart, assignor, through mesne assignments to self and Adeline Perry, Newport, N. Y. Horse power	(Reissue)
62, 439	Perry, William, North Bridgewater, Mass. Steam digester for treating bones	June 4, 1867.
2, 663	Same..... Steam digester for treating fish bones and other substances	(Reissue)
62, 559	Perry, William V., Burnett, Wis. Stove-pipe damper	Feb. 26, 1867.
	Persels, A., and Sylvester Smith. (See Smith & Persels.)	June 25, 1867.
	Persing, H. W. (See Abbott, N. W., assignor.)	Mar. 5, 1867.
	Peterka, John, and Anton Romann. (See Anton & Peterka.)	
62, 064	Peters, Daniel, and John W. Pauly, Keokuk, Iowa. Carrier's slicker	Feb. 12, 1867.
62, 881	Same..... Plow	Mar. 12, 1867.
69, 606	Peters, Daniel, and Robert F. Williams, Keokuk, Iowa. Line holder	Oct. 8, 1867.
66, 625	Peters, G. M., Granville, Ohio. Harvester rake	July 9, 1867.
69, 476	Same..... same	Oct. 1, 1867.
69, 018	Peters, jr., G. M., Granville, Ohio. Harvester	Sept. 17, 1867.
	Peters, Webb & Co. (See Strothmann, F., assignor.)	
64, 360	Petersen, Nicolai, Columbus, Miss. Musical dial	Apr. 30, 1867.
70, 256	Peterson, Charles, San Francisco, Cal. Means for setting, reefing, and furling sails	Oct. 29, 1867.
70, 354	Peterson, Charles, and Charles Gunner, San Francisco, Cal. Boat-detaching tackle	Oct. 29, 1867.
66, 882	Peterson, D. H., Terre Haute, Ind. Wagon boxes	July 16, 1867.
68, 785	Peterson, Henry, Chicago, Ill. Cigar gauge and butt cutter	Sept. 10, 1867.
64, 031	Peterson, Jacob S., Springdale, Ohio. Weather strip	Apr. 23, 1867.
64, 562	Petitdidier, Francois, France. Mode of applying designs in relief and brilliancy to woven fabrics	May 7, 1867.
67, 213	Petre, N., assignor to self and Joseph H. Suggett, New York, N. Y. Lock latch	July 30, 1867.
63, 562	Petry, George S., assignor to self and George W. Snyder, Troy Grove, Ill. Method of propelling street cars	Apr. 9, 1867.
71, 783	Pettibone, Stoughton, Niagara Falls, N. Y. Method of saving and utilizing alkaline liquors used in treating straw, wood, &c.	Dec. 3, 1867.
	Pettibone, Stoughton, and Albert M. Hastings. (See Hastings & Pettibone.)	
61, 757	Pettee, S. E., Bethlehem, Pa. Bed bottom	Feb. 5, 1867.
72, 227	Pettengill, Charles B., assignor to Freeman C. Merrill, Hebron, Maine. Cultivator	Dec. 17, 1867.
66, 385	Pettengill, jr., John, Lisbon, N. H. Car coupling	July 2, 1867.
68, 000	Pettengill, J. W., Rockford, Ill. Churn dasher	Aug. 20, 1867.
67, 579	Pettengill, Oliver P., Topsfield, Mass. Sole finishing tool	Aug. 6, 1867.
63, 747	Petty, J. B., and Jerome Fredericks, Conneaut, Ohio. Stuffing box for deep-well pumps	Apr. 9, 1867.
67, 135	Petteys, Eli, Chestertown, N. Y. Gate	July 23, 1867.
	Pettibone, R. J., and B. Garvin. (See Garvin & Pettibone.)	
	Same..... same	
66, 386	Pettibone, S., Corunna, Mich. Straw cutter	July 2, 1867.
67, 902	Pettingill, William, Painesville, Ohio. Fence	Aug. 20, 1867.
72, 537	Pettit, Rufus D., Baldwinville, N. Y. Rotary steam engine	Dec. 24, 1867.
62, 560	Petty, Joseph W., New Orleans, La. Cotton-bale tie	Mar. 5, 1867.
	Peugeot, Edward F., et al. (See Brown, F. H., assignor.)	
	Same..... same	
	Same..... same	
	Same..... same	
62, 561	Pevey, George E., Lowell, Mass. Direction label	Mar. 5, 1867.
61, 356	Pfeiffer, John, Philadelphia, Pa. Coal scuttle	Jan. 22, 1867.
	Pfeiffer, W. F., et al. (See Warner, Pfeiffer & Lepper.)	
66, 039	Pfohl, John C., Arenzville, Ill. Gang plow	June 25, 1867.
70, 015	Pätzinger, Jacob, Buffalo, N. Y. Coal hod	Oct. 22, 1867.
62, 562	Pfeighar, F. P., and William Shollhorn, New Haven, Conn. Oiler	Mar. 5, 1867.
69, 477	Phalen, Henry J., Plantersville, Texas. Apparatus for heating water and condensing steam	Oct. 1, 1867.
	Phelan, Michael. (See Collender, Hugh W., assignor.)	(Reissue)
71, 054	Phelon, Cyrus, West Granville, Mass. Brake for vehicles	Nov. 19, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 151	Phelps, Jf. E. S., Wyand, Ill. Chimney.....	Dec. 10, 1867.
68, 385	Phelps, Harvey and Alvah, Albany, N. Y. Apparatus for slabbing soap.....	Sept. 3, 1867.
69, 124	Phelps, John, Owego, N. Y. Faucet.....	Sept. 24, 1867.
70, 467	Phelps, William F., Winona, Minn. Frame for suspending maps.....	Nov. 5, 1867.
69, 019	Phelps, William J., Springfield, Mass. Conductor's ticket punch.....	Sept. 17, 1867.
61, 563	Phifer, Edward, Trenton, N. J. Cultivator.....	May 7, 1867.
71, 784	Philbrick, E. (See Bundy, Nelson H., assignor.) Philbrick, Stephen C., Rockville, Conn. Wool-carding machine.....	Dec. 3, 1867.
67, 903	Philbrick, William D., et al. (See Haigh and Robertson, assignors.) Philippi, A., Elizabethport, N. J. Railroad frog.....	Aug. 20, 1867.
62, 221	Philippi, P., Beardstown, Ill. Axle box.....	Feb. 19, 1867.
62, 065	Philippi, Abraham H., Reading, Pa. Oil can.....	Feb. 12, 1867.
64, 700	Philippi, John W., Stahlstown, Pa. Wagon brake.....	May 14, 1867.
70, 113	Phillips, Alfred S., South Boston, Mass. Apparatus for spooling thread.....	Oct. 22, 1867.
72, 228	Same..... Boston, Mass. Skirt-ironing table.....	Dec. 17, 1867.
68, 910	Phillips, Charles E., and John Hyslop. (See Hyslop & Phillips.) Phillips, Dewey, Shaftsbury, Vt., and William Reid, West Arlington, Vt. Method of securing heads in seamless casks.....	Apr. 16, 1867.
70, 114	Phillips, Job, Daniel W. Southwick, and David A. Arnold, Pawtucket, R. I. Starting and stopping cars.....	Oct. 22, 1867.
63, 087	Phillips, jr., John, Chicago, Ill. Wood-turning lathe.....	Mar. 19, 1867.
63, 090	Phillips, John E., Philadelphia, Pa. Press strainer.....	Mar. 19, 1867.
61, 861	Phillips, Jordan H., St. Louis, Mo. Propeller.....	Feb. 5, 1867.
72, 675	Phillips, Milton E., assignor to self and George Wetzel, Lena, Ill. Threshing machine.....	Dec. 24, 1867.
61, 248	Phillips, Russell, Gardiner, Maine. Carpenters' gauge.....	Jan. 13, 1867.
67, 671	Phillips, Russell, assignor to self and Nathan Weston, Gardiner, Me. Carpenters' plane.....	Aug. 13, 1867.
69, 583	Philps, Thomas H., and John W. Smith. (See Smith & Phillips.) Phillips, T. S., assignor to self and M. J. Bellows, Cassadaga, N. Y. Animal trap.....	Oct. 8, 1867.
63, 421	Phillips, Willoughby W. and V. J., Wellsville, N. Y. Mechanism for operating the picker staffs of looms.....	Apr. 2, 1867.
61, 861	Philps, Alfred. (See Spence, James F., assignor.) Pinney, Hiram, Kingston, N. Y. Rotary bellows.....	Jan. 29, 1867.
66, 252	Phoenix Furnace Bar Company. (See Vandercar, John, assignor)..... (Disclaimer.) Pickering, B., and B. Owen. (See Owen & Pickering.)	
71, 055	Pickering, Charles H., Indianapolis, Ind. Potato digger. (Ante-dated June 27, 1867.) Pickering, Loring, and Chauncey St. John, New York, N. Y. Quartz mill.....	July 2, 1867. Nov. 19, 1867.
67, 797	Pickernell, Albert, et al. (See Sykes, Chester W., assignor.) Pickert, A. K. M., and William H. Hartman. (See Hartman & Pickert.)	
64, 564	Pickhardt, J. F. C., New York, N. Y. Wardrobe bedstead.....	Aug. 13, 1867.
68, 786	Same..... (See Pechmann, Martin, assignor.) Picot, Leonce, assignor to Wilhelmine Picot, Hoboken, N. J. Hollow articles of rubber and other flexible materials.....	May 7, 1867.
70, 606	Pidault, Marshall, and G. Elieze dit Lagieze, assignors to selves and J. F. Gevelot, France. Breech-loading fire-arms. (Patented in France September 26, 1866).....	Sept. 10, 1867.
61, 862	Pidgeon, Francis, Saugerties, N. Y. Rail-clamp joint.....	Nov. 5, 1867.
66, 040	Pier, Orris, Winhall, Vt. Horse rake.....	Feb. 5, 1867.
71, 637	Pierce, Charles E., New York, N. Y. Burglar alarm.....	June 25, 1867.
65, 597	Same..... Burglar alarm and lock apparatus.....	Dec. 3, 1867.
70, 257	Pierce, C. W., Albany, N. Y. Construction of pots for burning or charring bones.....	June 11, 1867.
71, 212	Pierce, E. S., Hartford, Conn. Apparatus for feeding screw blanks.....	Oct. 29, 1867.
71, 638	Same..... Balance wheel.....	Nov. 19, 1867.
71, 908	Same..... Mechanism for feeding screw blanks.....	Dec. 3, 1867.
71, 909	Same..... Machinery for shaving and slotting screws.....	Dec. 10, 1867.
61, 453	Same..... Double screw.....	Dec. 10, 1867.
2, 718	Pierce, H., and J. B. Button, Cleveland, Ohio. Oil tank.....	Jan. 22, 1867.
64, 445	Pierce, H., and J. B. Button, assignors to John B. Button, Cleveland, Ohio. Oil tank..... (Reissue.) Pierce, Isaac, et al. (See Parker, Hall & Pierce.) Pierce, John T., and Isaac, et al. (See Hall, James T., assignor.)	Aug. 6, 1867.
70, 355	Pierce, Marvin, Buffalo, Wis. Washing machine.....	May 7, 1867.
71, 056	Same..... Winona, Minn. Bed bottom spring.....	Oct. 29, 1867.
69, 697	Pierce, Walter, Onion Valley, Cal. Rock-drilling machine.....	Nov. 19, 1867.
62, 882	Pierpont, Joshua, assignor to self and Sidney S. Tuttle, La Harpe, Ill. Cultivator coupling.....	Oct. 8, 1867.
71, 410	Pierson, Albert C., Rahway, N. J. Calculating machine.....	Mar. 12, 1867.
65, 267	Pierson, John R., Newark, N. J. Safe-door bolt.....	Nov. 26, 1867.
64, 139	Pierson, William Hugh, New Orleans, La. Plastic compound, made from vegetable fiber.....	May 28, 1867.
71, 785	Pigeon, Narcisse, Montreal, C. E. Manufacture of sugar starch.....	Apr. 23, 1867.
69, 934	Pigott, I. S., Central Station, West Va. Log wagon.....	Dec. 3, 1867.
71, 910	Pike, Charles F., Providence, R. I. Refrigerator.....	Jan. 1, 1867.
72, 893	Same..... Apparatus for preserving meat, fish, poultry, and other perishable articles.....	Dec. 10, 1867.
72, 894	Same..... Corpse preserver.....	Dec. 31, 1867.
72, 895	Same..... Preserving, refrigerating, and transporting perishable articles.....	Dec. 31, 1867.
72, 325	Same..... Construction of railroad car for preserving and transporting meat, fish, and vegetables.....	Dec. 31, 1867.
70, 258	Pike, Charles O., North Leverett, Mass. Belt fastener.....	Dec. 17, 1867.
69, 932	Pike, E. W., Galesburg, Ill. Cultivator.....	Oct. 29, 1867.
	Pike, P. D., Stowe, Vt. Water wheel.....	Oct. 15, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 741	Pike, William G., Philadelphia, Pa. Lightning conductor.....	Nov. 12, 1867.
66, 734	Pilkington, W., Frankford, Pa., and D. Pilkington, Chester, Pa. Stop motion for looms.....	July 16, 1867.
71, 639	Pillard, Oliver E., assignor to Frederic H. North, New Britain, Conn. Adjustable tumbler for permutation locks.....	Dec. 3, 1867.
70, 356	Pillsbury, O. M., and O. L. Milliken. (See Milliken & Pillsbury.)	
62, 681	Pinder, C., and D. C. Robinson, Lowell, Mass. Car-axle box.....	Oct. 29, 1867.
	Pine, James, Troy, N. Y. Harvester.....	Mar. 5, 1867.
	Pinner, Moritz. (See Bequet, Son, Gustave, assignor.)	
	Pinner, Moritz, and Gustave Bequet. (See Bequet, Jean Gustave, assignor.)	
70, 115	Pinney, Oliver L., Brunswick, Ohio. Lifting jack.....	Oct. 22, 1867.
62, 232	Piotrowski, Walerian, New York, N. Y. Painting and varnishing wood and metals.....	Feb. 10, 1867.
68, 312	Piper, E. J., and J. C. Marshall, Springfield, Mass. Steam engine slide valve. (Antedated August 15, 1867).....	Aug. 27, 1867.
65, 598	Piper, Edwin S., assignor to self and Atkins & Co., Indianapolis, Ind. Hardening saws.....	June 11, 1867.
72, 696	Pirz, Manuel, East New York, N. Y. Dining table.....	Dec. 31, 1867.
68, 232	Pitcher, John, Mt. Vernon, Ind. Floating fence.....	Aug. 27, 1867.
70, 742	Pitcher, Leman B., Salina, N. Y. Mixing and drying cylinder.....	Nov. 12, 1867.
71, 057	Same..... Roller wheel for plows.....	Nov. 19, 1867.
65, 427	Pitchforth, Henry, and William Benson, Muscatine, Iowa. Machine for destroying potato bugs.....	June 4, 1867.
62, 563	Pitman, Richard W., West Point, Iowa. Insect trap lantern.....	Mar. 5, 1867.
72, 079	Pitner, Henry B., La Porte, Ind. Axle box.....	Dec. 10, 1867.
	Pitt, William, et al. (See Samuels & Brassington, assignors.)	
62, 883	Pittsburg and McKeesport Car Company. (See Hibler, Benjamin H., assignor.)	
	Piace, Thomas, Alfred Centre, N. Y. Machine for boring and tenoning.....	Mar. 12, 1867.
71, 259	Piagge, Charles, Grand Duchy of Hesse. Rail guide for guiding wagons.....	Oct. 29, 1867.
2, 779	Plant, Frederic, assignor through mesne assignments to C. P. S. Wardwell, Lake Village, N. H. Machine for making needles.....	Oct. 15, 1867.
	Platner, H., and W. B. Lodge. (See Lodge & Platner.)	
	Same.....	
	Same.....	
	Same.....	
67, 069	Platt, B. R., and J. A. Gray, Holland, Mich. Washing machine.....	July 23, 1867.
72, 897	Platt, C. H., North Fairfield, Ohio. Gate.....	Dec. 31, 1867.
	Platt, James H., jr. (See Porter, W. D., assignor.)	
	Platt, James L. (See Kerr, Edwin R., assignor)..... (Reissue.)	
	Platt, John D., et al. (See Curtis, Amasa, assignor.)	
62, 774	Platt, Theron E., New Haven, Conn. Book-holder.....	Mar. 12, 1867.
72, 756	Platt, Theron E., assignor to self and George D. Lambert, Newtown, Conn. Harvester.....	Dec. 31, 1867.
61, 094	Platt, Thomas J., Newark, N. J. Artificial Tripoli, for polishing.....	Jan. 8, 1867.
65, 599	Player, John, England. Hot-blast Stove. (Antedated April 21, 1866).....	June 11, 1867.
65, 600	Same..... Apparatus for heating the blasts for furnaces and in smelting iron, &c. (Patented in England March 25, 1865).....	June 11, 1867.
62, 455	Plimpton, Albert M., Hornellsville, N. Y. Detachable buggy top.....	Sept. 3, 1867.
	Plumb, Charles M., and Emmette Dismore. (See Andrews, Solomon, assignor.)	
72, 326	Plumb, Henry L., Hamer, Ohio. Portable evaporator.....	Dec. 17, 1867.
61, 454	Plumb, Luke A., Biddeford, Maine. Combined lamp, coffee pot, and boiler.....	Jan. 22, 1867.
61, 863	Same..... Nurse stove.....	Feb. 5, 1867.
68, 299	Plumb, W. H., assignor to Henry de Zavala, New York, N. Y. Hat. (Antedated September 4, 1867).....	Sept. 17, 1867.
70, 697	Plumb, Zenas, assignor to self and John C. Polley, De Witt, Iowa. Wagon reach.....	Nov. 5, 1867.
69, 584	Plumleigh, Thomas and Charles, Dundee, Ill. Converting circular into reciprocating motion.....	Oct. 8, 1867.
66, 519	Plummer, Frank J., assignor to R. Ball & Co., Worcester, Mass. Planing machine.....	July 9, 1867.
68, 108	Same..... Clutch shipper.....	Aug. 27, 1867.
70, 894	Plummer, John E., Binghamton, N. Y. Edge plane.....	Nov. 12, 1867.
	Plummer, Osgood. (See Schofield, James, assignor.)	
62, 775	Plympton, N. A., Northborough, Mass. Measuring the strength of watch springs. (Antedated February 25, 1867).....	Mar. 12, 1867.
70, 116	Poinier, Charles P., assignor to self and Charles O. Horton, Boston, Mass. Frame for pictures, &c.....	Oct. 22, 1867.
61, 685	Pol, John, New York, N. Y. Cab.....	Jan. 29, 1867.
61, 357	Poland, J. C., jr., Auburn, Maine, and B. R. Cotton, Lewiston, Maine. Shuttle binder for looms.....	Jan. 22, 1867.
	Poland, William, and Thomas J. Rowley. (See Rowley & Poland.)	
63, 293	Polhaenus, Abraham G., Nyack, N. Y. Water-tight iron tank for the protection of the timbers of steamboats.....	Mar. 26, 1867.
2, 539	Polhaenus, John, New York, N. Y. Handle of a fork or spoon..... (Design)	Jan. 1, 1867.
2, 772	Same..... Fork or spoon handle..... (Design)	Aug. 27, 1867.
71, 058	Polhenus, J., Jersey City, N. J., and Christian H. Lilienthal, Youkers, N. Y., assignors to C. H. Lilienthal. Apparatus for printing on tin foil.....	Nov. 19, 1867.
71, 213	Pollard, J. E., assignor to the Elliott Pelting Mills, Franklin, Mass. Embossing cloth.....	Nov. 19, 1867.
65, 428	Pollard, William H., assignor to James H. Gould, Seneca Falls, N. Y. Axle box.....	June 4, 1867.
67, 214	Pollard, William H., assignor to Douns & Co.'s Manufacturing Company, Seneca Falls, N. Y. Cut-off stop-cock.....	July 30, 1867.
	Polley, John C. (See Plumb, Zenas, assignor.)	
63, 556	Polley, Starr, Brooklyn, N. Y. Steaming on hat bodies.....	Apr. 2, 1867.
63, 173	Polley, Starr, assignor to Ambrose Hill, Brooklyn, N. Y. Rounding jacks for trimming brims of hats.....	Mar. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 938	Pollock L., Fishkill Landing, N. Y. Sash and blind fastener.	Apr. 16, 1867.
72, 080	Pollock, Leander, assignor to self and John P. Schenck, jr., Mattewan, N. Y. Railway chair.	Dec. 10, 1867.
68, 571	Pollock, William B. Holyoke, Mass. Paper-ruling machine.	Sept. 3, 1867.
62, 682	Polsey, A. M. assignor to T. H. Fuller, Boston, Mass. Machine for making nails.	Mar. 5, 1867.
64, 140	Pomeroy, George M. D., Attica, Ind. Gate latch.	Apr. 23, 1867.
	Pomeroy, Samuel C., et al. (See Way and Pomeroy.)	
	Pomeroy, Thomas, and James H. Harlan. (See Harlan & Pomeroy.)	
63, 091	Pomeroy, William, New York, N. Y. Truss.	Mar. 19, 1867.
69, 020	Same.....Brooklyn, N. Y. Truss.	Sept. 17, 1867.
65, 115	Pomeroy, W. R., Millersburg, Ohio. Counter and desk seat.	May 28, 1867.
69, 585	Pond, C. H., Oberlin, Ohio, Telegraph apparatus.	Oct. 8, 1867.
72, 417	Pond Elizur, New Haven, Conn. Stirrup.	Dec. 17, 1867.
2, 455,	Pond, E. A., and M. S. Richardson, Rutland, Vt. Gas apparatus. (Reissue)	Jan. 15, 1867.
65, 939	Same.....Machine for producing blast in gas carbureters and other apparatus.	June 18, 1867.
	Same. (See Richardson & Pond.)	
	Same.....same.	
67, 450	Pond, Henry E., Franklin, Mass. Artificial fertilizer	Aug. 6, 1867.
70, 608	Same.....Fertilizer	Nov. 5, 1867.
67, 672	Pond, Henry E., assignor to self and Amos P. Woodward, Franklin, Mass. Receptacle for harness.	Aug. 13, 1867.
69, 857	Pond, Moses, Boston, Mass. Stove	Oct. 15, 1867.
62, 151	Pond, O. M., Independence, Iowa. Corn husker.	Feb. 19, 1867.
63, 557	Pontious, Nelson, Hallsville, Ohio. Drilling oil and other wells.	Apr. 2, 1867.
60, 782	Pool, George H., New York, N. Y. Spring bed. (Antedated December 19, 1866.)	Jan. 1, 1867.
	Pool, William, and E. Brown. (See Brown & Pool.)	
65, 268	Poole, Robert, Baltimore, Md. Mixture for rubbing and mixing paints, chemicals, &c.	May 28, 1867.
	Poorman, Samuel F., and George S. Yingling. (See Yingling & Poorman.)	
	Pope, Augustus R., deceased, by Lucy A. Pope, administratrix, Somerville, Mass. Electro-magnetic alarm. (Disclaimer)	June 17, 1867.
	Same.....same (Extension)	June 20, 1867.
	Pope, E. R. (See Craw & Randolph, assignors.)	
	Pope, F. H., and O. W. Baldwin. (See Baldwin & Pope.)	
65, 693	Pope, H. G., and H. F. Herrick, New Berlin, N. Y. Medical compound.	June 11, 1867.
65, 004	Pope, I. S. Napoleon, Ohio. Hog feeder.	May 21, 1867.
69, 933	Pope, J. P., and J. T. Whipple, Chicago, Ill. Weighing scale	Oct. 15, 1867.
	Popkess, R. (See Wildback, John, assignor.)	
71, 786	Poppe, John, Greenpoint, N. Y. Rotary pump.	Dec. 3, 1867.
	Porter & Booth. (See Fallows, James, assignor.)	
65, 005	Porter, Alonzo W., and J. Hamilton Brown, assignors to Alonzo W. Porter and James S. Gray, New York, N. Y. Vapor burner.	May 21, 1867.
64, 905	Porter, Benjamin F., Manchester, N. H. Cullender boiler.	May 21, 1867.
70, 609	Porter, Benjamin F., assignor to self and Timothy S. Mitchell, Manchester, N. H. Combined door fastener and pocket knife.	Nov. 5, 1867.
	Porter, Charles. (See Marden, Samuel, assignor.)	
67, 346	Porter, Charles H., Albany, N. Y. Corking bottles.	July 30, 1867.
61, 249	Porter, D'Arcy, assignor to G. S. Newcomb & Co., Cleveland, Ohio. Scissors sharpener.	Jan. 15, 1867.
62, 440	Porter, Edward, Clinton, Ill. Apparatus for the manufacture of sugar and syrup.	Feb. 26, 1867.
69, 994	Same.....Tallmadge, Ohio. Churn.	Oct. 15, 1867.
63, 294	Porter, E. N., Morrisville, Vt. Mop squeezer	Mar. 26, 1867.
63, 295	Porter, E. P., and G. W. Hallett, Waterford, N. Y. Door lock.	Mar. 26, 1867.
71, 411	Same.....same	Nov. 5, 1867.
65, 429	Porter, Frederic B., Detroit, Mich. Telegraph signal box.	June 4, 1867.
	Porter, George L. (See Chaffee, Edwin M., assignor.)	
64, 361	Porter, George W., Boston, Mass. Apparatus for carbureting gas and air	Apr. 30, 1867.
71, 214	Porter, Henry B., Chicago, Ill. Hotel annunciator	Nov. 19, 1867.
72, 327	Porter, H. K. and T. W., Boston, Mass. Vise	Dec. 17, 1867.
68, 500	Porter, James, and Wheelock W., Wauconda, Ill. Reverse lever pitman	Sept. 17, 1867.
71, 640	Porter, J. H., assignor to Frederic H. North, New York, N. Y. Adjustable tumbler for permutation locks.	Dec. 3, 1867.
62, 683	Porter, James S., and Russel, Waterford, N. Y. Alarm lock.	Mar. 5, 1867.
61, 095	Porter, Orin I., Hudson, Ohio. Grain bin.	Jan. 8, 1867.
68, 572	Porter, Parker C., assignor to self and R. M. Mansur, Augusta, Maine. Carriage jack	Sept. 3, 1867.
68, 109	Porter, Roger W., Nashua, N. H. Pruning knife, hook, and saw.	Aug. 27, 1867.
	Porter, Samuel, and L. M. Monroe. (See Wood, Merritt L., assignor.)	
65, 269	Porter, S. L., assignor to self and W. T. Eaton, Rochelle, Ill. Method of raising and leveling railroad rails.	May 28, 1867.
	Porter, Samuel W. (See Newcomb & Lyon, assignors.)	
	Porter, T. W. (See Littlefield, C. B., assignor.)	
	Porter, T. W., and S. Z. Leslie. (See Leslie & Porter.)	
67, 070	Porter, William, Belleville township, N. J. Lamp.	July 23, 1867.
64, 141	Porter, William, sr., and William, jr., New York, N. Y. Lantern.	Apr. 23, 1867.
70, 610	Porter, W. D., assignor to self and James H. Platt, jr., Petersburg, Va. Toy humming wheel	Nov. 5, 1867.
	Porter, William S. (See Worcester, Edward J., assignor.)	
67, 798	Post, Charles H., Guilford, Conn. Ox yoke	Aug. 13, 1867.
61, 633	Post, Eugene J., Vienna, N. J. Hat and coat holder.	Jan. 29, 1867.
69, 125	Same.....Spring for vehicles	Sept. 24, 1867.
66, 735	Post, Frederick, Plano, Ill. Water wheel.	July 16, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 117	Post, H. A. V., and Jephth Garrard, Cincinnati, Ohio. Apparatus for burning hydrocarbons	Oct. 22, 1867.
65, 502	Post, John W., Castile, N. Y. Skate	June 4, 1867.
67, 799	Same. Skate	Aug. 13, 1867.
67, 071	Postawka, Louis, assignor to self and A. J. Wondra, Boston, Mass. Railroad spike	July 23, 1867.
67, 580	Poston, E. W., Fort Wayne, Ind. Sand ejector. (Antedated Aug. 1, 1867).	Aug. 6, 1867.
69, 935	Postweiler, A., and P. Devilliard. (See Devilliard & Postweiler.)	
	Potter, A. W., and J. A. Barling, Monroe, Wis. Rein holder	Oct. 15, 1867.
	Potter, A. W., and Edwin Cox. (See Cox & Potter.)	
68, 001	Potter, C., jr., Westery, R. I. Printing press	Aug. 20, 1867.
63, 939	Potter, Elisha O., North Providence, R. I. Apparatus for guiding cloth	Apr. 16, 1867.
64, 396	Potter, Elisha O., assignor to C. A. Warland and J. M. Ryder, Pawtucket, R. I. Machine for cutting files	Apr. 30, 1867.
	Potter, E. O., et al. (See Wheeler, Walter, jr., assignor.)	
68, 002	Potter, H. A., Providence, R. I. Wheel for vehicles	Aug. 20, 1867.
61, 096	Potter, Henry H., Carthage, N. Y. Fly trap	Jan. 8, 1867.
66, 104	Potter, Henry T., Norwichtown, Conn. Ring traveler for spinning	June 25, 1867.
62, 498	Potter, Henry T., assignor to self, Edwin Allen, and Elisha H. Holmes, Norwichtown, Conn. Drawing and twisting head for spinning machinery	Feb. 26, 1867.
70, 260	Potter, Moses O., South Scituate, R. I. Creel for winding yarn	Oct. 29, 1867.
	Potter, Orris, et al. (See Gally, Merritt, assignor.)	
61, 455	Potter, Oscar T., Scott, N. Y. Carriage jack	Jan. 22, 1867.
60, 783	Potter, Samuel, Wyandotte, Mich. Fagot for railroad rails	Jan. 1, 1867.
61, 565	Potter, Samuel L., Wyandotte, Mich. Fagot for railroad rails	Jan. 29, 1867.
68, 233	Same. Rolls for rolling railroad rails	Aug. 27, 1867.
68, 386	Potter, William, and Ebenezer Crane, Lowell, Mass. Cotton elevator	Sept. 3, 1867.
2, 684	Potter, William L., Newark, N. J. Composition for roofing and other purposes. (Reissue.)	July 16, 1867.
62, 360	Pottmeyer, Joseph B., assignor to self and Nicholas Winter, Pittsburg, Pa. Steam pump	Feb. 26, 1867.
62, 223	Potts, Jonas, Bridgeport, West Va. Cultivator	Feb. 19, 1867.
69, 936	Potts, Robert, Chatham, N. Y. Machine for bending metals	Oct. 15, 1867.
64, 142	Potwin, W. S., assignor to Frank Sturges & Co., Chicago, Ill. Bottom for culinary steamers	Apr. 23, 1867.
	Poultney, T. (See Macgill, Oliver P., assignor.) (Reissue.)	
64, 702	Poultney, Thomas, Baltimore, Md., and Silas Crispin, New York, N. Y., assignors to Thomas Poultney. Breech-loading fire-arm	May 14, 1867.
68, 787	Poulton, C. T., Danboro, Pa. Wrench	Sept. 10, 1867.
62, 441	Powe, Moses, Mt. Bethel, Pa. Tulyere	Feb. 26, 1867.
68, 573	Powell, Ambrose, Coxsackie, N. Y. Washing machine	Sept. 3, 1867.
60, 784	Powell, Edward, Conneautville, Pa. Spring crupper. (Antedated Dec. 29, 1866)	Jan. 1, 1867.
64, 565	Powell, Edwin R., Cambridge, Vt. Attaching thills to vehicles	May 7, 1867.
61, 758	Powell, James, Cincinnati, Ohio. Globe valve	Feb. 5, 1867.
66, 171	Powell, J. B., and S. H. Everett, Macedon, N. Y. Gate	June 25, 1867.
	Powell, John G. (See Morse, William A., assignor.)	
69, 586	Powell, John G., and Wm. A. Morse, Philadelphia, Pa. Broom holder. (See Morse & Powell.)	Oct. 8, 1867.
63, 422	Powell, Martin L., New Castle, Ind. Stove pipe	Apr. 2, 1867.
72, 418	Powell, Samuel W., Brookville, Md. Bone and plaster mill	Dec. 17, 1867.
63, 092	Powell, Thomas, Milroy, Ind. Sleeve supporter	Mar. 19, 1867.
	Powell, W. J., and J. W. Latcher. (See Latcher & Powell.) (Reissue.)	
69, 698	Power, Patrick, Chicago, Ill. Rocker for cradles	Oct. 8, 1867.
2, 801	Powers, A. E., assignor to self, Deborah and Nathaniel B. Powers, Lansingburg, N. Y. Floor cloth pattern. (Design)	Oct. 15, 1867.
	Powers, Deborah, Albert E., and Nathaniel L. (See Webster, John T., assignor.) (Design.)	
62, 499	Powers, D. J., assignor to the Buffalo Agricultural Machine Works, Madison, Wis. Sugar-cane mill	Feb. 26, 1867.
64, 791	Powers, D. J., and H. B. Stevens, assignor through mesne assignments to the Buffalo Agricultural Machine Works, Madison, Wis. Horse power	May 14, 1867.
69, 244	Powers, D. J., Madison, Wis., and H. B. Stevens, Buffalo, N. Y., assignors to the Buffalo Agricultural Machine Works. Sugar-cane mill	Sept. 24, 1867.
	Powers, Frank, et al. (See Reef, Jacob, jr., assignor.)	
64, 252	Powers, George R., Kingston, Mass. Stencil plate	Apr. 30, 1867.
72, 676	Powers, George W., Boston, Mass. Operating feed wheels in sewing machines	Dec. 24, 1867.
65, 601	Powers, Jay W., Evanston, Ill. Hinge. (Antedated May 28, 1867)	June 11, 1867.
70, 257	Powers, Thomas D., Rochester, Wis. Wagon shackle	Oct. 29, 1867.
61, 456	Powers, Timothy J., assignor to Fitch & Van Vechten, New York, N. Y. Cartridge-filling machine	Jan. 22, 1867.
65, 940	Powers, Timothy J., assignor to J. P. Fitch and J. R. Van Vechten, N. Y. Machine for heading cartridge cases	June 18, 1867.
67, 136	Pramer, Nelson, assignor to Hicks, Wolfe & Co., Troy, N. Y. Grate. (Antedated July 14, 1867)	July 23, 1867.
64, 032	Prather, Thomas W., Iowa City, Iowa. Method of removing buildings	Apr. 23, 1867.
	Prather, W., et al. (See Clinton, Prather & Hutchinson.)	
	Pratt, Aaron, and Isaiah Lincoln. (See Lincoln & Pratt.)	
63, 296	Pratt, Aaron W., Putneyville, N. Y. Fence	Mar. 26, 1867.
	Pratt, B. M., et al. (See Wright, Francis H., assignor.)	
2, 712	Pratt, Charles, New York, N. Y. Oil can. (Design)	July 23, 1867.
	Same. (See Abbott, Joseph L., assignor.)	
	Pratt, Charles C. (See King, Gamaliel, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 699	Pratt, D. A., Tremont, N. Y. Motive power for locomotion and other purposes.....	Oct. 8, 1867.
69, 700	Same.....Slng Sing, N. Y. Key-hole guard for door locks.....	Oct. 8, 1867.
62, 361	Pratt, Daniel R., Worcester, Mass. Pin.....	Nov. 26, 1867.
61, 864	Pratt, Daniel R., assignor to Marcus Rice, Worcester, Mass. Spike machine.....	Feb. 5, 1867.
67, 451	Pratt, Daniel R., assignor to John P. Veree, William A. Mitchell, and I. Marcus Rice, Worcester, Mass. Method of splicing railroad rails.....	Aug. 6, 1867.
	Pratt, E. G., et al. (See Hufendeck, Henry, assignor.)	
65, 006	Pratt, E. L., Boston, Mass. Machine for cutting tobacco.....	May 21, 1867.
66, 387	Same.....Boiler-tube scraper.....	July 2, 1867.
68, 788	Same.....Apparatus for aerating liquids.....	Sept. 10, 1867.
72, 898	Same.....Tobacco cutter.....	Dec. 31, 1867.
	Pratt, Ephraim L., Boston, Mass. Machine for paring apples.....(Extension)	Sept. 23, 1867.
2, 588	Pratt, Francis A., assignor through mesne assignments to George S. Lincoln & Co., Hartford, Conn. Device for stopping and changing motion.....(Reissue)	Apr. 30, 1867.
66, 883	Pratt, James D., Cleveland, Ohio. Bed lounge.....	July 16, 1867.
	Pratt, Otis. (See Jackson, A. P., assignor.)	
	Pratt, Samuel, Hamnton, N. J. Screw nail.....(Extension)	Oct. 23, 1867.
65, 007	Pratt, Samuel F., Roxbury, Mass. Furniture for vessels.....	May 21, 1867.
64, 566	Pratt, Seymour, Fayetteville, N. Y. Roofing.....	May 7, 1867.
61, 097	Pratt, Thomas, Valparaiso, Ind. Wrench.....	Jan. 8, 1867.
61, 250	Pray, Ira W., and Edward Fitzhenry, Portland, Oregon. Machine for scouring leather.....	Jan. 15, 1867.
61, 098	Pray, Lyman, Charlestown, Mass. Distilling apparatus.....	Jan. 8, 1867.
61, 358	Preble, M. M., Kokomo, Ind. Fly trap.....	Jan. 22, 1867.
61, 099	Prentice, James, New York, N. Y. Eye glass.....	Jan. 8, 1867.
71, 532	Prentice, John, and W. F. Wuterich, assignors to John Prentice, New York, N. Y. Cigar machine.....	Nov. 26, 1867.
	Prentice, J. H. (See Nichols, Enos S., assignor.)	
67, 591	Prentice, M. S., Rockford, Ill. Washing machine.....	Aug. 6, 1867.
	Prentice, Rufus. (See Camp, B. H., assignor.)	
63, 558	Prentiss, Arthur, Prentiss Vale, Pa. Spike and nail.....	Apr. 2, 1867.
64, 792	Same.....Hoe.....	May 14, 1867.
64, 793	Same.....Inhaler.....	May 14, 1867.
64, 794	Same.....Carriage wheel.....	May 14, 1867.
64, 795	Same.....Otto, Pa. Carriage wheel.....	May 14, 1867.
63, 174	Prentiss, E. F., Philadelphia, Pa., and C. C. Parsons, Boston, Mass. Process for treating Indian corn. (Antedated March 15, 1867)	Mar. 26, 1867.
63, 175	Same.....Preparation from Indian corn. (Antedated March 15, 1866)	Mar. 26, 1867.
	Prentiss, E. F., et al. (See Haigh & Robertson, assignors.)	
69, 478	Prentiss, Mason, Cambridge, N. Y. Plow.....	Oct. 1, 1867.
	Prescott, E., and F. R. Miller. (See Miller & Prescott.)	
	Prescott, E. A. (See Dryden, George, assignor.)	
	Prescott, George P., et al. (See Tyler, Samuel W., assignor.)	
68, 456	Prescott, Noah, Dorchester, Mass. Closing bottles.....	Sept. 3, 1867.
62, 152	Prescott, William H., and Whitcomb Judson, Galesburg, Ill. Odometer.....	Feb. 19, 1867.
	Prescott, William H., and P. W. Webster. (See Webster & Prescott.)	
69, 701	Pressey, G. W., Hamnton, N. J. Stump extractor.....	Oct. 8, 1867.
67, 673	Prest, Daniel, Marlboro', N. J. Horse rake.....	Aug. 13, 1867.
65, 827	Preston, Albert W., Mazon, Ill. Glove for husking corn.....	June 18, 1867.
69, 937	Preston, Almon E., Battle Creek, Mich. Extension table.....	Oct. 15, 1867.
72, 419	Preston, C. C., Bayland, Texas. Apparatus for fumigating plants.....	Dec. 17, 1867.
71, 050	Preston, George W., Corning, N. Y. Horse block and hitching post.....	Nov. 19, 1867.
	Preston, Hiram, and Azro M. Bowles. (See Bowles & Preston.)	
61, 865	Preston, James W., assignor to A. B. Ely, Newton, Mass. Breech-loading fire-arms.....	Feb. 5, 1867.
67, 674	Preston, John, assignor to self and John B. Atherton, Fairfield, Conn. Support for sewing-machine operators.....	Aug. 13, 1867.
69, 245	Preston, Julius A., New Haven, Conn. Coal barge.....	Sept. 24, 1867.
69, 838	Preston, K. H. C., Manlius, N. Y. Harvester.....	Oct. 15, 1867.
	Preston, O., and P. S. Burditt. (See Burditt & Preston.)	
64, 567	Preston, Thomas F., Pawtucket, R. I. Power hammer.....	May 7, 1867.
62, 564	Prewitt, W. P., Elkton, Ky. Fire-escape ladder.....	Mar. 5, 1867.
	Price, B. K., and C. West. (See West & Price.)	
61, 566	Price, George W., Bloomington, Ill. Gang plow and cultivator.....	Jan. 29, 1867.
65, 941	Price, John, New York, N. Y. Forging apparatus.....	June 18, 1867.
	Same. (See Siefert, William, assignor.)	
2, 651	Price, John, and William Lewis, Danville, Pa. Fagot for railroad rails.....(Reissue)	June 18, 1867.
	Price, John, et al. (See Lewis, Price & Naylor).....(Reissue.)	
60, 935	Price, J. C., New Philadelphia, Ohio. Hoisting tackle.....	Jan. 1, 1867.
69, 126	Price, John T., Arrow Rock, Mo. Pen and pencil holder.....	Sept. 24, 1867.
63, 297	Price, Joshua C., New Philadelphia, Ohio. Bridle bit.....	Mar. 26, 1867.
67, 800	Price, Virgil, New York, N. Y. Method of hanging swords.....	Aug. 13, 1867.
2, 846	Same.....Set of mas-mie badges.....(Design)	Dec. 10, 1867.
70, 895	Pridham, George A., Newark, N. J. Bolt for doors.....	Nov. 12, 1867.
67, 072	Priest, David H., assignor to self and George Farwell, Watertown, Mass. Sad-iron.....	July 23, 1867.
	Priest, J. K., and R. T. Smith. (See Smith and Priest.)	
71, 533	Primm, Enoch, Petersburg, Ill. Cider press.....	Nov. 26, 1867.
	Prince, Frederick A. (See Osgood, Clark, assignor.)	
	Prince, George A., et al. (See Thornton, Thomas F., assignor).....(Reissue.)	
	Same.....(See Bacon, Charles E., assignor.)	
	Prince, S. F., et al. (See Wallick, W., assignor.)	
62, 286	Prindle, D. R., East Bethany, N. Y. Seed sower.....	Feb. 19, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 298	Prindle, Daniel R., East Bethany, N. Y. Composition for destroying insects.....	Mar. 26, 1867.
63, 299	Same.....Hydraulic paint.....	Mar. 26, 1867.
63, 300	Same.....Process of preserving wood and timber.....	Mar. 26, 1867.
63, 811	Same.....Portable furnace for boilers.....	Apr. 16, 1867.
72, 900	Prindle, E. T., and John Wellfare, Aurora, Ill. Lantern.....	Dec. 31, 1867.
72, 899	Prindle, Franklin B., Southington, Conn. Machine for heading bolts.....	Dec. 31, 1867.
71, 061	Prindle, Horace H., and John W., Sandusky, Ohio. Children's carriage.....	Nov. 19, 1867.
41, 951	Prindle, Russel B., Norwich, N. Y. Hold-back iron for carriage thills.....	Feb. 12, 1867.
68, 603	Same.....Wagon jack.....	Aug. 20, 1867.
72, 901	Same.....same.....	Dec. 31, 1867.
61, 567	Prindle, William D., and Charles M. Yerck, Piffin, Ohio. Atmospheric churn.....	Jan. 29, 1867.
	Pringle, G., and R. Y. McConuell. (See McConnell and Pringle.)	
	Pringle, G. W., and R. O. Codding. (See Codding and Pringle.)	
72, 902	Printup, P. W., et al. (See Wortham, Nottley W., assignor.)	
	Pritchard, Edward D., Boston, Mass. Railroad rail.....	Dec. 31, 1867.
	Proctor, J. E. (See Sampson, Blaney E., assignor.)	
65, 942	Prosser, Thomas, New York, N. Y. Machine for grinding and polishing.....	June 18, 1867.
72, 677	Prosser, Treat T., Chicago, Ill. Brush and mop-head.....	Dec. 24, 1867.
71, 641	Brouhet, H., St. Louis, Mo. Button.....	Jan. 3, 1867.
	Providence Tool Company. (See Peabody, H. O., assignor.)	
64, 004	Provost, Christopher T., New York, N. Y. Anti-dyspeptic bitters.....	Aug. 20, 1867.
68, 234	Same.....Barrel or cask.....	Aug. 27, 1867.
63, 423	Prudden, J. E., Birmingham, Conn. Adjustable pole for carriages.....	Apr. 2, 1867.
70, 358	Same.....Carriage shackle.....	Oct. 29, 1867.
64, 702	Pruden, S. C., Athens, Ohio. Composition for pencils.....	May 14, 1867.
65, 503	Prugger, Joseph M., New York, N. Y. Button.....	June 4, 1867.
68, 110	Pruzman, John, Hancock county, Ill. Machine for pulverizing the earth preparatory to planting.....	Aug. 27, 1867.
	Pruzman, J. E. and J. P. (See Lafferty, R. M., assignor.)	
65, 504	Pryor, Edward F., Dayton, Ohio. Ice crusher.....	June 4, 1867.
63, 176	Puckett, Kosciusko, Morehouse parish, La. Cotton chopper.....	Mar. 26, 1867.
60, 936	Puckett, N., Terre Haute, Ind. Self-centering tool.....	Jan. 1, 1867.
65, 602	Puffer, Stephen, Oxford, N. Y. Car coupling.....	June 11, 1867.
	Puffer, W. E., and W. X. Stevens. (See Stevens and Puffer.)	
71, 412	Pugsley, John G., New York, N. Y. Elastic rein pull.....	Nov. 26, 1867.
62, 066	Pulse, Hiram, St. Paul, Ind. Grain drill.....	Feb. 12, 1867.
70, 896	Same.....same.....	Nov. 12, 1867.
71, 535	Purdy, C., Bedford, Ohio. Loose pulley box.....	Nov. 26, 1867.
62, 500	Purdy, Chester, Bedford, Ohio. Self-lubricating journal-box and bearing.....	Feb. 26, 1867.
67, 215	Purdy, Ebenezer, Ithaca, N. Y. Mode of sealing fruit jars.....	July 30, 1867.
62, 884	Purdy, E. S., Croton, N. Y. Cider mill.....	Mar. 12, 1867.
67, 452	Purdy, Joshua R., and D. C. Barger, Peekskill, N. Y. Boiler.....	Aug. 6, 1867.
70, 118	Purinton, Charles C., and James, Bath, Me. Washing machine.....	Oct. 22, 1867.
2, 556	Purinton, jr., James, Lynn, Mass. Finishing soles of boots and shoes..... (Reissue.)	Apr. 9, 1867.
	Purkiss, Jabez, James and Robert Maynard. (See Maynard and Purkiss.)	
60, 785	Purrrington, jr., George, New York, N. Y., and James H. Purrrington, Mattapoisett, Mass. Carpet sweeper.....	Jan. 1, 1867.
70, 611	Purse, Theodore, and Henry C. Draper, Ashley, Mo. Sack fastener.....	Nov. 5, 1867.
69, 479	Purviance, A. J. Keosauqua, Iowa. Mode of operating horse hay forks.....	Oct. 1, 1867.
66, 328	Purviance, A. J., assignor to self and J. A. Moss, Mt. Zion, Iowa. Baling press.....	July 2, 1867.
64, 703	Puskuchen, George, Hoboken, N. J. Apparatus for impregnating wood with tar and other materials.....	May 14, 1867.
68, 457	Putnam, H. C., and B. F. Johnson, Squaw Grove, Ill. Washing compound.....	Sept. 3, 1867.
63, 424	Putnam, Ansel Wallace, Suisun, Cal. Combined planter and cultivator.....	Apr. 2, 1867.
65, 430	Putnam, G. W., Peterboro', N. Y. Dredging box.....	June 4, 1867.
70, 613	Putnam, George W., Peterboro', N. Y. Dredging, spice, and pepper box.....	Nov. 5, 1867.
	Putnam Machine Company. (See Bartlett, Louis D., assignor.)	
	Same.....same.....	
	Same.....(Brown and Burleigh, assignors.)..... (Reissue.)	
69, 021	Putnam, Silas S., Dorchester, Mass. Clothes hook.....	Sept. 17, 1867.
69, 022	Same.....Stall for animals.....	Sept. 17, 1867.
69, 587	Same.....Clothes hook.....	Oct. 8, 1867.
62, 684	Putnam, Silas S., and Lucius H. Dwelley, assignors to S. S. Putnam & Company, Dorchester, Mass. Machine for making horseshoe nails.....	Mar. 5, 1867.
62, 685	Same.....same.....	Mar. 5, 1867.
	Putnam, Silas S., and Henry M. Whitmarsh. (See Whitmarsh and Putnam.)	
	Same.....same..... (Reissue.)	
63, 559	Putt, Joseph A., Marlboro', Ohio. Bridle.....	Nov. 26, 1867.
	Pye, George, and F. S. C. Souther, South Boston, Mass. Machine for cutting stalks in the field.....	Apr. 2, 1867.
63, 560	Pyke, David, Philadelphia, Pa. Balanced slide valve.....	Apr. 2, 1867.
70, 016	Quackenbush, H. M., Herkimer, N. Y. Extension ladder.....	Oct. 22, 1867.
69, 246	Quackenbush, J. M., East Saginaw, Mich. Washing machine.....	Sept. 24, 1867.
70, 261	Quail, William, New York, N. Y. Pocket-case for printers' bodkin and tweezers.....	Oct. 29, 1867.
2, 571	Quanz, Christian W., New York, N. Y. Confectioners' conuocopia..... (Design.)	Feb. 5, 1867.
64, 704	Quayle, William, Warsaw, Ill. Door holder.....	May 14, 1867.
65, 270	Quern, Edmond, New York, N. Y. Box for putting up tooth powders.....	May 28, 1867.
42, 678	Quick, A., W. S. Opie, and A. J. Farrand, Raritan, N. J. Harvester.....	Dec. 24, 1867.
71, 325	Quick, George, and John N. Wallis, Fleming, N. Y. Car brake.....	Nov. 26, 1867.
71, 536	Quick, Thomas H., New York, N. Y. Purifying bone-black.....	Nov. 26, 1867.
66, 736	Quinby, I. F., Rochester, N. Y. Gold washer.....	July 16, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 789	Quinby, W. F., Wilmington, Del. Flying apparatus.	Sept. 10, 1867.
	Quinlin, jr., L. G. (See Mellen, John O., assignor.)	
	Quinn, Edward K. (See Ashton, Walter, assignor.)	
62, 885	Quinn, Emmett, Washington, D. C. Steam gauge	Mar. 12, 1867.
2, 516	Same..... same..... (Reissue)	Mar. 19, 1867.
68, 235	Same..... Water gauge for steam generators. (Antedated July 1, 1867)	Aug. 27, 1867.
	Quinn, Emmett, and R. B. Donaldson. (See Donaldson and Quinn.)	
C5, 603	Quinn, Patrick, South Newmarket, N. H. Ferule for stopping leaks in boiler tubes.	June 11, 1867.
63, 561	Rabbeth, F. J., Hlon, N. Y., and J. E. Atwood, Willimantic, Conn. Self-oiling spindle for spinning machines.	Apr. 2, 1867.
62, 440	Race, George, Norwich, N. Y. Lifting jack.	Feb. 26, 1867.
72, 081	Same..... Ventilating hay mows.	Dec. 10, 1867.
64, 796	Raddin, John, Lynn, Mass. Car wheel.	May 14, 1867.
72, 538	Same..... Carriage wheel. (Antedated Dec. 10, 1867)	Dec. 24, 1867.
2, 572	Raddin, John, assignor to self and George W. Chipman, Lynn, Ma. e. Carriage wheel. (Reissue)	Apr. 23, 1867.
	Raddin, John, and George W. Chipman. (See Coombs, Joseph M., assignor.)	
	Raddin, John, and Alvin Colburn. (See Colburn and Raddin.)	
65, 943	Rader, Stephen D., Williamsport, Pa. Brick kiln	June 18, 1867.
61, 866	Rae, Julio H., Syracuse, N. Y. Mode of treating auriferous and argentiferous ores.	Feb. 5, 1867.
62, 776	Same..... Mode of collecting gold and silver from sweepings, washings, &c	Mar. 12, 1867.
66, 389	Same..... Ice-cream freezer	July 2, 1867.
	Raffington, Matthew G., and Fisher A. Spofford. (See Spofford and Raffington.)	
	Same..... same.	
65, 431	Ragan, William H., assignor to self and N. R. Jones, Fillmore, Ind. Cheese press.	June 4, 1867.
62, 651	Rain, Samuel S., Louisville, N. Y. Animal trap	Sept. 10, 1867.
64, 143	Raines, John B., Fremont, Iowa. Corn planter	April 23, 1867.
69, 247	Raines, J. B., and W. S. Owen, Oskaloosa, Iowa. Tuyere	Sept. 24, 1867.
66, 172	Kais, Adraiu, assignor to the Scovill Manufacturing Company, Waterbury, Conn. Machine for making butt hinges.	June 25, 1867.
66, 626	Same..... same	July 9, 1867.
68, 529	Same..... same	Sept. 3, 1867.
67, 904	Ralph, James G., Aurora, Ill. Hinge.	Aug. 20, 1867.
65, 828	Ralph, William, Utica, N. Y. Milk can	June 18, 1867.
61, 457	Ralston, James S., Indiana, Pa. Vise.	Jan. 22, 1867.
65, 432	Ralston, John, Slippery Rock, Pa. Sheep shears.	June 4, 1867.
	Ralston, Milton. (See Shellenbeck, Peter, assignor.)	
71, 326	Ralya, John J., Allegheny, Pa. Machine for dressing staves for barrels	Nov. 26, 1867.
65, 116	Ramsay, George, Clyde, Ohio. Balance wheel of watches.	May 28, 1867.
71, 215	Ramsay, George M., New York, N. Y. Air-tight jar	Nov. 19, 1867.
68, 111	Ramsey, J. C., assignor to self and S. M. England, Le Roy, Ohio. Feeding rack for stock.	Aug. 27, 1867.
72, 086	Ramsey, Robert, New Wilmington, Pa. Fence post.	Dec. 10, 1867.
66, 105	Ramsteu, Carl H., Sweden. Boat detaching tackle.	June 25, 1867.
70, 897	Rancevan, John, Carthage, Ohio. Disconnecting horses from vehicles	Nov. 12, 1867.
76, 359	Rand, Albert T., New York, N. Y. Compound for blasting powder	Oct. 29, 1867.
62, 362	Rand, Alonzo C., Union Mills, Pa. Still	Feb. 26, 1867.
62, 363	Same..... Manufacture of illuminating gas.	Feb. 26, 1867.
62, 364	Same..... Apparatus for carburetting air.	Feb. 26, 1867.
63, 653	Same..... Mode of protecting China, glass, and other articles	April 9, 1867.
66, 041	Same..... Method of making illuminating gas	June 25, 1867.
70, 468	Rand, A. L., Peoria, Ill. Wine press	Nov. 5, 1867.
72, 229	Rand, C. R., St. Louis, Mo. Heating furnace	Dec. 17, 1867.
70, 898	Randall, Benjamin, Adams, N. Y. Combined harrow and seeder.	Nov. 12, 1867.
72, 679	Randall, Belleville L., Roxbury, Mass. Railway carriage	Dec. 24, 1867.
69, 023	Randall, D. B., and A. A. Williams, Glover, Vt. Clothes dryer	Sept. 17, 1867.
2, 693	Randall, D. F., Chicopee, Mass. Metallic band for railroad car seats, &c. (Design)	July 2, 1867.
65, 271	Randall, Joseph S., Grand Rapids, Mich. Horse rake	May 28, 1867.
	Randals, Evermont, and Frederick Shickle. (See Shickle & Randals.)	
64, 705	Randol, Alexander, Allegheny, Pa. Cau for holding white lead and other materials.	May 14, 1867.
	Randolph, Abel S., and John W. Craw. (See Craw & Randolph.)	
	Randolph, M., and Company. (See Cook, Isaac, assignor.)	
66, 737	Randolph, M., assignor to self and J. S. Todd, St. Louis, Mo. Barrel-stave jointer.	July 16, 1867.
72, 680	Raney, James, Newcastle, Pa. Water wheel	Dec. 24, 1867.
70, 614	Rank, Amos, Salem, Ohio. Harvester.	Nov. 5, 1867.
61, 952	Rank, Amos, assignor to Etna Manufacturing Company, Salem, Ohio. Harvester.	Feb. 12, 1867.
61, 953	Same..... same	Feb. 12, 1867.
61, 458	Rankin, Andrew, Philadelphia, Pa. Butt hinge	Jan. 22, 1867.
65, 505	Same..... New York, N. Y. Water closet	June 4, 1867.
70, 615	Rankin, John H., Versailles, Mo. Sulky plow	Nov. 5, 1867.
68, 458	Rankin, Samuel A., Fair Haven, Ohio. Machine for stripping sorghum	Sept. 3, 1867.
65, 433	Rannels, William H., Oakland Mills, Pa. Harness pad block	June 4, 1867.
	Rannie, William J. (See Davidson, William, assignor.)	
69, 248	Ransom, Franklin, Buffalo, N. Y. Churn dasher	Sept. 24, 1867.
67, 216	Ransom, Franklin, assignor to T. F. Frank, Buffalo, N. Y. Carbureting apparatus	July 30, 1867.
67, 905	Ransom, Louis, Lansingburg, N. Y. Traveling trunk	Aug. 20, 1867.
72, 082	Same..... Pneumatic car.	Dec. 10, 1867.
65, 008	Rarchaert, Lucien, assignor to Richard and Henry L. Norris, France. Locomotive engine	May 21, 1867.
69, 366	Raser, Thomas, Genese, Ill. Bed bottom	Oct. 1, 1867.
67, 137	Raser, Thomas M., and Thomas J., Philadelphia, Pa. Boat-detaching tackle	July 23, 1867.
	Rastetter, Louis, et al. (See Crighton, Wills, & Rastetter.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
85, 117	Rastetter, L., and A. Simecox, Fort Wayne, Ind. Shank laster. (Antedated May 16, 1867)	May 28, 1867.
2, 650	Rathbone, Louis, Albany, N. Y. Wood stove (Design)	May 7, 1867.
2, 651	Same Coal stove (Design)	May 7, 1867.
72, 903	Rathbone, Ransom, New York, N. Y. Gun wad punch	Dec. 31, 1867.
	Rathbun, Thomas R., et al. (See Richards, Levi, assignor.)	
2, 657	Rau, Adolph H., Philadelphia, Pa. Shaft frame (Design)	May 21, 1867.
67, 801	Rawdon, Stephen, and L. T. Ethridge, Darlington, Wis. Washing machine	Aug. 13, 1867.
70, 899	Rawson, David W., Croydon, N. H. Apparatus for tethering animals	Nov. 12, 1867.
61, 359	Rawson, De Witt S., Peru, Ill. Stereoscope	Jan. 22, 1867.
71, 911	Rawson, D. W. S., Peru, Ill. Multiplying reflector for photographic cameras. (Antedated November 25, 1867)	Dec. 10, 1867.
70, 743	Rawson, George W., assignor to self and Michael Hettinger, Cambridgeport, Mass. Steam engine cut-off	Nov. 12, 1867.
62, 224	Rawson, M. S., Wimhall, Vt., and C. B. Rawson, South Londonderry, Vt. Machine for raking and loading hay	Feb. 19, 1867.
61, 459	Rawson, Smith E. G., Saratoga Springs, N. Y. Globe clock	Jan. 8, 1867.
2, 605	Ray, Amos H., assignor to Elliott P. Gleason, New York, N. Y. Gas burner. (Reissue)	May 14, 1867.
63, 177	Ray, George W., Springfield, Mass. Machine for embossing articles of wearing apparel	Mar. 26, 1867.
61, 100	Ray, George W., assignor to Ray & Taylor, Springfield, Mass. Paper collar	Jan. 8, 1867.
2, 826	Ray, James S., East Haddam, Conn. Coffin handle (Design)	Nov. 5, 1867.
71, 912	Ray, William F., Fort Wayne, Ind. Car spring	Dec. 10, 1867.
70, 262	Raymond, François, Wood Haven, N. Y. Shutter catch	Oct. 29, 1867.
	Raymond, F., and M. Le Page. (See Le Page & Raymond.)	
69, 702	Raymond, John G., Rondout, N. Y. Boiler gauge cock	Oct. 8, 1867.
70, 469	Raymond, Louis, Wilmington, Del. Game table	Nov. 5, 1867.
63, 093	Raymond, Seymour, assignor to self and J. Campbell, Middletown, Pa. Stove cover for cooking stoves	Jan. 19, 1867.
61, 020	Raynale, Charles M., Birmingham, Mich. Propeller for vessels	Mar. 8, 1867.
72, 757	Rayner, A. J., Buffalo, N. Y. Tobacco cutter	Dec. 31, 1867.
	Raynolds, C. T., and Company. (See Colton, Henry E., assignor.)	
	Same (See Dilks, James H., assignor.)	
	Same same	
66, 390	Read, C. D., Burlington, Vt. Bed bottom	July 2, 1867.
71, 913	Read, Henry, Providence, R. I. Lamp burner	Dec. 10, 1867.
	Read, Joseph A., and J. S. Butterfield. (See Butterfield & Read.)	
64, 706	Read, Lemuel, North Brookfield, N. Y. Planing machine	May 14, 1867.
68, 790	Read, Thomas D., Aberdeen, Ind. Fence	Sept. 10, 1867.
70, 900	Read, Thomas N., Danville, Va. Tobacco press	Nov. 12, 1867.
68, 236	Read, William P., Longmeadow, Mass. Paper binding	Aug. 27, 1867.
69, 703	Ream, Robert L., New York, N. Y. Wooden pavement	Oct. 8, 1867.
62, 886	Reamy, Leonidas M., Kokomo, Ind. Corn planter	Mar. 12, 1867.
61, 686	Reay, George H., New York, N. Y. Machinery for stamping and other purposes	Jan. 29, 1867.
61, 687	Same Envelope machine	Jan. 29, 1867.
2, 529	Reay, George H., assignor through mesne assignments to self and Louis Negbar, New York, N. Y. Envelope machine (Reissue)	Mar. 26, 1867.
72, 539	Reber, James L., Philadelphia, Pa. Cane and thermometer combined	Dec. 24, 1867.
63, 302	Recher, Henry, Liberty, Ohio. Water gate	Mar. 26, 1867.
66, 520	Redding, W. F., Saratoga Springs, N. Y. Clothes dryer	July 9, 1867.
	Redfield, James H., and Michael W. Helton. (See Helton & Redfield.)	
66, 253	Redlinger, Mathias, Freeport, Ill. Corn plough	July 2, 1867.
64, 033	Redman, Alexander N., Charlestown, Mass. File cutting machine	Apr. 23, 1867.
61, 460	Redman, William G., Louisville, Ky. Dental plugger	Jan. 22, 1867.
2, 703	Redmond, Owen, Rochester, N. Y. Back piece of a stove machine (Design)	July 9, 1867.
	Redway & Burton. (See Caven, William, assignor.) (Design)	
	Same (See Caven & Stemler, assignors.) (Design)	
64, 446	Redway, Albert J., Cincinnati, Ohio, Fireplace	May 7, 1867.
66, 738	Same Charcoal furnace	July 16, 1867.
2, 740	Same Fireplace (Reissue)	Aug. 20, 1867.
2, 718	Redway, A. J., assignor to Redway & Burton, Cincinnati, Ohio. Charcoal stove. (Design)	Aug. 6, 1867.
61, 251	Reece, Thomas, and Arthur Clarke, Philadelphia, Pa. Lemon squeezer	Jan. 15, 1867.
	Same (See Clarke & Reece)	
	Same (See Coates, William B., assignor.)	
	Reed & Barton. (See Lawrence, Nathan, assignor.)	
	Same same	
	Same (See Brabrook, George, assignor.)	
67, 073	Reed, Albert, Mankato, Minn. Lath frame	July 23, 1867.
	Reed, Almet. (See Slayton, P. L., assignor.)	
72, 540	Reed, Cullin W., Chagrin Falls, Ohio. Horse hay fork	Dec. 24, 1867.
	Reed, Edwin, et al. (See Chapman, Goodspeed & Reed.)	
63, 425	Reed, Ezra, Owego, N. Y. Waggon seat	Apr. 2, 1867.
	Reed, F. A. (See Grimes, Joseph, assignor.)	
	Reed, F. A., and M. Eldridge. (See Eldridge & Reed.)	
	Reed, George N., and Percis L. Tuttle, administrators, &c. (See Tuttle, Joseph H., assignor.) (Extension.)	
61, 867	Reed, George P., Boston, Mass. Regulator for timepieces	Feb. 5, 1867.
62, 686	Reed, George T., Philadelphia, Pa. Broom and brush head	Mar. 5, 1867.
	Reed, G. W., et al. (See Skillin & Reed.)	
	Reed, J. A. (See Green, John B., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 565	Reed, John C., assignor to self and Samuel E. Hutchinson, Cincinnati, Ohio. Bolt and rivet machine.....	Mar. 5, 1867.
	Reed, Martin. (See Thompson, John, assignor)..... (Reissue.)	
63, 387	Reed, Nicholas, and Abner S. Harding. (See Harding & Reed.)	
70, 017	Reed, Ralph, Pittsburg, Pa. Window-shutter fastening.....	Sept. 3, 1867.
64, 362	Reed, Reynolds T., Binghamton, N. Y. Mop wringer.....	Oct. 22, 1867.
71, 737	Reed, Thomas L., assignor to the Atlantic Tubing Company, Providence, R. I. Flexible tubing or hose.....	Apr. 30, 1867.
62, 287	Reed, T. K., East Bridgewater, Mass. Composition for preserving animal substances. (Antedated November 21, 1867).....	Dec. 3, 1867.
62, 288	Reed, T. K., East Bridgewater, Mass. Sewing machine.....	Feb. 19, 1867.
67, 582	Same..... Tension mechanism of sewing-machine shuttles.....	Feb. 19, 1867.
65, 829	Same..... Gathering device for sewing machines.....	Aug. 6, 1867.
67, 906	Reed, Timothy K., assignor through mesne assignments to S. J. Shaw and Thomas Corey, East Bridgewater, Mass. Stay or brace for boots and shoes.....	June 18, 1867.
	Reed, T. K., assignor to David Whittemore, East Bridgewater, Mass. Sewing machine.....	Aug. 20, 1867.
64, 363	Reed, T. K., and Arza B. Keith. (See Keith & Reed.)	
62, 153	Reed, Walter, Wayne, N. Y. Fence.....	Apr. 30, 1867.
62, 067	Reed, Willoughby H., New York, N. Y. Button.....	Feb. 19, 1867.
64, 707	Reeds, John M., Millwood township, Mo. Corn planter.....	Feb. 12, 1867.
67, 347	Reedy, Jacob, Toledo, Iowa. Plow.....	May 14, 1867.
65, 506	Reef, jr., Jacob, assignor to William H. Williamson, Frank Powers, and Hiram W. White, Olney, Ill. Trestle and scaffold supporter.....	July 30, 1867.
72, 904	Rees, James, and Henry Carter. (See Carter & Rees)..... (Extension.)	
66, 991	Rees, Jonah L., Peoria, Ill. Cog gearing spring.....	June 4, 1867.
67, 348	Rees, Philip, Bridgewater, Pa. Device for soldering sheet-metal cans.....	Feb. 19, 1867.
71, 062	Reese, Abram, Pittsburg, Pa. Horseshoe machine.....	July 23, 1867.
2, 464	Same..... Machine for rolling horseshoe bars.....	July 30, 1867.
2, 465	Same..... Shaping dies of grooved rolls.....	Nov. 19, 1867.
64, 797	Reese, Adam R., Phillipsburg, N. J. Harvester rake..... (Reissue.)	Jan. 22, 1867.
70, 263	Same..... same..... (Reissue.)	Jan. 22, 1867.
	Same..... Harvester.....	May 14, 1867.
	Same..... Machine for making wooden ware.....	Oct. 29, 1867.
	Same..... (See Comfort, jr., Samuel, assignor)..... (Reissue.)	
	Same..... (See Lupton, Thomas N., assignor)..... (Reissue.)	
	Same..... (See Martz, Nathan, assignor)..... (Reissue.)	
2, 469	Reese, A. R., W. Gould, and N. Lake, assignors through mesne assignments to Adam R. Reese, Phillipsburg, N. J. Harvester rake..... (Reissue.)	Jan. 29, 1867.
61, 868	Reese, Adam R., et al. (See Dunham, John G., assignor)..... (Reissue.)	
62, 365	Reese, Jacob, Pittsburg, Pa. Fastening for bale hoops.....	Feb. 5, 1867.
64, 253	Same..... Cotton bale tie.....	Feb. 26, 1867.
65, 830	Same..... Process for the manufacture of iron with steel surface.....	Apr. 30, 1867.
65, 831	Same..... Process of refining iron, steel, and other material.....	June 18, 1867.
65, 832	Same..... Machine for making fish bars for railroad rails.....	June 18, 1867.
	Same..... Machine for straightening cylindrical bars of metal.....	June 18, 1867.
63, 094	Reese, John. (See Callahan, Henry, assignor.)	
	Reese, John T., Baltimore, Md. Stall for roasting ores containing sulphur, &c.....	Mar. 19, 1867.
	Reese, Lewis C. (See Whitenack, Thomas S., assignor)..... (Reissue.)	
	Reesman, J. and J., and S. Hart. (See Hart & Reesman.)	
63, 940	Reeves, E. L. (See Starkey, William, assignor.)	
	Reeves, Narcisse, DuQuoin, Ill. Car coupling.....	Apr. 16, 1867.
	Reeves, S. F., and J. J. Lahaye. (See Lahaye & Reeves.)	
	Reeves, W. R., and David Hammond. (See Hammond & Reeves)..... (Reissue.)	
63, 748	Register, Joshua, Baltimore, Md. Faucet.....	Apr. 9, 1867.
70, 119	Same..... Hydrant.....	Oct. 22, 1867.
61, 101	Reh fuss, George, assignor to the American Button-hole, Cording, Braiding, and Machine Company, Philadelphia, Pa. Sewing machine.....	Jan. 8, 1867.
61, 102	Same..... same.....	Jan. 8, 1867.
61, 103	Same..... same.....	Jan. 8, 1867.
	Reichardt, Charles, and Charles Gschwind. (See Gschwind & Reichardt.)	
60, 937	Reichmann, Charles H., New York, N. Y. Lamp chimney.....	Jan. 1, 1867.
69, 480	Reid, Adam, Buffalo, N. Y. Potato baker.....	Oct. 1, 1867.
61, 869	Reid, J. Wyatt, New York, N. Y. Steam generator.....	Feb. 5, 1867.
65, 272	Same..... Sleeping car.....	May 28, 1867.
69, 249	Same..... Manufacture of sugar.....	Sept. 24, 1867.
	Reid, William, and Dewey Phillips. (See Phillips & Reid.)	
69, 588	Reiff, Jacob G., Farmersville, Pa. Carriage spring.....	Oct. 8, 1867.
71, 216	Reighard, J. H., assignor to J. H. Hobbs, Brockunier & Company, Wheeling, West Virginia. Glass mould.....	Nov. 19, 1867.
62, 068	Reiley, Robert T. (See McMinn, George W., assignor.)	
	Reilly, John, assignor to self and Thomas Falvey, Racine, Wis. Axle box for vehicles.....	Feb. 12, 1867.
67, 675	Reilly, Michael, Covington, Ky. Trace-supporting hook.....	Aug. 13, 1867.
	Reilly, R., and P. Paradis. (See Paradis & Reilly.)	
62, 366	Rein, William Oscar, Springfield, Ohio. Apparatus for ascertaining tonnage, &c.....	Feb. 26, 1867.
65, 944	Reinecke, Herman, New York, N. Y. Escapement for timepieces. (Antedated June 10, 1867).....	June 18, 1867.
62, 069	Reinecker, J., assignor to Gustavus Ricker, New Orleans, La. Cotton-bale tie.....	Feb. 12, 1867.
64, 034	Reinhart, John H., McKay, Ohio. Farm gate.....	Apr. 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Reininghaus, John E. (See Clark, Francis O., assignor.)	
	Same.....same.	
69, 127	Reinsch, Julius, New York, N. Y. Fan attachment to children's carriages.....	Sept. 24, 1867.
	Reist, A. H., and J. S. Henry. (See Henry & Reist.)	
69, 704	Reist, Peter S., Oregon, Pa. Self-adjusting elastic gate.....	Oct. 8, 1867.
72, 758	Reistle, Charles, Brooklyn, N. Y. Caster stand.....	Dec. 31, 1867.
61, 252	Relyca, H. N., assignor to self and Mills L. Rice, Warsaw, N. Y. Mill pick.....	Jan. 15, 1867.
70, 264	Rombert, S. S., Memphis, Tenn. Breaching-loading fire-arm.....	Oct. 29, 1867.
70, 265	Remick, Jacob, assignor to Amos L. Wood, and Josiah G. Abbott, Newburyport, Mass. Let off for looms.....	Oct. 29, 1867.
69, 481	Remington, C. H., Dubuque, Iowa. Bullet machine.....	Oct. 1, 1867.
	Remington, E., and Sons. (See Rider, Joseph, assignor.)	
61, 954	Remington, Helen M., Springfield, Mass. Mincing knife.....	Feb. 12, 1867.
2, 659	Same.....same.....(Reissue).	June 25, 1867.
64, 798	Remington, Martin C., Auburn, N. Y. Barley fork.....	May 14, 1867.
65, 118	Same.....Fastening seats to carriages.....	May 23, 1867.
66, 927	Remy, B. W., Brookville, Ind. Combined seeder and cultivator.....	July 9, 1867.
72, 328	Reneky, G., and J. Keiss, Cedar Falls, Iowa. Washing machine.....	Dec. 17, 1867.
	Renick, James H., et al. (See Martin, Henry, assignor.)	
62, 225	Reniff, R., and William W. Buttolph, Bloomington, Ill. Railroad car ventilator.....	Feb. 19, 1867.
61, 870	Renner, Francis C., Ladiesburg, Md. Fertilizer.....	Feb. 5, 1867.
63, 095	Rennie, Adam H., Binghamton, N. Y. Bedstead fastening.....	Mar. 19, 1867.
69, 367	Reno, Charles H., Barrington, N. Y. Device for heating tires.....	Oct. 1, 1867.
65, 009	Rensch, Henry, Quincy, Ill. Automatic water loader.....	May 21, 1867.
67, 907	Renslow, M. B., assignor to self and Flavius Searle, Springfield, Mass. Apparatus for making nitrous oxide, &c.....	Aug. 21, 1867.
2, 804	Rentgen, W. C., assignor to P. H. Humes, Watson's Salt Creek, Ill. Hand truck. (Reissue)	Nov. 19, 1867.
	Renwick, G. W., and J. Force. (See Force & Renwick.)	
62, 971	Repeating Light Company. (See Tyler, Chandler & Standish, assignors.) (Reissue.)	
71, 063	Repp, Levi, Tiffin, Ohio. Cultivator.....	Mar. 19, 1867.
71, 789	Repsler, Leonard, Camden, N. J. Railway chair and sleeper.....	Nov. 19, 1867.
	Requa, E. B., Jersey City, N. J. Lamp chimney.....	Dec. 3, 1867.
	Resor, William, and Company. (See Truesdale, Charles, assignor.).....(Reissue.)	
63, 303	Restell, Thomas, assignor to Charles Pomeroy Button, England. Breach-loading fire-arm. (Antedated March 13, 1867.).....	Mar. 26, 1867.
63, 749	Restieaux, Thomas, Boston, Mass. Deodorizing petroleum.....	Apr. 9, 1867.
70, 470	Rettew, Thomas, West Vincent township, Pa. Churn.....	Nov. 5, 1867.
63, 304	Reuter, August J. T., Boston, Mass. Lemon squeezer. (Antedated Mar. 18, 1867.).....	Mar. 26, 1867.
66, 106	Revere, Nathan L., Worcester, Mass. Stirrup.....	June 25, 1867.
64, 708	Rexford, Elijah, Mentor, Ohio. Potato digger.....	May 14, 1867.
63, 426	Reynerson, James H., Pleasant Plain, Iowa. Cultivator.....	Apr. 2, 1867.
69, 250	Reynolds, Andrew J., Sturgis, Mich. Pump.....	Sept. 24, 1867.
61, 759	Reynolds, Asa R., Auburn, N. Y. S shaft coupling for carriages.....	Feb. 5, 1867.
62, 566	Same.....Machine for grinding metallic plates.....	Mar. 5, 1867.
63, 096	Same.....Tempering steel after it has been welded to iron for cutting tools.....	Mar. 19, 1867.
63, 097	Same.....Welding steel to malleable iron and tempering the steel by one operation.....	Mar. 19, 1867.
70, 471	Reynolds, A. R., and N. B., Auburn, N. Y. Tempering steel.....	Nov. 5, 1867.
68, 574	Reynolds, C. C., New York, N. Y. Threshing machine.....	Sept. 3, 1867.
63, 750	Reynolds, C. M., Champaign, Ill. Car coupling.....	Apr. 9, 1867.
	Reynolds, Charles M. J., and Joseph T. Sterett. (See Sterett & Reynolds.)	
69, 024	Reynolds, Edwin, Metomen, Wis. Gate.....	Sept. 17, 1867.
67, 583	Reynolds, Edwin, assignor to self and James A. Woodbury, Boston, Mass. Valve for steam engines.....	Aug. 6, 1867.
65, 010	Reynolds, Edwin H., Rising Sun, Md. Lamp-heater for vehicles.....	May 21, 1867.
	Reynolds, F., and F. L. Hilbriht. (See Hilbriht & Reynolds.)	
60, 938	Reynolds, Freeman F., Burke county, Ga. Plow.....	Jan. 1, 1867.
	Reynolds, G., et al. (See Holden, Mooers, Stratton & Reynolds.)	
69, 839	Reynolds, George H., Mystic River, Conn. Steam engine.....	Oct. 15, 1867.
	Same.....(See Cosgro, Martin, assignor.)	
70, 018	Reynolds, George Waide, England. Skirt wire.....	Oct. 22, 1867.
	Reynolds, Henry. (See Parsons, L. J., assignor.)	
67, 584	Reynolds, H. C., Manchester, N. H. Machine for shaving axes.....	Aug. 6, 1867.
66, 628	Reynolds, Jesse, Philadelphia, Pa. Grate for furnaces.....	July 9, 1867.
62, 226	Reynolds, J. Alston, Savannah, Ga. Machine for sowing rice.....	Feb. 19, 1867.
70, 360	Reynolds, John C., Taunton, Mass. Knife sharpener.....	Oct. 29, 1867.
71, 788	Reynolds, John P., Marable, Mo. Horse holder.....	Dec. 3, 1867.
61, 461	Reynolds, J. W., assignor to self and S. H. Cutler, Hyde Park, Pa. Car truck.....	Jan. 22, 1867.
62, 154	Reynolds, Napoleon B., Auburn, N. Y. Machine for shearing metal.....	Feb. 19, 1867.
65, 604	Same.....Forming projections on the caps of plane irons.....	June 11, 1867.
	Reynolds, O., and A. L. Hunt. (See Snyder, Henry D., assignor.)	
64, 035	Reynolds, Samuel G., Bristol, R. I. Machine for making nails. (Antedated April 8, 1867.).....	Apr. 23, 1867.
65, 119	Reynolds, Uel, New York, N. Y. Shifting rail for carriage tops.....	May 28, 1867.
69, 251	Same.....Attaching yokes to poles for carriages.....	Sept. 24, 1867.
72, 541	Reynolds, William, Columbia, S. C. Manufacture of artificial teeth.....	Dec. 24, 1867.
2, 678	Reynolds, W. W., assignor to the Howe Scale Company, Brandon, Vt. Post office balance.....(Design.)	June 18, 1867.
2, 679	Same.....Counter scale.....(Design.)	June 18, 1867.
67, 349	Same.....Weighting scale.....	July 30, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued

No.	Name, residence, and invention or discovery.	Date.
67, 908	Reynolds, W. W., assignor to the Howe Scale Company, Brandon, Vt. Platform scale	Aug. 20, 1867.
	Rezner, William B., <i>et al.</i> (See Glass, Schneider & Rezner.)	
70, 616.	Rhees, M. J., Mt. Holly, N. J. Pessary.	Nov. 5, 1867.
61, 253	Rhees, William Jones, Washington, D. C. Frame for artificial slate.	Jan. 15, 1867.
61, 254	Same..... Frame for slates	Jan. 15, 1867.
61, 255	Rheiner, William, and L. H. Wolf, Detroit, Mich. Apparatus for inserting corks.	Jan. 15, 1867.
61, 760	Rhinehart, W. N., and H. Felker, assignors to selves and O. P. Russell, Miami City, Ohio. Corn cultivator.	Feb. 5, 1867.
70, 019	Rhoades, Lawrence, Newport, R. I. Buckle	Oct. 22, 1867.
69, 938	Rhoades, S. H., and W. Carroll, Clyde, Ohio. Railway car seat.	Oct. 15, 1867.
63, 562	Rhoades, C. W., assignor to self, S. C. and E. O. Frink, and H. A. Moore, Indianapolis, Ind. Gate latch.	Apr. 2, 1867.
70, 020	Rhoads, jr., William, and Tiras Gerhard, Reading, Pa. Machine for cutting cheese.	Oct. 22, 1867.
	Rhoads, William B., and Nathaniel A., <i>et al.</i> (See Page, Abby H., assignor.)	
63, 812	Rhodes, jr., Elias, Clyde, Ohio. Horse hay fork.	Apr. 16, 1867.
60, 786	Rhodes, jr., Elias, and J. W. Rhoades, Clyde, Ohio. Spring fish-hook.	Jan. 1, 1867.
	Rhodes, George S. (See Shinn, John, assignor.)	
2, 521	Rhodes, John C., South Abington, Mass. Machine for capping tacks.... (Reissue)	Mar. 19, 1867.
66, 884	Same..... Drop press	July 16, 1867.
71, 064	Same..... Nail plate holder	Nov. 19, 1867.
64, 144	Rhodes, John H., Brooklyn, N. Y. Valve gear for water meters and other purposes.	Apr. 23, 1867.
68, 112	Same..... Adjustable pipe joint.	Aug. 27, 1867.
68, 388	Same..... Pipe joints	Sept. 3, 1867.
	Rhodes, S. H. (See Carroll, William, assignor.)	
68, 652	Rice, Andrew Jacob, and Andrew James, assignors to Andrew Jacob Rice, Salem, Mass. Boot and shoe shank.	Sept. 10, 1867.
	Rice, Augustus. (See Taft, Timothy F., assignor.)	
65, 273	Rice, Benjamin, Boston, Mass. Portable shelf.	May 28, 1867.
68, 459	Rice, Dennis, Sheburne Falls, Mass. Machine for drying fruit.	Sept. 3, 1867.
	Rice, Edwin T., <i>et al.</i> (See Fuller, Jim B., assignor.)	
	Rice, J. Marcus. (See Pratt, Daniel R., assignor.)	
	Same..... same.	
70, 021	Rice, John S., Newark, N. J. Steam radiator for batters' kettles	Oct. 22, 1867.
64, 036	Rice, J. W., Springfield, Mass. Car brake	Apr. 23, 1867.
63, 427	Rice, Lafayette M., Oregon, Wis. Harvester rake.	Apr. 2, 1867.
	Rice, Mills L. (See Relyea, H. N., assignor.)	
68, 530	Rice, Robert, Mineral, Ill. Fly or balance wheel.	Sept. 3, 1867.
61, 761	Rice, S. G., Albany, N. Y. Thill coupling	Feb. 5, 1867.
70, 472	Rice, T., and Luke K. Hitchcock, Canaan, N. Y. Horse hoe. (Antedated October 12, 1867)	Oct. 29, 1867.
64, 364	Rice, T. C., assignor to Thomas H. Dodge and T. W. Wellington, Worcester, Mass. Apparatus for heading wrench bars.	Apr. 30, 1867.
64, 447	Same..... Apparatus for rolling wrench bars	May 7, 1867.
63, 813	Rice, William B., assignor to self, John Rice, and E. S. Munson, Utica, N. Y. Metallic bobbin	Apr. 16, 1867.
66, 992	Rich, Aaron P., Troy, N. Y. Machinery for fitting up stove plate pattern boiler hole plates	July 23, 1867.
72, 083	Rich, E. B., assignor to self and André Cushing, South Boston, Mass. Machine for sharpening saws	Dec. 10, 1867.
62, 972	Rich, G. B., Lafayette, Ind. Door for railroad grain cars	Mar. 19, 1867.
	Rich, James A. (See Allyn, Francis T., assignor.)	
61, 104	Rich, John, assignor to self, D. Ruggles, J. E. Bacon, and A. Daniels, Worcester, Mass. Spinning machine.	Jan. 8, 1867.
67, 217	Rich, John T., Philadelphia, Pa. Manufacture of gas. (Antedated March 25, 1867)	July 30, 1867.
72, 681	Richard, Albert Christian, Point Lookout, Tenn. Hay press	Dec. 24, 1867.
63, 814	Richards, Albert D., Lowell, Mass. Apparatus for making medical plasters.	Apr. 16, 1867.
64, 145	Richards, Celius E., North Attleboro', Mass. Hat	Apr. 23, 1867.
65, 833	Same..... Paper braid.	June 18, 1867.
	Richards, Charles T., and John Marsh. (See Tyler, Hiram, assignor.)	
	Richards, Frank. (See Soper, Robert W., assignor.)	
71, 217	Richards, Frank H., Troy, N. Y. Brand for marking animals.	Nov. 19, 1867.
	Richards, George, <i>et al.</i> (See Morris, Charles, assignor.)	
61, 956	Richards, Gilbert, Cummington, Mass. Dish washing machine	Jan. 15, 1867.
70, 361	Richards, Isaiah B., Columbia, Pa. Composition to be used in puddling iron.	Oct. 29, 1867.
61, 955	Richards, John, Columbus, Ohio. Machine for grinding saws	Feb. 12, 1867.
66, 739	Richards, John, Washington, D. C. Implement for wagnons.	July 16, 1867.
65, 274	Richards, John, Cincinnati, Ohio. Hanger for shafting.	May 28, 1867.
69, 953	Same..... Fixed caliper gauge	Oct. 15, 1867.
69, 954	Same..... Standard gauge	Oct. 15, 1867.
66, 885	Richards, John, assignor to J. A. Fay & Company, Cincinnati, Ohio. Wood turning lathe	July 16, 1867.
67, 676	Same..... Turning lathe	Aug. 13, 1867.
68, 791	Richards, John, and William H. Doane, assignors to J. A. Fay & Company, Cincinnati, Ohio. Mortising machine	Sept. 10, 1867.
	Richards, John, and William E. London. (See London & Richards.)	
	Richards, John, and William H. Doane. (See Doane & Richards.)	
63, 305	Richards, John R., assignor to self and A. L. Menezes, Mount Joy, Pa. Safe lock.	Mar. 26, 1867.
65, 945	Same..... Sectional mold for putting up patches of concrete and other materials.	June 18, 1867.
60, 939	Richards, Levi, assignor to self, Thomas R. Rathbun, and Charles I. Richards, Providence, R. I. Machine for making eyelets	Jan. 1, 1867.

List of patents of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 762	Richards, M., and J. Vandegrift, Princeton, Ill. Plows	Feb. 5, 1867.
	Richards, Philip, and Washington I. Cortrell. (See Cortrell & Richards.)	
62, 887	Richards, Samuel, Philadelphia, Pa. Glass furnace	Mar. 12, 1867.
65, 605	Same..... Snow plow	June 11, 1867.
2, 671	Same..... same	July 9, 1867. (Reissue)
2, 672	Same..... same	July 9, 1867. (Reissue)
71, 642	Same..... same	Dec. 3, 1867.
69, 840	Richards, Stephen M., Chicago, Ill. Sash fastener, (Antedated October 4, 1867)	Oct. 15, 1867.
	Richards, T. B., and William M. Bush. (See Bush & Richards.)	
72, 905	Richards, Thomas C., New York, N. Y. Attaching ornamental heads to nails, screws, &c.	Dec. 31, 1867.
68, 113	Richards, W. T., Bridgeport, Conn. Making the eyes of elliptic springs	Aug. 27, 1867.
69, 025	Richardson, A. H., Denver, Col. Furnaces for smelting ores of silver	Sept. 17, 1867.
64, 146	Richardson, Charles, Richmond, Va. Game for pastime	Apr. 23, 1867.
	Same..... (See Davis, Hermon V., assignor.)	
69, 482	Richardson, Charles, and J. Grame, jr., New York, N. Y. Logotrope	Oct. 1, 1867.
65, 946	Richardson, Christopher, Newark, N. J. Apparatus for tempering steel plates	June 18, 1867.
65, 947	Same..... Hand-saw frame	June 18, 1867.
70, 120	Richardson, D. C., Weldon, N. C. Cotton and corn plow	Oct. 22, 1867.
65, 120	Richardson, E. P., Lawrence, Mass. Boot and shoe. (Antedated May 16, 1867)	May 28, 1867.
64, 147	Richardson, George, Lowell, Mass. Let-off for looms	Apr. 23, 1867.
65, 606	Same..... same	June 11, 1867.
71, 643	Richardson, George B., assignor to self, Thomas T. Sanborn, and William M. Cobb, Boston, Mass. Salt bottle or caster	Dec. 3, 1867.
61, 257	Richardson, George S., Stowe, Ohio. Fruit picker	Jan. 15, 1867.
68, 460	Richardson, Hamilton, Janesville, Wis. Axle bearing for wagons	Sept. 3, 1867.
64, 568	Richardson, H. D., assignor to self and Robert Russell, Northampton, Mass. Lock	May 7, 1867.
63, 098	Richardson, Israel I., Delaware, Ohio. Fireplace	Mar. 19, 1867.
67, 909	Richardson, John, New Haven, Conn. Apparatus for the manufacture of vinegar	Aug. 20, 1867.
66, 254	Richardson, John, and Fred'k H. Stevens, New York, N. Y. Machine for bundling kindling wood	July 2, 1867.
65, 434	Richardson, J. C., assignor to self and Wm. Simpson, Benton, Me. Potato digger	June 4, 1867.
	Richardson, John C., and George W. Stout. (See Stout & Richardson.)	
65, 275	Richardson, John E., New York, N. Y. Process of chilling oils and fats	May 28, 1867.
	Richardson, J. M., and T. Hazard. (See Hazard & Richardson.)	
68, 575	Richardson, John R., Newcastle, Pa. Hame fastener	Sept. 3, 1867.
61, 258	Richardson, John W., Sligo, Ohio. Harrow	Jan. 15, 1867.
72, 906	Richardson, John W., Boston, Mass. Miter box	Dec. 31, 1867.
62, 070	Richardson, John W., assignor to self, Daniel L. Davis, and Jeremiah Kimbrough, Ogden, Ohio. Process of manufacturing alcoholic spirits	Feb. 12, 1867.
72, 542	Richardson, Joseph H., Philadelphia, Pa. Lantern	Dec. 24, 1867.
66, 740	Richardson, Milo A., assignor to self and Alva F. Jennings, Sherman, N. Y. Washing machine	July 16, 1867.
61, 462	Richardson, M. S., and E. A. Pond, Rutland, Vt. Valve gear for direct-acting engines	Jan. 22, 1867.
69, 483	Same..... Generating gas from hydrocarbon liquids	Oct. 1, 1867.
	Same..... (See Pond & Richardson.)	
	Same..... same	(Reissue.)
69, 589	Richardson, Nathan H., Fitchburg, Mass. Machine for dressing ratan	Oct. 8, 1867.
72, 907	Richardson, Oliver, Boston, Mass. Cotton-seed planter	Dec. 31, 1867.
	Richardson, Paris, et al. (See Beswick, Richardson & Brown.)	
61, 259	Richardson, S., Jericho, and J. S. Adams, Burlington, Vt. Potato digger	Jan. 15, 1867.
60, 787	Richardson, Seneca M., Worcester, Mass. Planing machine	Jan. 1, 1867.
	Richardson, Thomas D., and Andrew H. Wemple. (See Wemple & Richardson.)	
68, 901	Richardson, William, Hookstown, Md. Plow	Sept. 17, 1867.
	Same..... (See Binder, Frederick, assignor.)	
	Richardson, W. A., et al. (See Sargent, Lucius M., assignor.)	
	Richardson, Wm. A., and Henry D. Ward. (See Gifford, A. W., ass'cr)	(Reissue.)
	Same..... same	
67, 350	Richardson, William Haden, Great Britain. Manufacture of iron	July 30, 1867.
60, 788	Richardson, William L., assignor to self and F. E. Nutting, Reading, Mass. Level	Jan. 1, 1867.
70, 022	Richel, C., Cleveland, Ohio. Garden line, &c.	Oct. 22, 1867.
64, 365	Richmond, Edward, Brooklyn, N. Y. Whip rack	Apr. 30, 1867.
63, 026	Same..... Rack for brooms, billiard cues, &c.	Sept. 17, 1867.
	Same..... (See Willets, E. P., assignor.)	
64, 366	Richmond, Edward, and Joseph G. Moody, New York, N. Y. Ticket safe and alarm bell	Apr. 30, 1867.
65, 011	Richmond, Holland M., Buffalo, N. Y. Vapor burner	May 21, 1867.
66, 391	Richmond, Isaac C., assignor to Jas. N. Hough, West Meriden, Conn. Harness hook	July 2, 1867.
66, 886	Richmond, L. V., Brainard, N. Y. Stop motion for warping machines	July 16, 1867.
65, 435	Richter, F., Milwaukee, Wis. Pump	June 4, 1867.
71, 644	Richter, William, assignor to S. D. Newbro, Lansing, Mich. Jaws for steel trap	Dec. 3, 1867.
62, 973	Rickard, J., and J. Cook, Philadelphia, Pa. Bed Bottom	Mar. 19, 1867.
62, 888	Rickel, Josiah S., Geneseo, Ill. Corn planter	Mar. 12, 1867.
62, 777	Ricker, Custavus, Covington, Ky. Cotton bale tie	Mar. 12, 1867.
	Same..... (See Reinecker, J., assignor.)	
65, 276	Ricker, John W., Chelsea, Mass. Tube well	May 28, 1867.
70, 617	Same..... Well tube	Nov. 5, 1867.
	Ricker, R. E. (See Collins, J. B., assignor.)	
69, 939	Riddell, Thomas C., Wilmington, Del. Baking frame	Oct. 15, 1867.
65, 507	Riddle, J. J., and W. S. Gray, Pittsburg, Pa. Petroleum vapor stove	June 4, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 392	Rider, A. K., Nazareth, Pa. Valve gear for steam engines.....	July 2, 1867.
	Rider, B. P., and C. D. Wrightington. (See Wrightington & Rider.)	
	Same.....	
70, 612	Rider, Joseph, Newark, Ohio, assignor to self and E. Remington & Sons. Metallic priming cartridge.....	Nov. 5, 1867.
66, 629	Rider, J. F. C., and G. W. Wiggan, South New Market, N. H. Screw tap.....	July 9, 1867.
66, 887	Rider, Lewis F., and John W. Ferry, Hornellsville, N. Y. Well tubing.....	July 16, 1867.
71, 327	Ridgway, Samuel C., Baltimore, Md. Harvester rake.....	Nov. 26, 1867.
	Ridgley, E. R., and Daniel Duncan. (See Duncan & Ridgley.)	
	Same.....	
64, 617	Ridgway, M. S., Danville, and Christopher Lewis, Harrisburg, Pa. Heating and puddling furnace.....	May 7, 1867.
63, 306	Ridgway, Orville M., Laporte, Ind. Sash fastener.....	Mar. 26, 1867.
67, 677	Ridings, J., and J. O. Roberts, New Castle, Del. Car coupling.....	Aug. 13, 1867.
66, 993	Riedel, G. A., assignor to the Automatic Boiler Feeder Company, Philadelphia, Pa. Automatic boiler feeder. (Antedated July 9, 1867.)	July 23, 1867.
	Riederer, Max. (See Ebermeyer, Kaspar, assignor.)	
69, 940	Riek, E. C. B., Hermann, Mo. Submarine vessel.....	Oct. 15, 1867.
70, 744	Riemer, George, Fayette, N. Y. Harvester.....	Nov. 12, 1867.
69, 705	Riess, Rudolph W., Philadelphia, Pa. Rotary steam engine.....	Oct. 8, 1867.
66, 630	Rigg, James, Iowa Falls, Iowa. Mode of coating wrought or cast iron with a harder metal.....	July 9, 1867.
67, 351	Riggs, D. C., St. Joseph, Mo. Gang plow.....	July 30, 1867.
65, 766	Riggs, Homer, Washington, D. C. Method of attaching metal soles to boots and shoes.....	June 11, 1867.
67, 453	Riggs, John F., and William M. Albin, St. Joseph, Mo. Washing machine.....	Aug. 6, 1867.
69, 128	Richter, Peter, Newark, N. J. Magnetic metal separator.....	Sept. 24, 1867.
72, 084	Rigler, Stephen, deceased, by Jbel T. Buckley, administrator, Ottawa, Ill. Automatic register.....	Dec. 10, 1867.
64, 569	Rigny, Alfred, New York, N. Y. Fire escape.....	May 7, 1867.
65, 948	Rile, Henry E., assignor to Asa L. Shipman, New York, N. Y. Machine for coating paper with mucilage, &c.....	June 18, 1867.
65, 436	Rile, John L., assignor to Asa L. Shipman, New York, N. Y. Paper for the manufacture of letter and invoice files.....	June 4, 1867.
62, 071	Riley, James. (See Eshleman, John J., assignor.)	
	Riley, John D., Cincinnati, Ohio. Gauge for circular sawing machines. (Antedated February 2, 1867.)	Feb. 12, 1867.
65, 277	Riley, J. P. W., Montrose, Pa. Securing the tines of forks in their handles.....	May 28, 1867.
70, 266	Ring, Walter, Gosport, Ind. Tram staff for grinding mills.....	Oct. 29, 1867.
70, 267	Ringen, Gerhard, Smith City, Mo. Plow.....	Oct. 29, 1867.
	Ringen, John. (See Saunderson, David, assignor.)	
71, 328	Rink, John Joseph, Brooklyn, N. Y. Sifting machine.....	Nov. 26, 1867.
72, 908	Riordan, Peter, Washington, D. C. Clothes line holder.....	Dec. 31, 1867.
	Ripley, Cyrus W., and F. A. Jameson. (See Jameson and Ripley.)	
66, 521	Ripley, Ezra, Troy, N. Y. Teakettle.....	July 9, 1867.
66, 631	Same.....	
71, 413	Ripley, Lewis, North Chelmsford, Mass. Mechanism for threading shuttles.....	July 9, 1867.
61, 260	Ripson, J. B., Kendall, N. Y. Whiffletree attachment to plows.....	Nov. 26, 1867.
72, 682	Risher, John, Delaware, Ohio. Churn.....	Jan. 15, 1867.
64, 072	Risher, William F., Austin, Texas. Smith's forge.....	Dec. 24, 1867.
	Rising, Sanford, and James H. Durham. (See Durham & Rising.)	Feb. 12, 1867.
71, 218	Ritchie, E. S., Brookline, Mass. Air pump.....	Nov. 19, 1867.
	Ritchie, Henry, Newark, N. J. Padlock..... (Extension)	Aug. 22, 1867.
64, 367	Riter John L., and R. C. Swann, assignors to selves, T. J. West, and R. B. Perry, Brownsville, Ind. Churn.....	Apr. 30, 1867.
60, 484	Ritson, Edwin, assignor to William H. Bartis, Maltaville, N. Y. Seeding machine.....	Oct. 1, 1867.
	Rittenhouse, John P. (See Thompson, M. L., assignor.)	
72, 329	Rittenhouse, S. B., Plymouth, Ind. Hoisting jack.....	Dec. 17, 1867.
64, 570	Ritter, Henry M., assignor to M. Greenwood & Co., Cincinnati, Ohio. Reversible knob latch.....	May 7, 1867.
64, 571	Same.....	May 7, 1867.
2, 658	Same.....	May 21, 1867.
	Same.....	(Design)
	Ritter, Hogan & Sowden. (See Birch & Sowden, assignors.)	
71, 219	Ritter, S. S., Philadelphia, Pa. Trunk.....	Nov. 19, 1867.
	Rix, A., and T. Varney. (See Varney & Rix.)	
64, 148	Rizy, Francis Xavier, Monroe, Mich. Musical rack or desk.....	Apr. 23, 1867.
71, 790	Roach, Francis, assignor to self and Joseph Zane, Boston, Mass. Basin faucet.....	Dec. 3, 1867.
68, 653	Robbins, Edward Y., Cincinnati, Ohio. Fireplace.....	Sept. 10, 1867.
2, 432	Robbins, Edward Y., assignor, through mesne assignments, to himself, Cincinnati, Ohio. Drying apparatus..... (Reissue)	Jan. 1, 1867.
71, 645	Robbins, F. W., Solon, Ohio. Churn.....	Dec. 3, 1867.
67, 585	Robbins, George W., Fond du Lac, Wis. Bed bottom.....	Aug. 6, 1867.
65, 949	Robbins, Henry R., Baltimore, Md. Burglar alarm.....	June 18, 1867.
66, 632	Robbins, Horace T., Boston, Mass. Umbrella.....	July 9, 1867.
	Robbins, H. W., and David L. Bartlett. (See Smith & Brown, assignors.)..... (Design.)	
68, 531	Robbins, Ira, Hughesville, Pa. Alarm money drawer.....	Sept. 3, 1867.
	Robbins, Jasper N., et al. (See Shumard, Lyon & Robbins.)	
68, 902	Robbins, Joseph, Amherst, Ohio. Fence post pedestal.....	Sept. 17, 1867.
	Robbins, Joseph A., and Wm. L. Thompson. See Hilton, A. J. H., assignor.)	
62, 889	Robbins, Louis S., New York, N. Y. Construction of dikes and levees.....	Mar. 12, 1867.
67, 678	Same.....	Aug. 13, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 485	Robbins, Martin, Cincinnati, Ohio. Oil can.....	Oct. 1, 1867.
66, 633	Robbins, jr., Nathaniel, Rockport, Mass. Gudgeon for booms.....	July 9, 1867.
66, 634	Same..... Windlass.....	July 9, 1867.
67, 454	Robbins, Royal E., et al. (See Fogarty, Valentine, assignor)..... (Reissue.) Robbins, S. E., assignor to Elmer Townsend, Boston, Mass. Platform scale.....	Aug. 6, 1867.
67, 910	Robbins, Wells L. (See Holmes, A. J., assignor.) Roberson, Jonathan S., et al. (See Warner, Stanton D., assignor.) Roberts, A. J., assignor to self and B. F. Brown, Boston, Mass. Machine for the manufacture of horseshoes.....	Aug. 20, 1867.
63, 307	Roberts, A. W., assignor to P. Jewell & Sons, Hartford, Conn. Leather scouring machine.....	Mar. 19, 1867.
65, 767	Same..... Apparatus for drying hides, leather, &c.....	June 11, 1867.
65, 607	Roberts, B. S., U. S. army. Breech-loading fire-arm.....	June 11, 1867.
69, 841	Roberts, Charles H., Troy, N. Y. Handle for stove doors.....	Oct. 15, 1867.
61, 763	Roberts, Clark, Winchester, Ill. Gate latch.....	Feb. 5, 1867.
64, 149	Roberts, C. H. L., Morrison, Ill. Churn.....	Apr. 23, 1867.
62, 890	Roberts, Edward A. L., Titusville, Pa. Torpedo for oil wells.....	Mar. 12, 1867.
65, 121	Same..... Sand pump.....	May 28, 1867.
65, 694	Roberts, Esek C., Salem, Mich. Fence.....	June 11, 1867.
65, 437	Roberts, Henry F., Payette City, Pa. Steam engine.....	June 4, 1867.
60, 789	Roberts, J. B., and James R. Van Horn. (See Van Horn & Roberts.) Roberts, James C., Adamstown, Md. Grinding mill.....	Jan. 1, 1867.
67, 911	Roberts, J. O., and J. Ridings. (See Ridings & Roberts.) Roberts, Lloyd, West Haverford, Pa. Truss.....	Aug. 20, 1867.
69, 706	Roberts, L. J., Corry, Pa. Hose coupling.....	Oct. 8, 1867.
64, 572	Roberts, Mark L., Chatsworth, Ill. Rotary knitting machine.....	May 7, 1867.
62, 367	Roberts, M. L., Smithville, Canada. Plow.....	Feb. 26, 1867.
68, 903	Roberts, Matthew L., Smithville, Canada. Spade for digging post holes. (Ante-dated September 8, 1867.).....	Sept. 17, 1867.
63, 751	Roberts, M. S., Lewiston, N. Y. Peat machine.....	Apr. 9, 1867.
66, 393	Roberts, Norman C., and Ezra W. Badger, Fly Creek, N. Y. Device for support-ing hop vines.....	July 2, 1867.
70, 618	Roberts, Robert, St. Paul, Ind. Spring bedstead.....	Nov. 5, 1867.
66, 394	Roberts, Samuel D., Washington, La. Cotton press.....	July 2, 1867.
70, 208	Roberts, Thomas, and Patrick Lennox, Lynn, Mass. Machine for beaming hides or skins.....	Oct. 29, 1867.
65, 278	Robertson, Benjamin F., Capan Gris, Mo. Corn planter.....	May 28, 1867.
63, 428	Robertson, Charles L., Providence, R. I. Composition for coating wood and other materials.....	Apr. 2, 1867.
67, 679	Robertson, C. L., assignor to the American Enamel Company, Providence, R. I. Manufacture of enameled wood.....	Aug. 13, 1867.
61, 463	Robertson, John, assignor to self and Abraham Bartholf, Brooklyn, N. Y. Extract-ing oil from seed.....	Jan. 22, 1867.
65, 608	Robertson, Robert Adam, and Thomas Haigh. (See Haigh & Robertson.) Robertson, William, Plymouth, Ind. Method of hanging window sashes.....	June 11, 1867.
69, 027	Robie, Daniel C., assignor to self and Moses Goldthwaite, Springfield, Mass. Hitch-ing post.....	Sept. 17, 1867.
2, 741	Robins, Alexander and Silas McCullough. (See McCullough & Robins.) Robinson, Alfred, New York, N. Y. Preparation of roofing fabrics..... (Reissue.)	Aug. 20, 1867.
61, 464	Robinson, Almon, McLean, N. Y. Peat machine.....	Jan. 22, 1867.
63, 941	Robinson, Almon C., Louisiana, Mo. Corn husking shield.....	Apr. 16, 1867.
69, 790	Robinson, A. J., Troy, N. Y. Mop wringer.....	Jan. 1, 1867.
72, 230	Robinson, Benjamin, Boston, Mass. Machine for making nails. (Antedated Decem-ber 5, 1867.).....	Dec. 17, 1867.
71, 646	Robinson, C., and W. H. Lovejoy, Lynn, Mass. Lasting shoe.....	Dec. 3, 1867.
62, 673	Robinson, Charles. (See Moore, H. C., assignor.) Robinson, Charles E., Concord, N. H. Belt lap cutter.....	Feb. 12, 1867.
71, 791	Robinson, Clark, Rochester, Minn. Senfold.....	Dec. 3, 1867.
67, 352	Robinson, D. C., and C. Pinder. (See Pinder & Robinson.) Robinson, D. D., Niles, Mich. Punch and shears.....	July 30, 1867.
61, 021	Robinson, Daniel T., Boston, Mass. Horse railway car.....	Jan. 8, 1867.
61, 871	Same..... Machine for cutting straw and hay.....	Feb. 5, 1867.
64, 254	Same..... Machine for making horseshoes.....	Apr. 30, 1867.
64, 448	Same..... Horse collar.....	May 7, 1867.
70, 269	Same..... Railway car.....	Oct. 29, 1867.
61, 022	Robinson, Daniel T., assignor to Paul P. Todd, Boston, Mass. Coffee pot.....	Jan. 8, 1867.
67, 802	Robinson, Edward, Greenbush, Wis. Wagon.....	Aug. 13, 1867.
66, 741	Robinson, E. H., et al. (See Frink, C. L., assignor.) Robinson, F. M., and T. G. Springer, Conneautville, Pa. Hay rake and loader.....	July 16, 1867.
66, 858	Robinson, George, Detroit, Mich. Piston packing.....	July 16, 1867.
67, 802	Same..... Feed regulator for sewing machines.....	Aug. 13, 1867.
62, 155	Robinson, George A., Mount Pulaski, Ill. Washing machine.....	Feb. 19, 1867.
61, 360	Robinson, James J. (See Mills & McIrvine, assignors.) Robinson, John E., Boston, Mass. Ice cream freezer.....	Jan. 22, 1867.
61, 465	Robinson, Juan A., jr., San Francisco, Cal. Amalgamator.....	Jan. 22, 1867.
70, 901	Robinson, J. S., et al. (See Hudson, M. B., assignor.) Robinson, O. H. P., assignor to self and John B. Robinson, Bellport, N. Y. Carpen-ter's square.....	Nov. 12, 1867.
66, 889	Robinson, O. L., Owasso, Mich. Cherry stoner.....	July 16, 1867.
67, 353	Robinson, Prince W., New Bedford, Mass. Dough kneader.....	July 30, 1867.
70, 121	Robinson, Reuel, San Francisco, Cal. Life preserver.....	Oct. 22, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 872	Robinson, Robert, New York, N. Y. Lock-up safety valve.....	Feb. 5, 1867.
63, 942	Same.....Brooklyn, N. Y. Bottle stopper.....	Apr. 16, 1867.
71, 065	Robinson, R. W., assignor to self and James O'Donald, Clinton, Ill. Churn dasher.....	Nov. 19, 1867.
71, 329	Robinson, Stillman W., and De Volson Wood, Ann Arbor, Mich. Rock drilling machine.....	Nov. 19, 1867.
66, 173	Robinson, Sylvanus S., and Edward S. Harris. (See Harris & Robinson.)	
62, 687	Robinson, Thomas S., New York, N. Y. Handle attachment for blacking boxes.....	June 25, 1867.
66, 635	Robinson, Warren, assignor to self, J. H. Fairchild, and H. Farmington, Highgate, Vt. Dumping wagon.....	Mar. 5, 1867.
70, 023	Robinson, William, Funkville, Pa. Lamp burner.....	July 9, 1867.
70, 103	Robinson, William A., Grand Rapids, Mich. Carpet stretcher.....	Oct. 22, 1867.
71, 065	Robinson, W. B., Detroit, Mich. Steam engine slide valve.....	Jan. 8, 1867.
72, 543	Robison, Herace A., Cleveland, Ohio. Weather strip.....	Dec. 24, 1867.
67, 804	Robison, Jackson, assignor to Reuben Hoover, Curwinstville, Pa. Oar collar.....	Aug. 13, 1867.
62, 501	Robison, Joseph, Johnson's Creek, N. Y. Tire shrinker.....	Feb. 26, 1867.
64, 573	Robjohn, Thomas, assignor to the American Needle-Loom Company, New York, N. Y. Loom.....	May 7, 1867.
66, 395	Robjohn, William, New York, N. Y. Liquid meter.....	July 2, 1867.
2, 866	Robley, Joseph, assignor to William M. Brasher & Co., Brooklyn, N. Y. Floor oil cloth pattern.....(Design)	Oct. 22, 1867.
62, 891	Robold, G., et al. (See Dickinson, Witman & Robold.)	
62, 156	Robords, Ezra M., Avoca, N. Y. Method of driving well tubes.....	Mar. 12, 1867.
71, 647	Robyn, Henry, St. Louis, Mo. Type to print for the blind.....	Feb. 19, 1867.
71, 647	Roche, Henry P., Utica, N. Y. Machine for stretching cloth.....	Dec. 3, 1867.
70, 122	Rochow, J. E., New York, N. Y. Hoisting apparatus.....	Oct. 22, 1867.
66, 396	Rock, Adolph, Foxboro', Mass., and William Moorhouse, Mansfield, Mass. Shoe lacing.....	July 2, 1867.
68, 904	Rock, James, England. Carriage.....	Sept. 17, 1867.
71, 330	Rockafellow, A. J., St. Louis, Mo. Machine for tempering saw plates. (Antedated November 8, 1867.)	Nov. 26, 1867.
70, 745	Rockwell, A. H., Harpersville, N. Y. Bridle bit.....	Nov. 12, 1867.
71, 648	Rockwell, Henry H., assignor to self, Henry L. Bacon, and John H. Latham, New London, Conn. Safety strap for bridles.....	Dec. 3, 1867.
70, 619	Rockwell, R. N., Glenwood, Iowa. Wagon seat.....	Nov. 5, 1867.
2, 733	Rockwell, Thomas H. (See Juge, Henri, assignor.)	
64, 906	Rockwell, William S., Savannah Ga. Pillar.....(Design)	Aug. 6, 1867.
61, 568	Rockwood, L. O., Ottawa, Ill. Gang plow.....	May 21, 1867.
67, 805	Rodda, Thomas, St. Louis, Mo. Steam engine balanced valve.....	Jan. 29, 1867.
69, 446	Rodenhausen, L., Philadelphia, Pa. Street sprinkling cart.....	Aug. 13, 1867.
65, 508	Rodes, Henry, Clarence Center, N. Y. Combined corn planter and plaster dropper.....	Oct. 1, 1867.
61, 261	Rodgers, Amos C., Philadelphia, Pa. Sash fastener.....	June 4, 1867.
69, 129	Rodgers, Wm. H., Brooklyn, N. Y. Machine for covering wire with fine wire.....	Jan. 15, 1867.
2, 530	Same.....Measuring funnel.....	Sept. 24, 1867.
67, 526	Rodier, Louis C., assignor to self and J. B. Gardiner, Springfield, Mass. Steam pump.....(Reissue)	Mar. 26, 1867.
64, 574	Rodney, Leander, New York, N. Y. Printing press.....	Aug. 6, 1867.
66, 174	Rodrick, Charles F., Lynn, Mass. Car-coupling.....	May 7, 1867.
2, 767	Roe, Edward H., Jersey City, N. J. Hand saw.....	June 25, 1867.
63, 943	Roebing, J. A., and J. McMurtry, assignors to John McMurtry, Lexington, Ky. Railroad chair.....(Reissue)	Oct. 1, 1867.
70, 362	Roebuck, John, New York, N. Y. Match safe.....	Apr. 16, 1867.
68, 905	Roesler, Adolph, Warsaw, Ill. Match safe.....	Oct. 29, 1867.
67, 806	Roezl, B., Mexico. Machine for cleaning hemp, ramie, &c.....	Sept. 17, 1867.
69, 487	Rogers, Andross, Freeport, Ill. Tire shrinker.....	Aug. 13, 1867.
62, 443	Rogers, Charles, Barker, N. Y. Combined horse rake and hay spreader.....	Oct. 1, 1867.
70, 270	Rogers, Charles B., Plainfield, N. J. Clothes dryer.....	Feb. 26, 1867.
61, 873	Rogers, C. D., and M. P. Wilkins. (See Wilkins & Rogers.)	
63, 429	Rogers, C. D., Utica, N. Y., and M. P. Wilkins, Jersey City, N. J. Method of holding brush stocks.....	Oct. 29, 1867.
62, 888	Rogers, D. B., Pittsburg, Pa. Railroad car-truck.....	Feb. 5, 1867.
61, 466	Rogers, Frederick O., Niles, Mich. Roofing.....	Apr. 2, 1867.
2, 599	Rogers, George, Philadelphia, Pa. Casting pipes.....	Mar. 5, 1867.
71, 331	Rogers, George W., assignor to self and John D. Shepard, Lancaster, N. Y. Manufacture of soap.....	Jan. 22, 1867.
72, 909	Rogers, Henry J., Baltimore, Md. Set of signal flags.....(Design)	Mar. 19, 1867.
2, 704	Rogers, Ichabod R., assignor to self, John Wooldredge, and George E. Bartlett, Lynn, Mass. Manufacture of shoes.....	Nov. 26, 1867.
65, 279	Rogers, James S., Worcester, Mass. Sink trap.....	Dec. 31, 1867.
65, 834	Rogers, John, New York, N. Y. Group of statuary.....(Design)	July 9, 1867.
65, 280	Same.....(See Huot, Fleury, assignor.)	
65, 281	Same.....same.....	
70, 746	Rogers, John C., Alden, N. Y. Sulky plow.....	June 18, 1867.
68, 925	Rogers, Oliver P., assignor to self and D. S. Bartlett, Roxbury, Mass. Fruit picker.....	May 28, 1867.
64, 252	Rogers, Robert E., and James Black, Philadelphia, Pa. Steam generator.....	May 28, 1867.
64, 368	Same.....Steam generator.....	May 28, 1867.
71, 066	Same.....same.....	Nov. 12, 1867.
64, 795	Rogers, Rufus D., Cape Elizabeth, Maine. Winch.....	Sept. 10, 1867.
64, 368	Rogers, Seymour, assignor to Luman Rogers, Pittsburg, Pa. Cotton bale tie.....	Apr. 30, 1867.
71, 066	Rogers, Silas, Stamfordville, N. Y. Thill coupling.....	Apr. 30, 1867.
	Same.....same.....	Nov. 19, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 430	Rogers, Theodore B., Wethersfield, Conn. Cultivator	Apr. 2, 1867.
71, 414	Rohleder, A. C., New York, N. Y. Uterine supporter	Nov. 25, 1867.
71, 220	Rohr, Joseph, Batesville, Ind. Baby walker	Nov. 19, 1867.
71, 221	Rohrer, Fredl., San Francisco, Cal. Lamp extinguisher	Nov. 19, 1867.
71, 649	Rohrer, John L., Upper Leacock township, Pa. Harvester rake	Dec. 3, 1867.
71, 222	Rohrman, John C., Philadelphia, Pa. Construction of conductor pipes	Nov. 19, 1867.
2, 721	Rohrman, Joseph Hall, Philadelphia, Pa. Dust pan (Reissue)	Aug. 6, 1867.
66, 742	Rolle, Henry, Boston, Mass. Propeller	July 16, 1867.
2, 777	Rollins, Dan'l G., assignor to Jos. Hobart, Waltham, Mass. Volute spring (Reissue)	Oct. 15, 1867.
	Rollins, G. A., and G. W. Davis. (See Davis & Rollins.)	
62, 567	Rollins, L. F., assignor to self and James Nealey, jr., Bangor, Maine. Mop wringer	Mar. 5, 1867.
70, 271	Romaine, B. J., Hackensack, N. J. Railroad chair. (Antedated May 1, 1867)	Oct. 29, 1867.
68, 114	Romans, Anton, and John Peterka, Wilton, Iowa. Combined plow and cultivator	Aug. 27, 1867.
70, 620	Romans, Ephraim, La Porte, Ind. Bag fastener	Nov. 5, 1867.
	Romer, J. L., et al. (See Russell, Jacob, assignor.)	
68, 654	Rominger, J. G., assignor to self and J. F. Johnson, Philadelphia, Pa. Slide rest for lathes	Sept. 10, 1867.
65, 282	Rooke, Robert, Empire City, Oregon. Washing machine	May 23, 1867.
68, 532	Rooney, W. S., Albany, N. Y. Molasses cup	Sept. 3, 1867.
65, 636	Roop, Christian, Middletown, Pa. Ash tub or leach	July 9, 1867.
67, 912	Roos, August, New York, N. Y. Apparatus for rectifying spirits	Aug. 20, 1867.
69, 842	Root, Elcazer, Terre Haute, Ind. Terrasphere	Oct. 15, 1867.
65, 509	Root, E. K., (deceased), by Matilda C. Root, Elisha and Harris Colt, executors, Hartford, Conn. Breech-loading fire-arm	June 4, 1867.
65, 510	Root, E. K., (deceased), by Matilda C. Root, Elisha and Harris Colt, executors, assignors to Colt's Patent Fire-arms Company, Hartford, Conn. Revolving fire-arm	June 4, 1867.
64, 709	Root, James A., East Canaan, and I. N. Bartram, Sharon, Conn. Smelting furnace	May 14, 1867.
70, 363	Root, John, assignor to self and McLazan & Stevens, New Haven, Conn. Machine for heading bolts	Oct. 29, 1867.
65, 012	Root, John B., New York, N. Y. Traction engine	May 21, 1867.
65, 013	Same. Rotary valve	May 21, 1867.
62, 289	Root, Samuel, assignor to self and W. H. Clark, New Haven, Conn. Peat machine	Feb. 19, 1867.
67, 913	Root, T. J., and R. L., assignors to Thomas J. Root, Andover, Ohio. Trip hammer	Aug. 20, 1867.
67, 587	Roper, Charles E., Canton, Ohio. Machine for cutting bevel gears	Aug. 6, 1867.
	Ropes, David N. (See Jackson, James S., assignor.)	
62, 689	Ropes, Henry, Brooklyn, N. Y. Pocket-book clasp	Mar. 5, 1867.
60, 940	Roque, Adolphe, assignor to Jacques Guedin, France. Fiber from pine leaves for hygienic and other purposes	Jan. 1, 1867.
67, 807	Roraback, Isaac, South Bend, Ind. Breast strap slide	Aug. 13, 1867.
67, 808	Same. Buckle	Aug. 13, 1867.
68, 397	Rosbrook, Hiram, Chicago, Ill. Steam generator	July 2, 1867.
64, 799	Rosecco, Stephen R., Obion county, Tenn. Sofa bedstead	May 14, 1867.
61, 467	Rose, Adaline, Bath, N. Y. Carpet sack	June 23, 1867.
62, 502	Rose, Albert A., Binghamton, N. Y. Churn	Feb. 26, 1867.
61, 106	Rose, Charles, Ailentown, Pa. Curtain fixture	Jan. 8, 1867.
63, 944	Rose, Clomens B., Sunderland, Mass. Bit stock	Apr. 16, 1867.
60, 941	Rose, C. A., Columbus, Ga. Hand hoe	Jan. 1, 1867.
64, 449	Same. Manufacture of paper pulp	May 7, 1867.
64, 907	Rose, Columbus A., Columbus, Ga. Trunk	May 21, 1867.
61, 262	Rose, D. E., Cincinnati, Ohio. Amalgamator	Jan. 15, 1867.
62, 157	Rose, George, Philadelphia, Pa. Soap	Feb. 19, 1867.
65, 768	Rose, Israel M., assignor to the Sewing Machine Improvement Company, New York, N. Y. Embroidering attachment for sewing machines	June 11, 1867.
70, 902	Rose, John J., Elmwood, Ill. Compound tool for cutting, punching, and upsetting iron	Nov. 12, 1867.
2, 612	Rose, J. L., and E. L. Caley, assignors to Cox, Whiteman & Cox, Philadelphia, Pa. Plates of a cook's stove (Design)	Apr. 9, 1867.
	Rose, T., and J. Wisner. (See Wisner & Rose.)	
70, 621	Rosen, E., New York, N. Y. Conformator	Nov. 5, 1867.
63, 752	Rosenberger, Adam, Brandonville, W. Va. Hand loom	Apr. 9, 1867.
67, 218	Rosenberry, C., and T. Worth, Chicago, Ill. Sifter, egg beater, and spice mixer	Apr. 30, 1867.
61, 874	Rosenblatt, P., Greenville, Tenn. Door and window-sash fastener	Feb. 5, 1867.
67, 354	Rosenkranz, William, and Michael Esch, St. Paul, Minn. Water tank and refrigerator	July 30, 1867.
64, 369	Rosenthal, H., New York, N. Y. Paint brush	Apr. 30, 1867.
67, 588	Same. same	Aug. 6, 1867.
64, 575	Ross, Alexander, assignor to self and John Fell, Maine, N. Y. Machine for washing hides	May 7, 1867.
70, 473	Ross, A. J., assignor to O. C. Ross, Rochester, N. Y. Hitching strap	Nov. 5, 1867.
72, 420	Ross, A. Q., Cleves, Ohio. Device for ejecting hot water on war vessels	Dec. 17, 1867.
64, 908	Ross, Duane A., Newport, N. Y. Skate fastening	May 21, 1867.
69, 593	Ross, James, assignor through mesne assignments to William Adams, Somerville, Mass. Preparing paper, paste-board, and other materials to be used as packing for steam-engines	Oct. 8, 1867.
61, 468	Ross, John, Greenville, Mich. Pump	Jan. 22, 1867.
63, 099	Same. Fountain	Mar. 19, 1867.
61, 107	Ross, J. S., Hiram, Ohio. Combined fruit and ice house	Jan. 8, 1867.
68, 115	Ross, John S., Hamilton county, Iowa. Steam sled	Aug. 27, 1867.
	Ross, Luther, and William Allen. (See Allen & Ross.)	
72, 085	Ross, P. Atkinson, Harvey's, Pa. Plow, shovel, cultivator, &c.	Dec. 10, 1867.
65, 609	Ross, Robert, and B. E. Lehman, Bethlehem, Pa. Lubricator	June 11, 1867.
	Ross, R., and W. W. Wakeman, jr. (See Wakeman & Ross.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
30, 942	Ross, William, Day's Store, Pa. Preserving butter, meat, &c.....	Jan. 1, 1867.
38, 793	Rosman, William F., Hudson, N. Y. Milk strainer.....	Sept. 10, 1867.
	Rost, William, and Ferdinand Haase. (See Haase & Rost.)	
	Same.....same.	
	Rote, jr., G. F., and Benjamin K. Dorwart. (See Dorwart & Rote.)	
	Same.....same.	
54, 150	Roth, Elias, and George Shane, New Oxford, Pa. Gate.....	Apr. 23, 1867.
55, 769	Rothe, Charles, and Fridrek Wickelhaus. (See Wickelhaus & Rothe.)	
66, 890	Rothfelder, Henry, New York, N. Y. Winding and setting watches.....	June 11, 1867.
67, 138	Same.....Watch.....	July 16, 1867.
66, 398	Same.....Winding and setting watches.....	July 23, 1867.
	Same.....same.....	July 2, 1867.
61, 361	Rothwell, Andrew, Washington, D. C. Bedstead.....	
62, 778	Rouart, S. H., and J. B. J. Mignon. (See Mignon & Rouart.)	
62, 779	Roulstone, E. A. G., Roxbury, Mass. Trunk lock.....	Jan. 22, 1867.
62, 892	Same.....Travelling bag.....	Mar. 12, 1867.
63, 178	Same.....same.....	Mar. 12, 1867.
63, 179	Same.....same.....	Mar. 12, 1867.
71, 923	Same.....Carpet bag.....	Mar. 26, 1867.
	Same.....same.....	Mar. 26, 1867.
	Same.....Trunk.....	Nov. 19, 1867.
	Same.....(See Millar, Alexander, assignor.)	
66, 399	Round, William T., Middletown, Conn. Gun hammer gauge.....	July 2, 1867.
66, 042	Roundey, James H., assignor to self and Amos H. Roundey, Oldtown, Me. Churn.....	June 25, 1867.
68, 313	Rouse, Burdet C., Morris, Ill. Plow.....	Aug. 27, 1867.
	Rouse, Wanton. (See Graham, Edmund H., assignor).....(Reissue.)	
61, 263	Routt, A. P., Liberty Mills, Va. Draining machine.....	Jan. 15, 1867.
64, 370	Same.....Cultivator.....	Apr. 30, 1867.
65, 610	Same.....Seeding machine and fertilizer.....	June 11, 1867.
61, 764	Routzahn, Joseph L., Frederick, Md. Shutter fastener.....	Feb. 5, 1867.
63, 364	Roux, François Louis, France. Plastic compound for protecting metallic and non-metallic surfaces from the effects of air and water.....	Apr. 9, 1867.
68, 116	Same.....Sheathing of ships' bottoms.....	Aug. 27, 1867.
64, 909	Roux, J. G., Raymond, Miss. Cotton and hay press.....	May 21, 1867.
61, 634	Rouatt, Thomas, jr., England. Lamp burner.....	Jan. 29, 1867.
61, 362	Rowe, Abram, assignor to self, Lorenzo F. Whitman, and Reson A. Bowie, Macomb, Ill. Portable water power.....	Jan. 22, 1867.
67, 589	Rowe, Abram, assignor to self, Charles Chandler, and James Duncan, Macomb, Ill. Steam generator.....	Aug. 6, 1867.
64, 037	Rowe, George, Worcester, Mass. Machine for making wooden pins.....	Apr. 23, 1867.
	Rowe, Isaiah. (See Doud, Orlean, assignor.)	
69, 028	Rowe, John L., New York, N. Y. Truss. Antedated September 7, 1867.....	Sept. 17, 1867.
70, 622	Rowe, Jonas H., Hudson, N. Y. Spinning wheel.....	Nov. 5, 1867.
67, 074	Rowe, Thomas, New York, N. Y. Quartz mill.....	July 23, 1867.
60, 791	Rowe, William N., Washington, D. C. Safety nipple for fire-arms.....	Jan. 1, 1867.
61, 469	Rowell, Isaac, and Francis E. Mills, San Francisco, Cal. Mode of mounting photographs for exhibition.....	Jan. 22, 1867.
68, 576	Rowell, Warren, assignor to the Metropolitan Washing Machine Company, New York, N. Y. Clothes wringer.....	Sept. 3, 1867.
64, 450	Rowell, Warren, New York, N. Y. Transmitting motion.....	May 7, 1867.
64, 451	Same.....same.....	May 7, 1867.
68, 005	Rowland, Charles, and Joseph G. Quiney, Ill. Condensed leather peg.....	Aug. 20, 1867.
68, 006	Same.....Machine for making condensed leather pegs.....	Aug. 29, 1867.
64, 710	Rowland, J., Brooklyn, N. Y. Locking apparatus for ferry boats.....	May 14, 1867.
64, 576	Rowland, John E., Hagerstown, Md. Cultivator.....	May 7, 1867.
66, 891	Rowley, jr., Emery W., Antwerp, N. Y. Pea rake.....	July 16, 1867.
72, 187	Rowley, James H., Vanceburg, Conn. Churn.....	Dec. 10, 1867.
63, 100	Rowley, John H., Fabius, N. Y. Fence.....	Mar. 19, 1867.
66, 892	Rowley, Julius S., Chateaugay, N. Y. Clip for clothes lines and other purposes.....	July 16, 1867.
69, 029	Rowley, M. V. B., Worcester, N. Y. Churn.....	Sept. 17, 1867.
2, 840	Rowley, S. B., Philadelphia, Pa. Body of a jar.....(Design).....	Nov. 26, 1867.
72, 231	Rowley, Thomas J., and William Poland, Chillicothe, Ohio. Locomotive link for trucks.....	Dec. 17, 1867.
66, 637	Royce, J. A., Lee, Mass. Advertising apparatus.....	July 9, 1867.
71, 537	Royer, Tobias, Lancaster, Pa. Burglar alarm.....	Nov. 26, 1867.
71, 792	Royse, Andrew, and Matthias K. Morris, Leroy, Pa. Hay raker and loader.....	Dec. 3, 1867.
63, 101	Royse, C. W., Peterborough, N. H. Towel rack.....	Mar. 19, 1867.
71, 061	Same.....Chair bottom.....	Nov. 19, 1867.
64, 371	Roz, T. J. V., France, piano-forte.....	Apr. 30, 1867.
68, 577	Rudd, C. H., and George W. Shawk, Cleveland, Ohio. Electro-magnetic pump.....	Sept. 3, 1867.
60, 943	Ruddick, Hamilton, Boston, Mass. Steam engine.....	Jan. 1, 1867.
70, 364	Same.....Steam generator.....	Oct. 29, 1867.
61, 765	Rude, J. R., Liberty, Ind. Grain drill.....	Feb. 5, 1867.
70, 024	Ruegg, John, assignor to J. G. Marriott, St. Louis, Mo. Bung and bush.....	Oct. 22, 1867.
61, 264	Rugg, Gilbert J., Worcester, Mass. Planing machine.....	Jan. 15, 1867.
	Ruggles, D., et al. (See Rich, John, assignor.)	
70, 123	Ruggles, Henry J., Poulney, Vt. Stone channelling machine.....	Oct. 22, 1867.
63, 431	Ruggles, Stephen P., Boston, Mass. Steam generator.....	Apr. 2, 1867.
61, 265	Rule, William G., New York, N. Y. Legging.....	Jan. 15, 1867.
69, 252	Rullmann, A., New York, N. Y. Medical compound.....	Sept. 24, 1867.
	Rumford Chemical Works. (See Horsford, E. N., assignor.)	
64, 038	Rumrell, Marshall, and Robert H., Brooklyn, N. Y. Machine for making book covers.....	Apr. 23, 1867.
	Rumsey & Company. (See Egleson, Leonard, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 655	Rumsey, H. D., Homer, N. Y. Churn	Sept. 10, 1867.
	Rumsey, Jesse B., and Henry Gross. (See Gross & Rumsey.)	
72, 910	Rundlett, William F., Genoa, N. Y. Harvester reel	Dec. 31, 1867.
63, 180	Rundlett, Samuel C., Portland, Me. Sifter for ashes, &c	Mar. 26, 1867.
62, 780	Rundlett, S. C., assignor to self and Joseph Grant, Portland, Me. Cattle tie	Mar. 12, 1867.
63, 181	Rufflett, S. C., and R. Dodge, assignors to selves and John L. Meserve, Portland, Me. Scrubbing brush	Mar. 26, 1867.
71, 068	Rundquist, Charles, Mankato, Minn. Branding iron	Nov. 19, 1867.
68, 794	Rung, William, New York, N. Y. Hoisting apparatus	Sept. 10, 1867.
	Runnells, W. T. C., Searsport, Me. Washing machine	Dec. 3, 1867.
63, 308	Runte, William, New York, N. Y. Tool handle	Mar. 26, 1867.
69, 707	Rupertus, Jacob, Philadelphia, Pa. Cartridge for fire-arms	Oct. 8, 1867.
65, 950	Rupp, J., assignor to self and Frederick Kieser, New York, N. Y. Double seaming machine	June 18, 1867. Feb. 19, 1867.
62, 290	Ruppert, Daniel, Minerva, Ohio. Corn planter	
	Ruppenthal, Jacob, and E. C. Mayer. (See Mayer & Ruppenthal.)	
69, 708	Rushworth, John, New York, N. Y. Loom for weaving ribbons, &c	Oct. 8, 1867.
	Russ, Augustus. (See Niles, Peter H., assignor.)	
63, 102	Russ, John A., Springfield, Mass. Pocket implement	Mar. 19, 1867.
66, 043	Russ, J. Scott, assignor to W. N. Zimmer and W. W. Coggsball, Rensselaerville, N. Y. Rein holder	June 25, 1867.
	Russell and Erwin Manufacturing Co. (See Waterman, N., assignor.) (Reissue.)	
	Russell, Alva P., et al. (See Davison, Bates, Wilson & Russell.)	
65, 770	Russell, Charles E., Jacksonville, Ill. Stove pipe drum	June 11, 1867.
72, 683	Russell, Charles W., and Neil Clifford, New York, N. Y. Lamp	Dec. 24, 1867.
71, 538	Russell, Edwin, Naugatuck, Ky. Lamp-chimney fastening	Nov. 26, 1867.
63, 753	Russell, E. P., Manlius, N. Y. Gridiron	Apr. 9, 1867.
66, 044	Same. Automatic apparatus for lighting and extinguishing gas	June 25, 1867.
2, 702	Same. Method of casting the driving wheels of horse-power harvesters, &c	July 30, 1867.
	(Reissue.)	
68, 461	Same. Dumping reel for harvesters	Sept. 3, 1867.
70, 272	Same. Mode of lighting street gas burners	Oct. 29, 1867.
72, 911	Russell, E. Walton, Baltimore, Md. Tumbler washer	Dec. 31, 1867.
69, 843	Russell, Eli W., assignor to Samuel S. Russell, Ashley, Mo. Churn	Oct. 15, 1867.
66, 638	Russell, Fisk, Cambridge, Mass. Safety pocket	July 9, 1867.
69, 792	Russell, G., New York, and Thomas B. Hull, Brooklyn, N. Y. Printers' ink roller	Jan. 1, 1867.
66, 639	Russell, Henry, New Richmond, Wis. Mop wringer	July 9, 1867.
67, 914	Russell, Isaac S. and Henry R., New Market, Md. Harvester	Aug. 20, 1867.
63, 655	Russell, Jacob, ass'or to self, H. T. McConn, J. L. Romer and T. T. Buckley, Brooklyn, N. Y. Machine for making nails	Apr. 9, 1867.
71, 539	Russell, Jacob, assignor to self and Samuel Moffat, Brooklyn, N. Y. Husking machine	Nov. 26, 1867.
69, 709	Russell, James, assignor to self and H. A. Collins, Springfield, Mass. Card setting machine	Oct. 8, 1867.
70, 365	Russell, James F., Washington, D. C. Mode of facilitating the flow of illuminating gas through pipes	Oct. 29, 1867.
61, 363	Russell, Jesse, Bath, Maine. Abrasive powder	Jan. 22, 1867.
	Russell, J. W., and D. S. Covert. (See St. John, R. H., assignor.)	
70, 747	Russell, McCollum, and Alfred G. Burdick, Mill Rock, Iowa. Hand corn planter	Nov. 12, 1867.
	Russell, M. E., and Michael J. Cogan. (See Cogan & Russell.)	
72, 544	Russell, Niram, Philadelphia, Pa. Earth conveyor	Dec. 24, 1867.
	Russell, O. P. (See Rbinehart & Felker, assignors.)	
	Russell, Robert. (See Richardson, H. D., assignor.)	
67, 455	Russell, Robert, et al. (See Lanagan, Michael A., assignor.)	
	Russell, R. M., assignor to George W. Norris, New York, N. Y. Disintegrating flax, hemp, and other fibrous plants	Aug. 6, 1867.
70, 474	Russell, R. W., Brooklyn, and Thomas Howland, Stockport, N. Y. Preparation of paper pulp from reeds, &c	Nov. 5, 1867.
71, 069	Russell, Samuel A., Huntington, Conn. Fruit seeder	Nov. 19, 1867.
67, 219	Russell, Thomas B., Salem, Mass. Gear cutting wheel	July 30, 1867.
64, 151	Russell, W., and B. Carpenter, Northfield, and Joseph Drake, Boston, Ohio. Compound for curing foot rot in sheep	Apr. 23, 1867.
	Russell, William, & Son. (See Curtis, Francis, assignor.)	
61, 875	Rust, Albert D., Vernon, Mich. Clothes line and clamp	Feb. 5, 1867.
69, 844	Rutherford, Williams, Athens, Ga. Compound protractor	Oct. 15, 1867.
2, 833	Ruthven, E. C., Philadelphia, Pa. Ornamental type (Design)	Nov. 19, 1867.
71, 540	Rutt, M. M., and A. B. Baer, East Hempfield, Pa. Corn and seed planter	Nov. 26, 1867.
66, 666	Rutter, John, West Chester, Pa. Preserving, storing, and transporting fruits, vegetables, and other perishable articles	July 9, 1867.
	(Reissue.)	
60, 793	Ryan, John B. (See Dodge, Calvin, assignor.)	
	Ryan, John S., Berlin, Wis. Means for rocking cribs or cradles	Jan. 1, 1867.
62, 893	Ryan, Joseph, St. Louis, Mo. Fluid ejector	Mar. 12, 1867.
65, 611	Same. Scuttle door for buildings, dry docks, and vessels	June 11, 1867.
61, 635	Ryan, Joseph II., Boston, Mass. Toilet glass	Jan. 29, 1867.
61, 676	Ryan, Justin, Waukegan, Ill. Manufacture of soap	Feb. 5, 1867.
69, 488	Ryder, Alfred V., New York, N. Y. Trunk	Oct. 1, 1867.
61, 023	Ryder, Andrew V., Germano, Ohio. Horse rake	Jan. 8, 1867.
69, 710	Same. Seeding machine	Oct. 8, 1867.
63, 309	Ryder, Jr., Benjamin, South Orrington, Maine. Wagon	Mar. 26, 1867.
	Ryder, J. M., and C. A. Warland. (See Potter, Elisha O., assignor.)	
69, 030	Ryder, Newell S., Greenland, Michigan. Apparatus for washing ores	Aug. 27, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 070	Sampson, J. M., Waynesville, Ill. Corn planter.....	Nov. 19, 1867.
60, 794	Samuels, John Lewis, San Francisco, Cal. Composition for preparing and hardening wood and preserving the same.....	Jan. 1, 1867.
65, 951	Samuels, S., Mott Haven, and W. J. Brassington, Brooklyn, N. Y., assignors to selves, William Pitt, and W. T. Burnett, Brooklyn, N. Y. Locomotive engine.....	June 18, 1867.
	Samuels, S., <i>et al.</i> (See Kitchen & Samuels.)	
62, 444	Sanborn, Charles H., Roxbury, Mass. Coffin dam.....	Feb. 26, 1867.
71, 793	Sanborn, George H., Boston, Mass. Machine for cutting paper.....	Dec. 3, 1867.
61, 471	Same..... Machine for separating iron from sand.....	Jan. 22, 1867.
	Sanborn, Jacob R., and J. N. George. (See George & Sanborn.)	
63, 311	Sanborn, Rufus S., Ripon, Wis. Fire-proof safe.....	Mar. 26, 1867.
67, 220	Same..... Fire-proof powder magazine.....	July 30, 1867.
	Sanborn Steam Fire-proof Safe Association. (See Eaton & Ireland, assignors.)	
	Sanborn, Thomas T., <i>et al.</i> (See Richardson, George B., assignor.)	
65, 014	Sanborn, W. W., Lyons City, Iowa. Churn.....	May 21, 1867.
69, 368	Sanders, George W., Springfield, Vt. Mop head.....	Oct. 1, 1867.
65, 511	Sanders, James, assignor to self and Noah H. Marston, East Boston, Mass. Steam gauge cock.....	June 4, 1867.
65, 284	Sanders, J. W., Ripon, Wis. Fence.....	May 28, 1867.
	Sanderson, Edwin. (See Lipps, John S., assignor.)	
63, 815	Sanderson, George O., Boston, Mass. Gas cooking stove.....	Apr. 16, 1867.
65, 123	Sanderson, Henry, assignor to William Sanderson, England. Cutlery.....	May 28, 1867.
71, 914	Sanderson, Peter R., Caledonia, N. Y. Apparatus for taming wild animals.....	Dec. 10, 1867.
61, 266	Sanderson, Robert, Cleveland, Ohio. Steam governor.....	Jan. 15, 1867.
64, 712	Same..... same.....	May 14, 1867.
65, 952	Sanderson, William, New York, N. Y. Cutlery.....	June 18, 1867.
63, 945	Sandgren, John J., Lyons, Iowa. Lever shears.....	Apr. 16, 1867.
70, 366	Same..... Compound tool for shearing, punching, and upsetting.....	Oct. 29, 1867.
71, 415	Sanford, Elias, Meriden, Conn. Draught attachment for horses.....	Nov. 26, 1867.
66, 045	Sanford, E. D., Baltimore, Md. Clothes dryer.....	June 25, 1867.
	Sanford, E. R., and John T. Bon. (See Sweet, John E., assignor.)	
63, 946	Sanford, H. W., assignor to self and Horace Smith, Thomaston, Conn. Skate.....	Apr. 16, 1867.
71, 794	Sanford, Jared W., Byron, Ill. Cultivator.....	Dec. 3, 1867.
67, 915	Sanford, John W., Bath, N. Y. Combined gate and fence.....	Aug. 20, 1867.
67, 916	Same..... Broom head.....	Aug. 20, 1867.
63, 947	Sangster, Amos W. and James, Buffalo, N. Y. Beer cooler.....	Apr. 16, 1867.
65, 285	Sangster, Hugh, assignor to Horace Parmelee and William H. Bonnell, Buffalo, N. Y. Lantern.....	May 28, 1867.
62, 781	Sangster, James, Buffalo, N. Y. Brick machine.....	Mar. 12, 1867.
72, 421	Sangster, William, assignor to self, James Floyd, Michael Kero, William P. Dellman, John Smith, and George Stuffer, Joliet, Ill. Brick machine.....	Dec. 17, 1867.
	Sanor, J. H. and G. W. (See Bates, E. M., assignor.)	
68, 314	Sapp, L. W., Cleveland, Ohio. Mechanical power applied to sewing machines.....	Aug. 27, 1867.
65, 438	Sardam, J. H., Wellington, Ohio. Feather cleansing machine.....	June 4, 1867.
	Sargent & Company. (See Bradford, P., assignor.)	
	Same..... same.....	
	Same..... same.....	
	Same..... (See Nieberg, C. L., assignor)..... (Design.)	
	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
	Same..... same..... (Design.)	
71, 795	Sargent, Frederick G., and Norman H. Bruce, Graniteville, Mass. Tag.....	Dec. 3, 1867.
62, 445	Sargent, James, Rochester, N. Y. Securing lock spindles in the doors of safes, &c.....	Feb. 26, 1867.
62, 446	Same..... Spindle of safe locks.....	Feb. 26, 1867.
70, 749	Sargent, J. B., New Haven, Conn. Coat and hat hook.....	Nov. 12, 1867.
70, 750	Same..... Snap hook.....	Nov. 12, 1867.
70, 125	Sargent, Lucius M., assignor to W. A. Richardson, Henry D. Ward, and George A. Gates, Worcester, Mass. Lamp extinguisher..... (Antedated Oct. 19, 1867.)	Oct. 22, 1867.
70, 623	Sargent, Ransom, Norwich, Vt. Rotary cam for looms.....	Nov. 5, 1867.
2, 557	Sargent, Sumner, assignor through mesne assignments to Alfred B. Ely, Newton, Mass. Lantern..... (Reissue.)	Apr. 9, 1867.
63, 906	Sargent, Walter S., and Frederick Flanders, Franklin, N. H. Animal tether.....	Sept. 17, 1867.
	Saroni, H. S. (See Duncan, Charles W., assignor.)	
61, 877	Sarony, Napoleon, New York, N. Y. Holder for retouching photographic negatives.....	Feb. 5, 1867.
69, 489	Sattison, Jacob, assignor to self and Ambrose Frayer, Ripley township, Ohio. Grain and seed cleaner.....	Oct. 1, 1867.
69, 490	Sauerbier, Henry, Newark, N. J. Shoe knife.....	Oct. 1, 1867.
63, 491	Same..... same.....	Oct. 1, 1867.
	Sauerbier, Henry, and John Stadermann. (See Stadermann & Sauerbier.)	
62, 369	Saunders, Benjamin, assignor to self and Albert H. Saunders, Nashua, N. H. Friction apparatus for yarn bearings of warp dressers.....	Feb. 26, 1867.
62, 370	Same..... Devices for imparting latent reciprocation to the raddle of warp dressing machines.....	Feb. 26, 1867.
65, 124	Saunders, D., Brooklyn, N. Y. Pipe vise.....	May 28, 1867.
72, 088	Saunders, David, assignor to Joseph Nason & Co. Brooklyn, N. Y. Steam trap.....	Dec. 10, 1867.
69, 369	Saunders, Henry and James M., Oxford, Ohio. Hitching device for whiffletrees.....	Oct. 1, 1867.
69, 492	Saunders, John G., Narragansett, R. I. Center board.....	Oct. 1, 1867.
62, 228	Saunders, Turner, Memphis, Tenn. Cotton scraper.....	Feb. 19, 1867.
	Saunders, T. P., <i>et al.</i> (See Clifford, Carlton, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Saunders, T. P., et al. (See Dixon & Heath, assignors.)	
65, 836	Saunderson, David, assignor to John Ringen, St. Louis, Mo. Mode of boxing oil cans.	June 18, 1867.
62, 894	Savage, Jr., George, Bangor, Maine. Planing screw.	Mar. 12, 1867.
62, 291	Savage, Julius B., Southington, Conn. Wrench	Feb. 19, 1867.
	Same.....(See Barrett, E. D., assignor.)	
61, 956	Savage, J. J., Troy, N. Y. Cooking stove	Feb. 12, 1867.
66, 743	Same.....Grate for stoves	July 16, 1867.
2, 828	Same.....Cooking stove.....(Reissue)	Dec. 31, 1867.
62, 371	Savage, Richard, San José, California. Steam alarm gauge	Feb. 26, 1867.
	Savage, W. L., and D. W. Teller. (See Teller & Savage.)	
62, 158	Savage, W. M. and R., Chicago, Ill. Device for slaughtering hogs	Feb. 19, 1867.
66, 400	Sawin, Charles H., and J. A. Titus, Worcester, Mass. Window fastener	July 2, 1867.
67, 917	Sawin, George W., Nashua, N. H. Horse hoe	Aug. 23, 1867.
65, 015	Sawtell, John N., Chicopee, Mass. Sash support	May 21, 1867.
69, 370	Sawyer, A. M., Athol, Mass. Machine for preparing peat for fuel	Oct. 1, 1867.
63, 948	Sawyer, Charles H., Hollis, Maine. Bench plane	Apr. 16, 1867.
68, 241	Same.....Saco, Maine. Jack screw	Aug. 27, 1867.
	Sawyer, Edward J., et al. (See Beaf, Sawyer & Webster.)	
70, 026	Sawyer, F. W., Grafton, Mass. Loom shuttle	Oct. 22, 1867.
63, 754	Sawyer, Henry, Boston, Mass. Starch gloss	Apr. 9, 1867.
2, 769	Same.....Roxbury, Mass. Putting up powders, &c.....(Reissue)	Oct. 1, 1867.
67, 591	Sawyer, J. A., Worcester, Mass. Thread holder and cutter for sewing machines	Aug. 6, 1867.
63, 656	Sawyer, Sylvanus, Fitchburg, Mass. Dividers and calipers	Apr. 9, 1867.
70, 027	Sawyer, W. T., Mobile, Alabama. Wheel for vehicles	Oct. 22, 1867.
72, 422	Saxton, George S., St. Louis, Mo. Manufacture of corrugated bells	Dec. 17, 1867.
61, 688	Sayer, James F., Macomb, N. Y. Stave jointer	Jan. 29, 1867.
68, 657	Saylor, Henry, and Jeremiah Bair, St. Paris, Ohio. Fire box for forges	Sept. 10, 1867.
	Sayre, George H. (See Heffron, William P., assignor.)	
61, 878	Scanlan, John, Chicago, Ill. Felt roofing	Feb. 5, 1867.
70, 028	Same.....Construction of roofing. (Antedated Oct. 16, 1867)	Oct. 22, 1867.
70, 029	Same.....Roofing fabric. (Antedated Oct. 16, 1867)	Oct. 22, 1867.
70, 030	Same.....Felt roofing. (Antedated Oct. 16, 1867)	Oct. 22, 1867.
70, 367	Scanlin, Daniel, Rochester, N. Y. Sirup pitcher	Oct. 29, 1867.
66, 202	Seatchergood, Henry Valentine, Albany, N. Y. Cotton gin	June 25, 1867.
	Schaetschober, John, et al. (See Schaefer, Charles A., assignor.)	
	Same.....same	
71, 534	Schade, Reinhard, New York, N. Y. Door lock	Nov. 26, 1867.
60, 795	Schaefer, Bernard, Chicago, Ill. Boiler fire cleaner	Jan. 1, 1867.
64, 910	Schaefer, Charles A., assignor to self, Fritz Frillman, William Wolff, and John Schaetschober, Chicago, Ill. Hanging and locking sash	May 21, 1867.
64, 911	Same.....Sash supporter	May 21, 1867.
68, 389	Schaefer, L., Cleveland, Ohio. Sofa bedstead	Sept. 3, 1867.
61, 766	Schafer, Joseph, assignor to self and George Heydt, New York, N. Y. Hinge. (Antedated Jan. 27, 1867)	Feb. 5, 1867.
2, 437	Schaffer, John, St. Louis, Mo. Capstan for steamboats.....(Reissue)	Jan. 1, 1867.
63, 816	Schaffer, John, assignor to Samuel Baxter, St. Louis, Mo. Steam safety valve	Apr. 16, 1867.
69, 254	Schall, M., New York, N. Y. Candle holder	Sept. 24, 1867.
65, 286	Schartau, Ejler O., Philadelphia, Pa. Heating attachment for oil lamps	May 28, 1867.
71, 651	Same.....Lamp chimney. (Antedated Nov. 21, 1867)	Dec. 3, 1867.
66, 256	Schatt, John, assignor to self and Samuel P. Mervine, Philadelphia, Pa. Dry gas meter	July 2, 1867.
	Schaw, William, and Harrison W. Austin. (See Austin & Schaw.)	
63, 433	Scheen, Joseph, New Haven, Conn. Baby carriage and velocipede	Apr. 2, 1867.
64, 580	Scheetz, J. David, and Reuben Adams, assignors to selves and John McKnight, Robesonia, Pa. Cultivator	May 7, 1867.
64, 256	Scheffer, Henry, St. Louis, Mo. Process for preserving eggs	Apr. 30, 1867.
71, 071	Schegg, Ulrich, Nauvoo, Ill. Press	Nov. 19, 1867.
63, 949	Schellcr, Augustus, New York, N. Y. Process of whitening horn	Apr. 16, 1867.
66, 175	Schellmann, Francis Joseph, assignor to self and Theodore Thurber, Syracuse, N. Y. Sadiron handle	June 25, 1867.
71, 796	Schenck, Abram, Ovid, Michigan. Grain separator	Dec. 3, 1867.
68, 242	Schenck, C., Baden. Mash and beer cooler	Aug. 27, 1867.
60, 944	Schenck, Jr., John P., Matteawan, N. Y. Composition for lining oil barrels	Jan. 1, 1867.
	Same.....(See Pollock, Leander, assignor.)	
65, 953	Schenck, Peter F., Riceville, N. J. Apparatus for supplying life boats	June 18, 1867.
68, 007	Schenker, Joseph, Brownsville, Minn. Wind mill	Aug. 20, 1867.
69, 493	Schermerhorn, John, Spring Creek, Pa. Washing machine	Oct. 1, 1867.
62, 755	Schermerhorn, Levi C. and John M., North Gage, N. Y. Milk vat	Apr. 9, 1867.
2, 719	Scheuer, Simon and Isaac, New York, N. Y. Pocket book.....(Design)	Aug. 6, 1867.
66, 640	Schiffer, John, assignor to self and Meyer & Mueller, New York, N. Y. Machine for dressing hides and skins	July 9, 1867.
65, 016	Schild, Henry and Jacob, New York, N. Y. Vented faucet	May 21, 1867.
68, 795	Schilling, Charles, Albany, N. Y. Harness motion for looms	Sept. 10, 1867.
69, 031	Schindler, Edward, and Charles H. Metzger, Easton, Pa. Punch	Sept. 17, 1867.
	Schlaepfer, J. J. (See Vollschwitz, Rudolph, assignor.)	
66, 401	Schley, John, Savannah, Ga. Horse power	July 2, 1867.
2, 816	Schlichter, Henry, and Henry A. Zug, Philadelphia, Pa. Bottle.....(Design)	Oct. 22, 1867.
72, 912	Schlichting, Edward, New York N. Y. Cigar pipe	Dec. 31, 1867.
64, 257	Schlingman, Adolph, West Alexandria, Ohio. Bedstead fastening	Apr. 30, 1867.
	Schmid, John, and John Wagner. (See Wagner & Schmid.)	
61, 267	Schmidt, A. T., Pittsburg, Pa. Manufacture of paper and treating paper pulp	Jan. 15, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 954	Schmidt, Frederick, Cincinnati, Ohio. Wood planing machine.	June 18, 1867.
65, 955	Schmidt, F. Emil, Hoboken, N. J. Manufacture of ornamental feathers.	June 18, 1867.
66, 522	Schmidt, George, Dobbs's Ferry, N. Y. Piano-forte stool.	July 9, 1867.
64, 581	Schmidt, John G., Rochester, N. Y. Machine for cutting bungs.	May 7, 1867.
67, 592	Schmidt, Rudolph, New York, N. Y. Sand pump.	Aug. 6, 1867.
61, 570	Schmirk, M., and P. McCollum, Fayette, Mo. Quilting frame.	Jan. 29, 1867.
66, 744	Schmitt, F., Springfield, Ill. Artificial leg.	July 16, 1867.
61, 879	Schmitt, Peter and Peter J. Waterloo, Ill. Grain drill.	Feb. 5, 1867.
69, 032	Schmitt, William, New York, N. Y. Coat and hat hook.	Sept. 17, 1867.
71, 072	Schmitte, Achille, and Hilaire André Levallois, France. Alloy to imitate silver.	Nov. 19, 1867.
62, 692	Schmoll, Jacob, New York, N. Y. Anti-rheumatic compound.	Mar. 5, 1867.
72, 667	Schmolz, William, San Francisco, Cal. Solar and transit instrument.	Dec. 24, 1867.
63, 756	Schnackenberg, A. D., Brooklyn, N. Y. Portable soda fountain.	Apr. 9, 1867.
66, 257	Schneider, George P., <i>et al.</i> (See Glass, Schneider & Rezner.)	
	Schneider, Moritz, Cleveland, Ohio. Paint compound.	July 2, 1867.
	Schneider, Peter. (See Vetter, Caspar, assignor.)	
63, 104	Schoerker, Louis, Prussia. Match box.	Mar. 19, 1867.
61, 761	Schofield, James, assignor to self and Osgood Plummer, Worcester, Mass. Loom.	Feb. 5, 1867.
68, 462	Schofield, J. S., Macon, Ga. Hay and cotton press.	Sept. 3, 1867.
62, 568	Schofield, Peter, Philadelphia, Pa. Steam gauge.	Mar. 5, 1867.
69, 485	Schofield, Silas, Plainville, Mass. Tatting shuttle.	Oct. 15, 1867.
63, 182	Schofield, Silas C., Chicago, Ill. Shaft coupling.	Mar. 26, 1867.
2, 834	Schofield, W. A. (See Oky, Joseph B., assignor.)	
70, 273	Scholfield, Joseph, Constantine, Mich. Trade mark. (Design.)	Nov. 19, 1867.
70, 281	Scholfield, Socrates, Providence, R. I. Braiding machine carrier. (Antedated Oct. 16, 1867.)	Oct. 29, 1867.
72, 545	Scholl, John, England. Gas burner.	Dec. 24, 1867.
61, 024	Scholze, T., Steuben county, and J. B. Biekel, Elkhart county, Ind. Water elevator.	Jan. 8, 1867.
72, 913	Schooley, John C., New York, N. Y. Construction of dikes, levees, and embankments.	Dec. 31, 1867.
65, 125	Schooley, W. D., Richmond, Ind. Straw cutter.	May 23, 1867.
2, 827	Schoonmaker, James M., Pittsburg, Pa. Trade mark. (Design.)	Nov. 5, 1867.
72, 089	Schrader, Rudolph, Indianapolis, Ind. Door spring.	Dec. 10, 1867.
68, 243	Schreck, W., Des Moines, Iowa. Straw cutter. (Antedated Aug. 23, 1867.)	Aug. 27, 1867.
	Schreiber Cornet Manufacturing Company. (See Spencer, Lewis W., assignor.)	
	Same.....same.	
	Same.....same.	
	Schreiber, G. C., and N. Barnum. (See Barnum & Schreiber.)	
64, 582	Schreiber, Louis, New York, N. Y. Cornet, &c.	May 7, 1867.
70, 274	Schreiner, Henry, Philadelphia, Pa. Attaching horse shoes.	Oct. 29, 1867.
65, 017	Schreyer, Gottlieb, Columbus, Ohio. Attaching carriage thills.	May 21, 1867.
72, 423	Schrick, August, and Henry Hildenbrand, assignors to selves, F. C. Krayner, and C. R. Schrick, St. Louis, Mo. Machine for fitting horse collars.	Dec. 24, 1867.
69, 255	Schroder, John, Kickapoo, Ill. Cultivator.	Sept. 24, 1867.
70, 624	Schroy, Jeremiah, Fortville, Ind. Animal trap.	Nov. 5, 1867.
72, 914	Schubens, Carl H., Newark, N. J. Lock for travelling bags.	Dec. 31, 1867.
64, 583	Schubens, Charles H., assignor to Samuel Lagowitz and Isadore Lehman, Newark, N. J. Machine for cutting sheet metal.	May 7, 1867.
64, 584	Same.....Metal press.	May 7, 1867.
64, 585	Same.....Bending metal.	May 7, 1867.
70, 368	Schultz, Charles H. S., Cincinnati, Ohio. Corn popper.	Oct. 29, 1867.
71, 224	Same.....Fire fender or guard.	Nov. 19, 1867.
	Schultz, C. H. S., and Herman Belmer. (See Belmer & Schultz.)	
67, 809	Schultz, Henry, Chicago, Ill. Sofa and bed.	Aug. 13, 1867.
64, 801	Schultz, John F. W., Moline, Ill. Wagon brake.	May 14, 1867.
64, 586	Schultz, Judson, Ellenville, N. Y. Dry house.	May 7, 1867.
66, 176	Same.....Machine for unhairing hides.	June 25, 1867.
70, 625	Schultz, Lewis O., Mattoon, Ill. Car coupling.	Nov. 5, 1867.
68, 129	Schuyler, P. H., Lyme, Ohio. Car coupling.	Aug. 27, 1867.
68, 796	Schwaner, C., Keokuk, Iowa. Trace buckle.	Sept. 10, 1867.
	Schwartz, J. L., <i>et al.</i> (See Haslett, jr., John, assignor.)	
66, 402	Schwartz, John M., Philadelphia, Pa. Vegetable cutter.	July 2, 1867.
69, 256	Schwebel, Adam, New Haven, Conn. Nut machine.	Sept. 24, 1867.
64, 452	Schweikhart, Philip, assignor to Daniel Schweikhart, Buffalo, N. Y. Beer cooler.	May 7, 1867.
62, 693	Schweizer, Francis, New York, N. Y. Machine for cutting threads on bolts.	Mar. 5, 1867.
68, 121	Schwind, C. B., New York, N. Y. Carriage hinge.	Aug. 27, 1867.
2, 546	Schwittler, Anton, New York, N. Y. Ornamenting articles of glass or other vitreous materials. (Reissue.)	Apr. 9, 1867.
63, 312	Seefeld, B. B., Woodhull, Ill. Wagon brake.	Mar. 26, 1867.
69, 712	Seefeld, Levi, assignor to self and Justin B. Wait, Farmington, Wis. Loom.	Oct. 8, 1867.
61, 472	Scollay, George W., St. Louis, Mo. Embalming bodies. (Antedated Jan. 19, 1867.)	Jan. 22, 1867.
2, 691	Same.....Embalming dead bodies and carcases. (Reissue.)	July 16, 1867.
	Scorer, R., and D. S. Colby. (See Colby & Scorer.) (Design.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
70, 626	Scothorn, L. M., Finley, Ohio. Gate.	Nov. 5, 1867.
68, 122	Scott, Benjamin, New Brighton, Pa. Railroad rail joint.	Aug. 27, 1867.
68, 608	Scott, Chalmers, and Wm. H. Morton, Hamilton, Ohio. Revolving cylinder engine.	Aug. 20, 1867.
71, 225	Scott, David A., and Jonathan E. Burdge, Cincinnati, Ohio. Bed bottom.	Nov. 19, 1867.
64, 373	Scott, Edwin M., Auburn, N. Y. Method of starting and stopping street cars.	Apr. 30, 1867.
67, 355	Same.....Machine for grinding reaper knives.	July 30, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 627	Scott, E. W., Wauregan, Conn. Whip socket.....	Nov. 5, 1867.
63, 817	Scott, Francis B., Lanfaster, N. Y. Ladies' fan.....	Apr. 16, 1867.
63, 818	Same..... Window screen.....	Apr. 16, 1867.
	Scott, George W., and Edward Farnum. (See Farnum & Scott.)	
66, 016	Scott, I. M., and W. R. Eckart, San Francisco, Cal. Cut-off valve.....	June 25, 1867.
61, 768	Scott, James, Washington, D. C. Illuminating compound.....	Feb. 5, 1867.
72, 915	Scott, James M., Kinsman, Ohio. Mechanical movement.....	Dec. 31, 1867.
	Scott, John K., and James R. McClintock. (See McClintock & Scott.)	
71, 226	Scott, Joseph and John, and William Miller, Brooklyn, N. Y. Construction of coal scuttles.....	Nov. 19, 1867.
72, 916	Scott, Olin, Bennington, Vt. Gunpowder canister.....	Dec. 31, 1867.
68, 797	Scott, Thomas, Madison Mills, Ohio, and John Clarridge, Pancoastburg, Ohio. Power hammer.....	Sept. 10, 1867.
	Scott, Walter. (See Woodward, John N., assignor.)	
70, 475	Scott, William, Plymouth, Mich. Carriage seat spring.....	Nov. 5, 1867.
	Scovel, Peter S. (See Dye, Lewis R., assignor.)	
70, 031	Scovill, Edward George, St. Johns, N. B. Method of protecting the heated parts of furnaces.....	Oct. 22, 1867.
	Scovill Manufacturing Company. (See Rais, Adrian, assignor.)	
	Same..... same.....	
	Same..... same.....	
64, 912	Scoville, Elijah U., Manlius, N. Y. Seed sower.....	May 21, 1867.
69, 257	Scoville, E. U., Manlius, and W. L. Scoville, West Bloomfield, N. Y. Hoisting apparatus.....	Sept. 24, 1867.
	Scoville Manufacturing Company. (See Webb, William, assignor.)	
68, 123	Scrannage, M. and W., and W. H. Bate, Boston, Mass. Swing nose basin faucet.....	Aug. 27, 1867.
67, 593	Scribner, George B., Indianapolis, Ind. Stove lid litter. (Antedated Aug. 1, 1867.)	Aug. 6, 1867.
67, 594	Scribner, Samuel H., Stowe, Vt. Combined churn and butter worker.....	Aug. 6, 1867.
65, 695	Scudder, John P., Lawrenceville, N. J. Potato planter.....	June 11, 1867.
71, 227	Seabury, Alfred M., assignor to Charles W. Du Bois, Johnstown, N. Y. Cross-cut saw.....	Nov. 19, 1867.
2, 828	Sealy, Edward, Newark, N. J. Band slide..... (Design)	Nov. 5, 1867.
2, 829	Same..... Pendant for hat bands..... (Design)	Nov. 5, 1867.
72, 546	Sealy, Thomas, Newark, N. J. Process of manufacturing hats.....	Dec. 24, 1867.
	Search, C., and H. S. Mitchell. (See Mitchell & Search.)	
61, 571	Searle, Flavius. (See Renslow, M. R., assignor.)	
67, 356	Searle, Henry, Rochester, N. Y. Oil ejector.....	Jan. 29, 1867.
	Searles, Charles E., assignor to self, Edwin Hoyt, and Lafayette Farrington, Stamford, Conn. Tobacco pipe.....	July 30, 1867.
70, 628	Searls, Anson, San Francisco, Cal. Adjustable prop joint for carriages.....	Nov. 5, 1867.
71, 228	Same..... Carriage top prop.....	Nov. 19, 1867.
71, 797	Same..... Wooden wagon spring.....	Dec. 3, 1867.
72, 090	Same..... Pole coupling for vehicles.....	Dec. 10, 1867.
72, 091	Same..... Carriage.....	Dec. 10, 1867.
63, 757	Sears, Elijah C., Crystal Lake, Ill. Farn. gate.....	Apr. 9, 1867.
65, 126	Sears, H. K., and S. L. Holt, Hartford, Conn. Oil cup.....	May 25, 1867.
	Sears, L., and J. H. Crumb. (See Crumb & Sears.)	
72, 547	Sears, R. B., Providence, R. I. Machine for bending hooks.....	Dec. 24, 1867.
66, 523	Seaver, Ebenezer, Boston, Mass. Clothes pin.....	July 9, 1867.
64, 913	Seavy, John E., assignor to self and S. E. Bryant, Kennebunkport, Maine. Tip cart body fastening.....	May 21, 1867.
67, 139	Seavy, William F., Portland, Maine. Brace for bits.....	July 23, 1867.
72, 424	Sebastian, Jacob, New York, N. Y. Wagon seat.....	Dec. 17, 1867.
72, 425	Sebastian, Jacob, assignor to self and Lewis Saal, New York, N. Y. Wagon spring.....	Dec. 17, 1867.
66, 047	Sebring, T. C., assignor to Ira A. Hebbard, Rochester, N. Y. Harvester pitman.....	June 25, 1867.
63, 105	Sechler, Daniel M., Cincinnati, Ohio. Cotton bale tie.....	Mar. 19, 1867.
69, 258	Sechrist, Joseph, Connellsville, Pa. Corn husker.....	Sept. 24, 1867.
60, 796	Secor, Eli, Lawrence, Mich. Box for transporting small fruit and berries.....	Jan. 1, 1867.
	Secor, John A. (See Troth, Edward M., assignor.)	
66, 177	Secor, John V. H., assignor to self and James D. Secor, New York, N. Y. Wrench.....	June 25, 1867.
61, 769	Sedgwick, Alonzo, Poughkeepsie, N. Y. Device for supporting carriage thills.....	Feb. 5, 1867.
65, 956	See, John, Baltimore, Md. Composition for roofing, pavements, walls, docks, and other structures.....	June 18, 1867.
67, 140	Seegmuller, Balthasar, New York, N. Y. Combined knob, latch, and lock.....	July 23, 1867.
69, 259	Seehausen, H., Memphis, Tenn. Tuning attachment for guitars.....	Sept. 24, 1867.
63, 313	Seekins, H. G., assignor to self, Leonard B. Griffing, and Orange S. Frary, Elyria, Ohio. Bed bottom spring.....	Mar. 26, 1867.
70, 629	Seely, Isaac B., Philadelphia, Pa. Truss.....	Nov. 5, 1867.
	Seelhorst, F., and William Kuebler. (See Kuebler & Seelhorst.)	
69, 260	Seely, Charles A., New York, N. Y. Method of impregnating wood with oleaginous and saline matters.....	Sept. 24, 1867.
	Seely, C. A., and C. J. Eames. (See Eames and Seely.)	
	Same..... same.....	
62, 694	Seely, H. H., assignor to self and F. Swift, Hudson, Mich. Grain separator.....	Mar. 5, 1867.
	Seely, J. R. (See Hay, George R., assignor.)	
68, 244	Seely, Oran W., Buffalo, N. Y. Mode of pressing brick.....	Aug. 27, 1867.
67, 595	Seely, S. F., Sylvania, Ohio. Cultivator and plow.....	Aug. 6, 1867.
61, 473	Seeman, John, and Silas P. Catrow, Middletown, Ohio. Clothes dryer.....	Jan. 22, 1867.
68, 533	Seger, Eli L., and Samuel L. Smith, Yonkers, N. Y. Clamp for hinges.....	Sept. 3, 1867.
69, 261	Sehnders, Henry F., assignor to self and Barbara Wackerman, Buffalo, N. Y. Washing machine.....	Sept. 24, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 957	Seidel, Charles, New York, N. Y. Chemical composition for blasting rocks	Feb. 12, 1867.
70, 905	Seiferth, Morris, Morristown, N. J. Apparatus for punching sheet metal	Nov. 12, 1867.
67, 357	Selby, Prentiss, San Francisco, Cal. Hanging stirrups	July 30, 1867.
64, 914	Selden, David J., Mt. Vernon, Ohio. Plow point	May 21, 1867.
66, 893	Selden, Sam'l, and W. J. F. Liddell, assignors to John C. Selden, Erie, Pa. Hinge	July 16, 1867.
2, 835	Seldis, R. M., New York, N. Y. Satchel (Design)	Nov. 19, 1867.
2, 841	Same. Muff (Design)	Nov. 26, 1867.
70, 630	Selfridge, G. C., Saratoga Springs, N. Y. Washing machine	Nov. 5, 1867.
61, 636	Selkirk, Alexander, assignor to John Gibson, jr., and E. J. Selkirk, Albany, N. Y. Cover and in-lifting device for kettles	Jan. 29, 1867.
64, 453	Sellek, Thaddeus, Greenwich, Conn. Railway chair	May 7, 1867.
64, 713	Sellers, Coleman, assignor to William Sellers & Co., Philadelphia, Pa. Turn-table for bridges	May 14, 1867.
61, 364	Sellers, George E., Sellers's Landing, Ill. Method of utilizing waste extracts of fibrous plants	Jan. 22, 1867.
66, 258	Same. Machine for dressing paper pulp	July 2, 1867.
	Sellers, J. S. (See Meredith, Edmund, assignor.)	
71, 332	Sellers, Morris, Keokuk, Iowa. Lubricator for journals	Nov. 26, 1867.
70, 369	Sellers, William and Coleman, assignors to William Sellers & Co., Philadelphia, Pa. Valve gear of steam hammers	Oct. 29, 1867.
63, 106	Selsor, George, Philadelphia, Pa. Nail hammer	Mar. 19, 1867.
62, 447	Selsor, James P., Shelbyville, Mo. Cotton planter	Feb. 26, 1867.
65, 771	Same. Cherry Box, Mo. Corn planter	June 11, 1867.
64, 258	Senatz, A. J., and G. W. Knowlton, Sacramento, Cal. Amalgamator	Apr. 30, 1867.
60, 797	Senderling, Martin L., Jersey City, N. J. Apparatus for mixing sugar	Jan. 1, 1867.
72, 917	Senneff, Jacob, Philadelphia, Pa. Heddle for looms	Dec. 17, 1867.
65, 612	Sergeant, Henry C., Columbus, Ohio. Brick machine	June 11, 1867.
65, 613	Same. same	June 11, 1867.
68, 907	Same. same	Sept. 17, 1867.
2, 652	Sergeant, Isaac A., deceased, by Ann Jane Sergeant, administratrix, ass't to Sylvanus Walker, Dayton, Ohio. Clothes wringer. (Division 1. Reissue)	June 18, 1867.
2, 829	Same. same. (Division 2. Reissue)	Dec. 31, 1867.
68, 819	Seright, Isaac, and Alfred Gifford. (See Gifford & Seright.)	
68, 325	Serjant, W. F., St. Louis, Mo. Railway switch	Aug. 27, 1867.
61, 880	Serrell, John J., Hudson county, N. J. Apparatus for collecting floating oil	Feb. 5, 1867.
67, 375	Serrill, James, Philadelphia, Pa. Ice planer and cutter	Feb. 12, 1867.
62, 053	Serviss, William, Sidney, Ohio. Apparatus for making sheet metal pans	July 30, 1867.
69, 494	Same. Gate	Oct. 1, 1867.
72, 688	Same. Machine for making rings	Dec. 24, 1867.
	Sessions, Albert J. (See Gray, Harry, assignor.)	
	Sessions, John H. (See Stever & Way, assignors.)	
67, 596	Severance, Lyman M., Dixon, Ill. Platform scale	Aug. 6, 1867.
67, 456	Seward, Elias, Hamilton, Ohio. Plow	Aug. 6, 1867.
61, 881	Seward, James, and Henry Smith, England. Steam generator	Feb. 5, 1867.
62, 076	Sewell, George, Poughkeepsie, N. Y. Horseshoe	Feb. 5, 1867.
	Sewing Machine Improvement Company. (See Rose, Israel M., assignor.)	
64, 152	Sexton, E., Munson, Mass. Gang plow	Apr. 23, 1867.
2, 476	Sexton, Samuel B., Baltimore, Md. Heating stove (Reissue)	Feb. 12, 1867.
66, 994	Sexton, T. E., Wilmington, Del. Railroad rail coupling. (Antedated July 18, 1867)	July 23, 1867.
	Sexton, W. H. (See Fitzgerald, Walter H., assignor.)	
71, 652	Seymour, jr., Alba M., Madison, Wis. Churn	Dec. 3, 1867.
70, 275	Seymour, jr., A. P., Hecla Works, N. Y. Boot jack	Oct. 29, 1867.
64, 153	Seymour, Charles, La Porte, Ind. Gate fastening	Apr. 23, 1867.
67, 221	Seymour, E. E., and S. J. Taylor, Rome, N. Y. Combined horse rake and hay spreader	July 30, 1867.
71, 229	Seymour, Edward L., New York, N. Y. Manufacture of bricks, retorts, muffles, crucibles, &c.	Nov. 19, 1867.
71, 230	Same. Manufacture of cast steel	Nov. 19, 1867.
65, 957	Seymour, Frederick, Nashville, Tenn. Instrument for opening sheet metal cans	June 18, 1867.
63, 950	Seymour, Frederick J., Wolcottville, Conn. Twine holder	Apr. 16, 1867.
	Seymour, Henry. (See Campbell, Daniel, assignor.)	
62, 372	Seymour, Henry A., Bristol, Conn. Roof	Feb. 26, 1867.
69, 130	Seymour, John B., Pittsburg, Pa. Seed planter. (Antedated September 7, 1867)	Sept. 24, 1867.
	Seymour, John F., and Harvey J. Harwood. (See Harwood & Seymour.)	
2, 720	Seymour, Joseph, Syracuse, N. Y. Fork or spoon handle (Design)	Aug. 6, 1867.
2, 776	Seymour, Josiah, assignor, through mesne assignments, to J. P. Corbin, Whitney's Point, N. Y. Working butter (Reissue)	Oct. 15, 1867.
68, 534	Shaaber, Jacob, Reading, Pa. Sled	Sept. 3, 1867.
60, 641	Shackleton, John C., Lawrence, Mass. Lathe tool	July 9, 1867.
72, 548	Shadbolt, Samuel F., Huntington, N. Y. Valve stopper for jars, bottles, &c. (Antedated December 10, 1867)	Dec. 24, 1867.
72, 232	Shade, George W., Shippensburg, Pa. Horse hay forks	Dec. 17, 1867.
72, 918	Shaeffer, David, and Aaron McCabe, Centerville, Iowa. Bee hive	Dec. 31, 1867.
68, 798	Shaeffer, Lewis W., West Milton, Ohio. Churn	Sept. 10, 1867.
70, 751	Shafer, Amos M., Camden, Ohio. Saw set	Nov. 12, 1867.
2, 582	Shafer, Anthony, and Alexander Barclay, Philadelphia, Pa. Coffee strainer (Design)	Feb. 12, 1867.
63, 657	Shafer, Joshua S., Plymouth, Mich. Land roller	Apr. 9, 1867.
69, 131	Shafer, N. Mendal, New York, N. Y. Blotter holder. (Antedated Sept. 12, 1867)	Sept. 24, 1867.
64, 714	Shaffer, Benjamin A., Cass county, Ind. Mode of making drain tiles	May 14, 1867.
	Shaffer, Thomas, and George Walters. (See Walters & Shaffer.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Shaffer, Thomas, and George Walters. (See Walters & Shaffer.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
72, 092	Shale, George, Taunton, Mass. Steam engine.....	Dec. 10, 1867.
63, 107	Shaler, Ira W., Brooklyn, N. Y. Clothes sprinkler.....	Mar. 19, 1867.
2, 503	Shaler, Nathaniel S., Cambridge, Mass. Preserving fruit, meat, and other substances.....(Reissue)	Mar. 12, 1867.
65, 614	Shaler, Reuben, Madison, Conn. Cover for gridirons.....	June 11, 1867.
66, 524	Same.....Weighing scale.....	July 9, 1867.
67, 810	Shaller, Frederick, Hudson, N. Y. Turning lathe.....	Aug. 13, 1867.
	Same.....(See Lodge & Platner, assignors.)	
	Shane, George, and Elias Roth. (See Roth & Shane.)	
71, 460	Shank, John T., assignor to self and Jonathan Strine, Martinsburg, Va. Carpenters' hatchet.....	Nov. 26, 1867.
72, 330	Shanks, William F., Louisville, Ky. Brick machine.....	Dec. 17, 1867.
67, 918	Shannon, Jacob B., Philadelphia, Pa. Speaking tube.....	Aug. 20, 1867.
61, 882	Shannon, Z. B., Port Washington, Ohio. Rotary pump.....	Feb. 5, 1867.
72, 691	Shapard, Thomas, Haywood county, Tenn. Cleaning cotton.....	Dec. 24, 1867.
67, 359	Shapleigh, T. W., and M. J. Colman, Boston, Mass. Spring bed.....	July 30, 1867.
61, 474	Shapter, John S., New York, N. Y. Petroleum still.....	Jan. 22, 1867.
	Sharp, Alonzo, and Albert Cunningham. (See Cunningham & Sharp.)	
66, 894	Sharp, D. P., Ithaca, N. Y. Horse rake.....	July 16, 1867.
	Sharp, George, Philadelphia, Pa. Spoon handle.....(Extension of design)	June 10, 1867.
62, 077	Sharps, Christian, Philadelphia, Pa. Breech-loading fire-arm.....	Feb. 12, 1867.
2, 480	Same.....Many-barrelled fire-arm.....(Division A. Reissue)	Feb. 12, 1867.
2, 481	Same.....Breech-loading fire-arm.....(Division B. Reissue)	Feb. 12, 1867.
72, 549	Shartle, John, Lima, Ind. Gate.....	Dec. 24, 1867.
66, 642	Sharts, William, Hudson, N. Y. Machine for making horseshoe nails.....	July 9, 1867.
63, 314	Shattuck, Daniel, Buffalo, N. Y. Soap compound for cleaning and scouring wool, silk, &c.....	Mar. 26, 1867.
61, 689	Shattuck, J., Waterloo, N. Y. Seed planter.....	Jan. 29, 1867.
62, 292	Shattuck, Shubel M., Cambridge, Ill. Sugar evaporator.....	Feb. 19, 1867.
72, 550	Shaw, Adrian, Westford, Mass. Machine for making horseshoe nails.....	Dec. 24, 1867.
70, 631	Shaw, Ai B., Holderness, N. H. Folding umbrellas.....	Nov. 5, 1867.
70, 632	Same.....same.....	Nov. 5, 1867.
72, 093	Shaw, Archibald, Philadelphia, Pa. Manufacture of ferrules.....	Dec. 10, 1867.
	Shaw, A. D., et al. (See Hadley, Samuel G., assignor.)	
64, 154	Shaw, Benjamin F., South Danvers, Mass. Machine-knitted hosiery.....	Apr. 23, 1867.
71, 541	Shaw, Edgar F., Boston, Mass. Temple for looms.....	Nov. 26, 1867.
65, 696	Shaw, Edward, Portland, Maine. Lamp extinguisher.....	June 11, 1867.
2, 660	Shaw, Franklin, Braintree, Mass. Heel plate for boots, &c.....(Design)	May 28, 1867.
62, 569	Shaw, F. B., assignor to Silas S. Shaw, Boston, Mass. Carriage guard.....	Mar. 5, 1867.
61, 572	Shaw, George E., Pittsburg, Pa. Fire test torch. (Antedated January 17, 1867).....	Jan. 29, 1867.
61, 573	Shaw, Henry F., West Roxbury, Mass. Planing machine.....	Jan. 29, 1867.
64, 915	Same.....Hoisting gear.....	May 21, 1867.
65, 287	Shaw, Jehyleman, Bridgeport, Conn. Life preserver.....	May 28, 1867.
69, 846	Same.....Composition for ink.....	Oct. 15, 1867.
69, 847	Same.....Ventilating attachment for railroad cars.....	Oct. 15, 1867.
65, 288	Shaw, Joseph H., Saco, Maine. Pill machine.....	May 28, 1867.
62, 373	Shaw, Judson W., Concord, N. H. Mop head.....	Feb. 26, 1867.
	Shaw, Judson W., and R. W. Whitney. (See Whitney & Shaw.)	
64, 715	Shaw, N. H., Holderness, N. H. Attaching thills to vehicles.....	May 14, 1867.
71, 653	Shaw, Palmer, Syracuse, N. Y. Harness pad block.....	Dec. 3, 1867.
70, 633	Shaw, Palmer, and Edward S. Dawson, Syracuse, N. Y. Harness pad tree.....	Nov. 5, 1867.
63, 108	Same.....Pad plate for harness.....	Mar. 19, 1867.
	Shaw, S. J., and Thomas Corey. (See Reed, Timothy K., assignor.)	
64, 716	Shaw, Thomas, Philadelphia, Pa. Steam whistle.....	May 14, 1867.
65, 018	Same.....Steam generator gauge cock.....	May 21, 1867.
70, 752	Same.....Cog chain.....	Nov. 12, 1867.
	Shaw, Thomas, and William Butcher, jr. (See Butcher & Shaw.)	
	Same.....same.....	
61, 268	Shaw, Thomas D., Westfield, Ohio. Churn.....	Jan. 15, 1867.
72, 919	Shaw, William Anthony, New York, N. Y. Art of manufacturing and uniting alloys of metals in forming water pipes and other articles. (Antedated Dec. 17, 1867).....	Dec. 31, 1867.
71, 333	Shaw, W. F., Boston, Mass. Lamp shade.....	Nov. 26, 1867.
	Shawk, George W., and C. H. Rudd. (See Rudd & Shawk.)	
72, 094	Shay, Warren H., Sylvania, Ohio. Fence post.....	Dec. 10, 1867.
61, 690	Shea, Samuel, Corry, Pa. Barrel or cask.....	Jan. 29, 1867.
69, 132	Sheaffer, John W., Lockport, Ill. Swing.....	Sept. 24, 1867.
62, 695	Shear, Jacob H., Albany, N. Y. Ash and sifting pan for cooking stove.....	Mar. 5, 1867.
69, 848	Shearer, B. A., Crown Point Center, N. Y. Seeding machine.....	Oct. 15, 1867.
75, 551	Shearer, George H., Bay City, Mich. Sawing machine for barrel hoops.....	Dec. 24, 1867.
70, 906	Shearer, George W., Crown Point Center, N. Y. Skate.....	Nov. 12, 1867.
	Shearer, John, and Richard Guthrie. (See Guthrie & Shearer.)	
71, 334	Shearer, Joseph, Reading, Pa. Horse hay fork.....	Nov. 26, 1867.
65, 127	Shearman, John F., assignor to E. S. Dodge & Co., Brooklyn, N. Y. Register point for printing apparatus.....	May 28, 1867.
63, 564	Sheckler, Peter, Orangeville, Ill. Magazine fire-arm.....	Apr. 2, 1867.
63, 512	Sheehan, Thomas, Dunkirk, N. Y. Composition for converting iron into steel.....	June 4, 1867.
	Sheetz, J. S., and Edmund Yeiser. (See Yeiser & Sheetz.)	

Last of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 689	Sheffield, George V., Worcester, Mass. Steam generator.	Dec. 24, 1867.
64, 537	Sheffield, George V., and James F. Coburn, Hopkinton, Mass. Preparing leather for wear.	May 7, 1867.
71, 417	Sheffield, George V., and Byron Whitecomb, Worcester, Mass. Railroad rail.	Nov. 26, 1867.
72, 690	Same. Belt fastening.	Dec. 24, 1867.
68, 316	Sheffler, Israel T. (See Hawkey, John V., assignor.)	
72, 920	Shelden, C. L., Lowville, N. Y. Apparatus for cooling milk.	Aug. 27, 1867.
63, 109	Same. same.	Dec. 31, 1867.
63, 434	Sheldon, Julius, assignor to self and W. C. Griswold, New York, N. Y. Hat blocking machine.	Mar. 19, 1867.
	Sheldon, Julius, assignor to Griswold and Sheldon, New York, N. Y. Hat blocking machine.	Apr. 2, 1867.
	Sheldon, J., et al. (See Labiaux, John L., assignor.)	
72, 921	Shellenbeck, Peter, assignor to self and Milton Ralston, Middletown, Ohio. Vise.	Dec. 31, 1867.
71, 231	Shelley, John, Harlem, N. Y. Apparatus for making mortar for making building blocks, &c.	Nov. 19, 1867.
61, 360	Shelters, Leonard, assignor to self and John Pattee, Manchester, N. H. Calipers and dividers.	July 30, 1867.
63, 110	Shepard, Amos, Plantsville, Conn. Stove-cover lifter.	Mar. 19, 1867.
68, 658	Shepard, Calvin, Binghamton, N. Y. Gate.	Sept. 10, 1867.
61, 365	Shepard, Charles J., Brooklyn, N. Y. Base-burning stove.	Jan. 22, 1867.
2, 802	Same. Plasters and center-piece for heaters, &c. (Design).	Oct. 15, 1867.
72, 095	Same. Tubular heater.	Dec. 10, 1867.
67, 811	Shepard, James, and Joseph Sigourney, Bristol, Conn. Latch.	Aug. 13, 1867.
	Shepard, John D. (See Perry, Horatio O., assignor.) (Reissue.)	
	Same. same. (Reissue.)	
	Same. (See Rogers, George W., assignor.)	
71, 232	Shepard, Josiah, New Britain, Conn. Kite frame.	Nov. 19, 1867.
66, 643	Shepard, Otis, Alton, Ill. Boot-jack, wrench, and nail pull.	July 9, 1867.
72, 552	Shepard, Thomas W., Hennepin, Ill. Potato digger.	Dec. 24, 1867.
65, 772	Shepard, William A., New York, N. Y. Brick kiln.	June 11, 1867.
61, 108	Shepard, William A., assignor to self and John M. Moorehead, New York, N. Y. Brick machine.	Jan. 1, 1867.
60, 945	Shepardson, H. S., Shelburne Falls, Mass. Carriage jack.	Jan. 1, 1867.
70, 753	Shepherd, William H., College Corner, Ohio. Corn planter.	Nov. 12, 1867.
2, 673	Sheppard, Isaac A., Philadelphia, Pa. Plates of a stove. (Design).	June 11, 1867.
2, 790	Same. Stove plate. (Design).	Sept. 24, 1867.
69, 849	Sheppard, J. L., Charleston, S. C. Cotton bale tie.	Oct. 15, 1867.
71, 915	Sherburne, William, Charleston, Mass. Journal box. (Antedated Nov. 27, 1867).	Dec. 10, 1867.
70, 126	Sherman, Benjamin F., San Francisco, Cal. Grain elevator and feeder.	Oct. 22, 1867.
68, 659	Sherman, C. B., Troy, N. Y. Chair and desk.	Sept. 10, 1867.
63, 565	Sherman, Jacob A., New York, N. Y. Truss.	Apr. 2, 1867.
65, 289	Sherman, Joseph, Burlington, N. J. Grate bar.	May 28, 1867.
67, 222	Sherman, J. H., Galesburg, Ill. Rolling cutter for plows.	July 30, 1867.
2, 457	Sherman, Samuel S., and Jeremiah G., McHenry, Ill. Harvester rake. (Reissue.)	Jan. 15, 1867.
63, 183	Sherman, Simeon, Weston, Mo. Hemp break.	Mar. 26, 1867.
	Sherman, Warren D., et al. (See Corlet, Sherman, Wolfe & Huston.)	
	Sherman, William C., and John Federhen. (See Federhen & Sherman.)	
	Sherman, W. P. (See Bartholomew, Oscar M., assignor.)	
69, 033	Sherwood, Arthur H., Southport, Conn. Door bolt.	Sept. 10, 1867.
62, 974	Sherwood, Benjamin, and D. Fitzgerald, New York, N. Y. Safe. (Antedated March 12, 1867).	Mar. 19, 1867.
66, 048	Same. Toy pistol.	June 25, 1867.
2, 556	Sherwood, Calvin W., Chicago, Ill. Standard for school furniture. (Design).	Jan. 15, 1867.
2, 557	Same. same. (Design).	Jan. 15, 1867.
63, 315	Same. Folding seat.	Mar. 26, 1867.
	Sherwood, D., and E. P. Woods. (See Woods & Sherwood.)	
	Same. same.	
	Same. same.	
71, 798	Sherwood, Daniel D., Boston, Mass. Machine for bundling wood.	Dec. 3, 1867.
69, 859	Sherwood, George, Chicago, Ill. Folding seat.	Oct. 15, 1867.
70, 754	Sherwood, Henry, England. Mode of separating vegetable matter from animal fibers. (Patented in Belgium January 25, 1866).	Nov. 12, 1867.
68, 660	Sherwood, Henry M., Chicago, Ill. School desk and seat.	Sept. 10, 1867.
72, 922	Shetter, Solomon, New Cumberland, West Va. Plow, potato planter, and seeder, combined.	Dec. 31, 1867.
64, 040	Showard, James, and George A. Staubery, Dunkirk, N. Y. Car brake.	Apr. 23, 1867.
	Showell, J. D., et al. (See Cowan, B. F., assignor.)	
68, 799	Shickel, Joseph, Harrisonburg, Va. Mill gearing.	Sept. 10, 1867.
62, 696	Shickle, Frederick, and Evermont Randalls, St. Louis, Mo. Filter.	Mar. 5, 1867.
70, 634	Shield, George, Cincinnati, Ohio. Pump.	Nov. 5, 1867.
66, 895	Shields, F. Marion, Macon, Miss. Cotton plow or cultivator.	July 16, 1867.
65, 513	Shingleton, G. W., Auburn, N. Y. Car coupling.	June 4, 1867.
63, 951	Shinn, John, assignor to self and George S. Rhodes, Leverington, Pa. Press board for an oil press.	Apr. 16, 1867.
68, 245	Shinn, Thornton A., Baden, Pa. Instrument for measuring dry goods.	Aug. 27, 1867.
68, 246	Same. Cider mill.	Aug. 27, 1867.
71, 335	Shipley, Henry W., Portland, Oregon. Water wheel.	Nov. 26, 1867.
72, 331	Same. same.	Dec. 17, 1867.
69, 712	Shipley, T. J., and W. A. Moody, Montezuma, Iowa. Horse collar.	Oct. 8, 1867.
	Shipman, Asa L. (See Rile, Henry E., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 293	Shipman, Asa L. (See Rile, John L., assignor.) Shipman, H. A., and A. B. Hendryx, Ansonia, Conn. Machine for extending tubing	Feb. 19, 1867.
69, 851	Shipman, W. J., Portsmouth, Ohio. Toy pistol	Oct. 15, 1867.
70, 276	Shipton, Thomas, Newark, N. J. Heater	Oct. 29, 1867.
69, 713	Shireman, J. H., York, Pa. Horse rake	Oct. 8, 1867.
70, 032	Shirley, Bradford, Moravia, N. Y. Hay raker and loader	Oct. 22, 1867.
65, 697	Shirley, J. W., and William H. Pasig, Terre Haute, Ind. Steam engine governor	June 11, 1867.
64, 717	Shive, David, Philadelphia, Pa. Sweat leather for hats. (Antedated May 9, 1867)	May 14, 1867.
69, 495	Shive, Samuel, Forks, Pa. Water wheel	Oct. 1, 1867.
65, 439	Shiveley, J. W., New York, N. Y. Railway chair	June 4, 1867.
65, 514	Shiver, Tilman, Newburg, Ind. Lifting jack	June 4, 1867.
61, 475	Shivering, Benjamin and Thomas L. Calkins, Philadelphia, Pa. Railroad switch	Jan. 22, 1867.
71, 235	Shoss, Simon, Florence Veerkamp, and Charles F. Leopold, Philadelphia, Pa. Key hole guard for door locks	Nov. 19, 1867.
63, 111	Shobe, James, Principio, Md. Harvester	Mar. 19, 1867.
66, 525	Shock, Abraham H., Piqua, Ohio. Manure drag	July 9, 1867.
71, 542	Shoemaker, Jacob, Oakland, Pa. Valve for steam engines	Nov. 26, 1867.
51, 233	Shoemaker, John, Putneyville, Pa. Apparatus for manufacturing gas and oil from coal	Nov. 19, 1867.
64, 374	Shoemaker, Jonathan F., Van Wert county, Ohio. Photographic printing frame	Apr. 30, 1867.
64, 375	Shoales, C. Latham, Milwaukee, Wis. Machine for printing numbers	Apr. 30, 1867.
67, 457	Sholl, Joseph, Burlington, N. J. Furnace	Aug. 6, 1867.
	Sholhorn, William, and F. P. Pfeeghar. (See Pfeeghar & Sholhorn.)	
	Shoninger, B., Melodeon Company. (See Lomas, John R., assignor) (Design.)	
70, 033	Shoppell, Elias, Ashland, Ohio. Slotting machine	Oct. 22, 1867.
70, 034	Same. Lifting jack	Oct. 22, 1867.
	Shope, L. T., et al. (See King, Gombor & Shope.)	
	Shorey, Moses W., and Moses W. Kidder. (See Kidder & Shorey.)	
72, 332	Shorey, S. W., Galesburg, Ill. Inside window blind	Dec. 17, 1867.
61, 269	Short, Charles C., Osgood, Ind. Automatic fly brush and fan	Jan. 15, 1867.
	Short, Isaac, and James Williams. (See Williams & Short.)	
	Short, James. (See Jones & Fessler, assignors.)	
68, 535	Short, James L., Gosport, Iowa. Trace fastener	Sept. 3, 1867.
62, 229	Short, Wm. K., J. W. Allen, and John Craig, Mt. Pleasant, Iowa. Washing machine	Feb. 19, 1867.
66, 896	Shortcut, C., assignor to T. W. Bracher, New York, N. Y. Wire-twisting machine	July 16, 1867.
67, 368	Shotwell, Walter S., Paterson, N. J. Drawhead for railroad car	July 30, 1867.
69, 262	Same. Car brake	Sept. 24, 1867.
61, 476	Shove, George, Yarmouthport, Mass. Cranberry gatherer	Jan. 22, 1867.
69, 592	Shreffler, Samuel, Joliet, Ill. Brick machine	Oct. 8, 1867.
60, 946	Shriner, R. W., Woodland, Mich. Churn	Jan. 1, 1867.
65, 290	Shriver, Walter, New York, N. Y. Reservoir damping brush	May 28, 1867.
	Shull, Daniel G., and Walter G. Brownson. (See Brownson & Shull.)	
63, 658	Shumard, Warren, A. Lyon and Jasper N. Robbins, Goshen, Ohio. Saw mill	Apr. 9, 1867.
71, 234	Shunk, sr., A., Bucyrus, Ohio. Plow	Nov. 19, 1867.
70, 476	Shunk, Christian, Armstrong co., Pa. Manufacture of refined fagots of iron and steel	Nov. 5, 1867.
71, 799	Shurtleff, A. M., Boston, Mass. Saliva pump	Dec. 3, 1867.
61, 958	Shurtleff, William H., Providence, R. I. Pavement	Feb. 12, 1867.
65, 615	Same. Button lacing hook. (Antedated May 9, 1867)	June 11, 1867.
68, 800	Same. Horseshoe	Sept. 10, 1867.
71, 127	Shute, A. P., and J. F. Jackson, Charlestown, Mass. Extension table slide	Oct. 22, 1867.
	Sibbett, Eliza, and John C. Compton. (See Witsil, George L., assignor.)	
64, 916	Sibert, Lorenzo, Mt. Solon, Va. Manufacture of iron and steel	May 21, 1867.
62, 294	Siccardi, John B., New York, N. Y. Hair crimper	Feb. 19, 1867.
	Sichel, Charles. (See Cajar, Emil, assignor.)	
62, 159	Sickels, Gerard, Boston, Mass. Adjustable rack and shelf	Feb. 19, 1867.
64, 155	Same. Shoe fastening	Apr. 23, 1867.
63, 112	Siddle, Isaac B., Caswell county, N. C. Corn sheller	Mar. 19, 1867.
66, 178	Sidle, Henry, Minneapolis, Minn. Churn	June 23, 1867.
67, 597	Same. Washing machine	Aug. 6, 1867.
	Siebert, E. W., and F. W. Beck. (See Beck & Siebert.)	
62, 374	Siefert, William, New York, N. Y. Pinch bar for removing heavy weights	Feb. 26, 1867.
65, 837	Same. Sad iron	June 18, 1867.
61, 637	Siefert, Wm., assignor to self and John Price, New York, N. Y. Safety guard for railroad cars	Jan. 29, 1867.
	Sieg, Rudolph. (See Heyl, Carl Otto, assignor.)	
67, 598	Siegert, John Thomas, Washington, D. C. Heel measure	Aug. 6, 1867.
66, 897	Siegle, Gustav A., Earlville, Ill. Ticket holder	July 16, 1867.
69, 714	Siemens, W., and J. G. Halske, Prussia. Spirit meter	Oct. 8, 1867.
	Sigler, Joseph, administrator of Jesse P. Crampton. (See Crampton, Jesse P.)	
	Sigonrney, Joseph, and James Shepard. (See Shepard & Sigonrney.)	
72, 923	Sill, Joseph, assignor to Drake, Sill and Hutson, Montoursville, Pa. Pruning shears	Dec. 31, 1867.
	Silliman, Joseph. (See Huntington, William S., assignor.)	
71, 543	Silliman, Thomas, Three Rivers, Mich. Animal trap	Nov. 26, 1867.
63, 758	Sils, J. S., Cedarville, Ill. Washing machine	Apr. 9, 1867.
	Silver, Frank, and August Eckerenkotter. (See Eckerenkotter & Silver.)	
	Silver Lake Manufacturing Co. (See Botticher, Morris, assignor) (Reissue.)	
	Silver Skirt and Wire Manufacturing Co. (See Sperry, T. C., assignor) (Reissue.)	
	Silvers, A., and T. L. Kenworthy. (See Kenworthy & Silvers.)	
	Silvers, John, Lambertville, N. J. Flax puller (Disclaimer)	Mar. 23, 1867.
	Silverthorn, Myron, et al. (See Kraiss, William, assignor.)	

List of patentees of inventions, designs, and reissues, 1867.—Continued

No.	Name, residence, and invention or discovery.	Date.
65, 440	Silvester, Nelson, Weymouth, Ohio. Horse and cattle poke.....	June 4, 1867.
71, 916	Same.....same.....	Dec. 10, 1867.
65, 698	Silvius, Jacob, and William T. Hain, Sunbury, Pa. Lantern lamp.....	June 11, 1867.
66, 898	Simcox, A., and L. Rastetter. (See Rastetter & Simcox.)	
2, 621	Simison, Samuel A., Earlville, Ill. Ticket holder.....	July 9, 1867.
71, 654	Simmerman, Jacob S., Millville, N. J. Stove handle..... (Design)	Apr. 16, 1867.
69, 496	Simmons, Charles E., and Homer Cook, Waukegan, Ill. Bed bottom.....	Dec. 3, 1867.
72, 233	Same..... (See Cook & Simmons.)	
62, 078	Simmons, Daniel, New York, N. Y. Railway switch.....	Oct. 1, 1867.
65, 441	Simmons, Frederick G., Lansingburg, N. Y. Wheel for wagons and carriages.....	Dec. 17, 1867.
61, 770	Simmons, Isaac, and John H. Irwin. (See Bassett, John A., assignor.)	
62, 505	Simmons, J. D., Quincey, Ill. Window fastener.....	Feb. 12, 1867.
67, 812	Simmons, S. D., Brooklyn, N. Y. Bread cutter.....	June 4, 1867.
64, 156	Simmons, Thomas, New York, N. Y. Compound vacuum rectifier for alcoholic and other liquids.....	Feb. 5, 1867.
71, 418	Same.....Chicago, Ill. Vacuum filter. (Antedated February 15, 1867).....	Feb. 26, 1867.
63, 435	Same.....New York, N. Y. Steam pump.....	Aug. 13, 1867.
62, 697	Simonds, Warren A., Boston, Mass. Apparatus for carbureting gas.....	Apr. 23, 1867.
65, 958	Simonds, W. E., Hartford, Conn. Telegraph insulator.....	Nov. 26, 1867.
66, 403	Simonet, Louis, France. Apparatus for forming hats.....	Apr. 2, 1867.
66, 644	Simons, L. A., et al. (See Winchell, James F., assignor.)	
64, 718	Simons, Michael, Middleton, Conn. Strainer for coffee and tea pots.....	Mar. 5, 1867.
66, 526	Same.....Ice pitcher.....	June 18, 1867.
65, 019	Simpson, A. J., Washington, D. C. Clothes line holder.....	July 2, 1867.
60, 947	Simpson, Andrew J., Philadelphia, Pa., and John J. Janzeck, Washington, D. C. Concussion fuse for explosive shells.....	July 9, 1867.
69, 715	Simpson, Elmathan, and Sidney Emmones. (See Emmones & Simpson.)	
72, 096	Simpson, G., and R. M. Taylor, Waterbury, Vt. Billiard register.....	May 14, 1867.
65, 020	Simpson, G., and W. H. Edmunds, Waterbury, Vt. Lamp extinguisher.....	July 9, 1867.
70, 370	Simpson, George B., Washington, D. C. Insulating submarine cables.....	May 21, 1867.
66, 899	Simpson, James E., Brooklyn, N. Y. Scaffolding for dry docks.....	Jan. 1, 1867.
70, 907	Simpson, John K., New York, N. Y. Electrical torch.....	Oct. 8, 1867.
65, 773	Simpson, J. W., Newark, N. J. Window sash supporter.....	Dec. 10, 1867.
62, 448	Simpson, Nathan, Pomeroy, Ohio. Bee hives.....	May 21, 1867.
2, 561	Simpson, Robert, assignor to self and David Wilkinson, Port Jefferson, Ohio. Animal trap.....	Oct. 29, 1867.
66, 527	Simpson, William. (See Richardson, J. C., assignor.)	
66, 899	Sims, Alfred, New York, N. Y. Starting engines and other machinery on their centers	
70, 907	Sims, Elbridge. (See Gifford, C. H., assignor.)	
65, 773	Same.....same.....	July 16, 1867.
62, 448	Sims, Ferdinand, Galveston, Texas. Book-sewing machine.....	Nov. 12, 1867.
2, 561	Sims, Luther M., Lincoln, Ill. Mail bag.....	June 11, 1867.
66, 899	Sims, William, Pittsburg, Pa. Door and bit for boiling and padding furnaces.....	Feb. 26, 1867.
70, 907	Sims, William H. (See Lewis, William P., assignor.)	
65, 773	Sims, Winfield S., Newark, N. J. Tobacco pouch.....	Feb. 26, 1867.
62, 448	Same.....same..... (Reissue)	Apr. 16, 1867.
2, 561	Sina, Andrus, and Conrad Witt. (See Witt & Sina.)	
66, 899	Sinclair, A. O., et al. (See Lombard, C. E., assignor.)	
70, 907	Sinclair, J. A., assignor to self, J. T. Judkins, and W. Hollister, Woodsfield, Ohio.	
65, 773	Flour sifter.....	Mar. 26, 1867.
62, 448	Sinclair, James A., assignor to self and Weston T. Sinclair, Woodsfield, Ohio.	
2, 561	Broom head.....	July 23, 1867.
66, 899	Sinclair, James D., Brooklyn, N. Y. Apparatus for delivering goods.....	Dec. 31, 1867.
70, 907	Sinclair, jr., Robert, and Richard F. Maynard, Baltimore, Md. Feed rollers of straw cutters..... (Extension)	Oct. 28, 1867.
65, 773	Sine, S. W., Easton, Pa. Inhaling tube.....	Dec. 17, 1867.
62, 448	Singer, Isaac Merritt, Yonkers, N. Y. Sewing machine.....	Jan. 15, 1867.
2, 561	Singer, I. M., France. Guard for carriages.....	Feb. 5, 1867.
66, 899	Singleton, James W., Quincey, Ill. Gate.....	Jan. 1, 1867.
70, 907	Sink, Thomas P., Fairton, N. J. Roller for boarding oyster dredges.....	June 4, 1867.
65, 773	Sinsz, Philip, Baltimore, Md. Mounting glazier's diamonds.....	Apr. 23, 1867.
62, 448	Sipe, Henry, Sipesville, Pa. Sleigh brake.....	May 21, 1867.
2, 561	Sisson, George P., Florence, Mass. Clothes dryer.....	Aug. 27, 1867.
66, 899	Same.....Flask for casting.....	Oct. 1, 1867.
70, 907	Sisson, Philander, Brant, N. Y. Potato digger.....	Apr. 9, 1867.
65, 773	Sisson, W. A., Sheffield, Ill. Wheel cultivator.....	Aug. 27, 1867.
62, 448	Sizen, George W., Springvale, Wis. Gate.....	May 14, 1867.
2, 561	Same.....Brooklyn, N. Y. Toy.....	May 21, 1867.
66, 899	Skelly, D. B., Lockport, N. Y. Burglar alarm.....	Nov. 19, 1867.
70, 907	Skorrett, William H., Cincinnati, Ohio. Ice cream freezer.....	Aug. 6, 1867.
65, 773	Skidmore, Darius, Seneca Falls, N. Y. Modo of fastening door knobs to their spindles..... (Reissue)	Feb. 5, 1867.
62, 448	Skillin, A. S., and G. W. Reed, assignors to selves, Henry L. Hanson, and J. L. Butler, Portland, Me. Nutmeg grater.....	Sept. 3, 1867.
2, 561	Skinner, Daniel M., Sandwich Center, N. H. Plate lifter.....	June 11, 1867.
66, 899	Skinner, James B., Rockford, Ill. Plow.....	Apr. 30, 1867.
70, 907	Same.....same.....	July 2, 1867.
65, 773	Same.....same.....	July 2, 1867.
62, 448	Skinner, L. P., Springvale, Wis. Bob sleigh.....	Oct. 1, 1867.
2, 561	Skinner, Russell J., assignor to Mancel Talcott, Chicago, Ill. Chandelier.....	May 14, 1867.
66, 899	Skinner, Thomas, Pittsburg, Pa. Method of forming designs upon metals, ivory, &c.	
70, 907		Dec. 24, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 803	Skinner, William E., Milford, Mich. Butter worker	May 14, 1867.
66, 528	Slack, Thomas A., Peoria, Ill. Stamp affixer and canceller	July 9, 1867.
72, 097	Same Stake holder for railroad cars	Dec. 10, 1867.
71, 800	Slack, Thomas A., assignor to self and Chauncey Nye, Peoria, Ill. Hand truck	Dec. 3, 1867.
	Slade, William C., et al. (See Wright, Francis H., assignor.)	
63, 660	Slater, George W., New Haven, Conn. Bow iron for carriages	Apr. 9, 1867.
69, 034	Same Box iron for vehicles	Sept. 17, 1867.
72, 554	Slater, James, Philadelphia, Pa. Steam safety valve	Dec. 24, 1867.
61, 271	Slatter, Henry, Covington, Ky. Composition fuel	Jan. 15, 1867.
62, 079	Slauder, Jacob, assignor to self and Levi C. Smith, Osborn, Ohio. Wheat drill	Feb. 12, 1867.
67, 141	Same Broadcast seeder	July 23, 1867.
61, 959	Slaughter, Alanson, Middletown, N. Y. Cheese vat	Feb. 12, 1867.
69, 263	Slawson, John B., New Orleans, La. Car and omnibus fare box	Sept. 24, 1867.
70, 635	Same Lamp	Nov. 5, 1867.
65, 699	Slayton, P. L., assignor to self and Almet Reed, New York, N. Y. Apparatus for tempering wire	June 11, 1867.
64, 454	Slensoy, William P., Chicago, Ill. Tool for cutting off boiler tubes	May 7, 1867.
67, 361	Same Boiler cleaner	July 30, 1867.
	Slicker, Rufus, et al. (See Dunham, John G., assignor.) (Reissue.)	
	Sloan, John, and Edward Brady. (See Brady & Sloan.)	
	Sloan, Thomas J., New York, N. Y. Machine for pointing and threading screw blanks	Apr. 24, 1867.
63, 317	Sloan, Thomas J., assignor to Ezra Gildersleeve, New York, N. Y. Window blind fastening	Mar. 26, 1867.
65, 700	Sloan, William, Highland, Iowa. Sleigh brake	June 11, 1867.
69, 498	Sloan, William H., St. Louis, Mo. Butter tryer	Oct. 1, 1867.
68, 390	Sloan, William J., Bloom, Ill. Threshing machine	Sept. 3, 1867.
70, 477	Sloane, William M., Buffalo, N. Y. Portable gas generating furnace	Nov. 5, 1867.
70, 035	Sloat, Silas, Morgan, Ohio. Horseshoe	Oct. 25, 1867.
66, 049	Slocumb, S. W., Albany, Ill. Wagon	June 25, 1867.
71, 801	Same Wagon hub	Dec. 3, 1867.
	Sloper, Byron, et al. (See Wadgymer, Arthur, assignor.)	
68, 247	Sloss, L. L., South Union, Ky. Double-shovel plow	Aug. 27, 1867.
72, 095	Slusser, Benjamin, assignor to self and Elias M. Gluck, Sidney, Ohio. Excavator	Dec. 10, 1867.
67, 680	Slusser, George, Hillsboro', Ohio. Beehive	Aug. 13, 1867.
	Sly, Seneca, et al. (See Harris, Benjamin B., assignor.)	
67, 362	Small, Eleazer, Dennisport, Mass. Bed bottom	July 30, 1867.
69, 133	Small, George, assignor to Harvey Williams, Clayton, Mich. Feed cutter	Sept. 24, 1867.
70, 755	Small, John, St. Louis, Mo. Machine for tempering files, saw blades, and other articles	Nov. 12, 1867.
70, 908	Small, Josiah B., Boston, Mass. Carriage jack	Nov. 12, 1867.
63, 952	Smawley, Henry B., Greensburg, Ind. Draining and ditching plow	Apr. 16, 1867.
71, 917	Smiley, Frank, Marshall, Mich. Corn planter	Dec. 10, 1867.
	Smirall, W. F. (See Motch, M. C., assignor.)	
	Smith & Worthington. (See Haynes & Worthington, assignors.)	
67, 142	Smith, Abraham L., Marengo, Mich. Coupling reach for bob sleighs	July 23, 1867.
2, 536	Smith, Alba F., Norwich, Conn. Locomotive steam engine (Reissue.)	Apr. 2, 1867.
63, 318	Smith, Albert C., Fort Madison, Iowa. Self-acting gate	Mar. 26, 1867.
66, 745	Smith, Albert G., Cleveland, Ohio. Trenching and hoisting apparatus	July 16, 1867.
72, 555	Smith, Alfred E., Bronxville, N. Y. Axle for wagons	Dec. 24, 1867.
	Smith, Algernon D., and Lyman W. Blakeslee. (See Blakeslee & Smith.)	
60, 948	Smith, Amor, Cincinnati, Ohio. Fertilizer	Jan. 1, 1867.
61, 884	Same Machine for cutting cracklings	Feb. 5, 1867.
2, 507	Same Mode of preparing animal matters for use as a fertilizer (Reissue.)	Mar. 12, 1867.
71, 543	Same Cutting machine for reducing cracklings, &c.	Nov. 26, 1867.
71, 544	Same Machine for cutting and drying animal matter	Nov. 26, 1867.
72, 692	Smith, Amos M., Chicago, Ill. Sash lock	Dec. 24, 1867.
70, 036	Smith, Amroy B., assignor to self and Frank M. Smith, Yaneton, Dakota Territory. Endless chain propeller	Oct. 22, 1867.
62, 125	Smith, A. B., Clinton, Pa. Sorghum sugar evaporator	Aug. 27, 1867.
	Smith, A. B., and Eli Flanegin. (See Flanegin & Smith.)	
62, 975	Smith, A. D., Grafton, Ohio. Farm gate	Mar. 19, 1867.
2, 766	Smith, A. H., William W. Clark, and George F. Starbuck, New York, N. Y. Horse brush (Design.)	Aug. 20, 1867.
61, 272	Smith, Andrew J., New York, N. Y. Grain binder	Jan. 15, 1867.
69, 035	Smith, Andrew P., assignor to self and George Bennett, Greensburg, Pa. Wagon brake	Sept. 17, 1867.
61, 025	Smith, Anthony M., Brooklyn, N. Y. Spring lock	Jan. 8, 1867.
70, 037	Smith, Antonia F., Ellsworth, Me. Ventilator	Oct. 23, 1867.
	Smith, A. L. (See Day, Benjamin, assignor.)	
60, 949	Smith, A. P., Sterling, Ill. Mitten	Jan. 1, 1867.
70, 636	Smith, A. W., Pierrepont, N. Y. Apparatus for cleaning stove pipes	Nov. 5, 1867.
64, 041	Smith, Ballard C., Ashland, Ind. Sideboard for threshing machines	Apr. 23, 1867.
	Smith, Benjamin F., and Norman S. Kinyon. (See Kinyon & Smith.)	
2, 668	Smith, Bernard, assignor to the American Burial Case Company, Cincinnati, Ohio. Burial case (Design.)	June 4, 1867.
2, 669	Same same (Design.)	June 4, 1867.
70, 128	Smith, Cephas, Stockbridge, Mich. Hanging tops to buggies	Oct. 22, 1867.
71, 918	Smith, Charles A., Philadelphia, Pa. Whip rack	Dec. 10, 1867.
62, 661	Smith, C. D., Chicago, Ill. Paint for wood, metal, and woven fabrics	Sept. 10, 1867.
33, 436	Smith, C. F., and J. Speth, Aurora, Ill. Chimney	Apr. 2, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
67, 919	Smith, Charles G., assignor to self and Alexander Turner, North Bridgewater, Mass. Reflector for windows.....	Aug. 20, 1867.
64, 158	Smith, Charles S., and Pelatiah J. Marsh. (See Littlefield, Sanford, assignor.)	
69, 264	Smith, Charles T., Utica, N. Y. Metallic bobbin.....	Apr. 23, 1867.
72, 693	Smith, D. A., Pomeroy, Ohio. Straw cutter.....	Sept. 24, 1867.
65, 959	Smith, Daniel A., Salem, Mich., and E. F. Olds, Lynn, Mich. Fence.....	Dec. 24, 1867.
	Smith, Daniel C., Adrian, Mich. Fruit ladder.....	June 18, 1867.
	Smith, Daniel D., et al. (See Dodge, William J., assignor.)	
72, 099	Smith, Daniel Y., Joliet, Ill. Auger handle.....	Dec. 10, 1867.
62, 895	Smith, David, Hartfield, N. Y. Washboard.....	Mar. 12, 1867.
63, 759	Smith, David M., Springfield, Vt. Clothes pin.....	Apr. 9, 1867.
	Same..... Spring clamp for clothes lines..... (Extension).....	Oct. 14, 1867.
	Smith, D. N., et al. (See Wood, Oramel N., assignor.)	
	Smith, David R., et al. (See Johnson & Steuernagel, assignor.)	
65, 774	Smith, Dexter, Springfield, Mass. Metallic priming cartridge.....	June 11, 1867.
2, 725	Smith, Joseph Sherburne, assignor to Charles E. Stanley, Cleveland, Ohio. Spring hinge.....	Aug. 6, 1867.
	Same..... same..... (Reissue).....	Oct. 8, 1867.
67, 600	Smith, E., Farmington, Ill. Cherry stoner.....	Aug. 6, 1867.
61, 477	Smith, Earl A., Waterbury, Conn. Buckle.....	Jan. 22, 1867.
70, 756	Smith, jr., Edmund, assignor to Albert Goodspeed, Worcester, Mass. Spring rocking chair.....	Nov. 12, 1867.
	Smith, Edward, and E. C. Maltby. (See Maltby & Smith.)	
	Smith, Edwin, and George Johnston. (See Johnston & Smith.)	
63, 566	Smith, Eli, Claremont, N. H. Meat and vegetable chopper.....	Apr. 2, 1867.
70, 637	Smith, E. C., assignor to self and A. G. Sommerfeldt, Old Ripley, Ill. Paddle wheel.....	Nov. 5, 1867.
61, 273	Smith, Ellis F., Orangeville, Ill. Corn planter.....	Jan. 15, 1867.
	Smith, Erasmus, and O. A. Bassett. (See Bassett & Smith.)	
	Smith, Ezra H., et al. (See Kennel, Smith & Morrison.)	
	Smith, E. I., et al. (See Frink, C. L., assignor.)	
61, 478	Smith, E. J., Washington, D. C. Griddle, or cooking utensil. (Antedated January 10, 1867).....	Jan. 2, 1867.
65, 838	Smith, E. K., Philadelphia, Pa. Composition for matches.....	June 18, 1867.
60, 799	Smith, Francis, assignor to Edward Ward Wilder, Boston, Mass. Caster for furniture.....	Jan. 1, 1867.
69, 716	Smith Fridolin, Tiffin, Ohio. Wagon bound and pole brace.....	Oct. 8, 1867.
62, 080	Smith, F. F., and A. Thurston, Fort Corners, Ohio. Seeding machine.....	Feb. 12, 1867.
64, 588	Smith, F. R., Bennington, Vt. Blind-slat fastening.....	May 7, 1867.
2, 574	Smith, Garrettson, and Henry Brown, assignors to Leibrandt & McDowell, Philadelphia, Pa. Cooks' stove..... (Design).....	Feb. 12, 1867.
2, 567	Smith, Garrettson, and Henry Brown, assignors to Buckwalter & Co., Philadelphia, Pa. Plate for a cook's stove..... (Design).....	Feb. 26, 1867.
2, 689	Smith, G., and H. Brown, assignors to Abbott & Noble, Philadelphia, Pa. Plate of stove. (Antedated May 28, 1867)..... (Design).....	June 25, 1867.
2, 809	Smith, Garrettson, and Henry Brown, Philadelphia, Pa. Cooks' stove..... (Design).....	Oct. 22, 1867.
2, 810	Smith, Garrettson, and Henry Brown, assignors to David L. Bartlett and H. W. Robbins, Philadelphia, Pa. Cooks' stove..... (Design).....	Oct. 22, 1867.
63, 953	Smith, Gaston D., Washington, D. C. Coal scuttle.....	Apr. 16, 1867.
	Smith, Gaston D., and John Allen. (See Allen & Smith.)	
63, 954	Smith, George, Providence, R. I. Draught plate.....	Apr. 16, 1867.
64, 804	Same..... Lamp burner.....	May 14, 1867.
72, 235	Same..... Cumberland, R. I. Let-off motion for looms. (Antedated December 11, 1867).....	Dec. 17, 1867.
72, 925	Same..... Providence, R. I. Lamp burner.....	Dec. 31, 1867.
	Smith, George, and John N. Wrigley. (See Wrigley & Smith.)	
	Same..... same.....	
	Smith, George, and Henry F. Bemendefer. (See Bemendefer & Smith.)	
68, 575	Smith, George C., and Boswell S. Judson, Matteawan, New York. Spring.....	Sept. 3, 1867.
	Smith, George E., and Hermon V. Davis. (See Davis & Smith.)	
66, 995	Smith, George F., Philadelphia, Pa. Venetian blind.....	July 23, 1867.
63, 567	Smith, George H., New Orleans, La. Medical compound.....	Apr. 2, 1867.
69, 134	Smith, George L., Brooklyn, N. Y. Circular grate for furnaces.....	Sept. 24, 1867.
70, 478	Smith, George O., and J. H., Chicago, Ill. Roofing compound.....	Nov. 19, 1867.
71, 802	Smith, George P., and John Desso, Lake City, Minn. Wagon brake.....	Dec. 3, 1867.
2, 814	Smith, George R., assignor through mesne assignments to Mariette Smith, Ithaca, N. Y. Railway switch..... (Reissue).....	Dec. 17, 1867.
64, 042	Smith, George W., Strasburg, Ohio. Weather strip.....	Apr. 23, 1867.
64, 917	Smith, George W., Mount Olivet, Ky. Garden cultivator.....	May 21, 1867.
	Smith, George W. (See Young, George W., assignor.)	
	Smith, Hamilton L., Gambier, Ohio. Paper file..... (Extension).....	May 20, 1867.
61, 026	Smith, Harlow C., Champaign Cxy, Ill. Flour sifter.....	Jan. 8, 1867.
66, 050	Same..... Chicago, Ill. Grain measure. (Antedated Jan. 22, 1867).....	June 25, 1867.
72, 236	Smith, Harmon L., Watkins, N. Y. Corn harvester.....	Dec. 17, 1867.
68, 536	Smith, Harmon M., Kalamazoo, Mich. Hay knife.....	Sept. 3, 1867.
70, 277	Smith, Harrison, Phillipsburg, N. J. Composition for stuffing wood.....	Oct. 29, 1867.
	Smith, Henry, and James Seward. (See Seward & Smith.)	
64, 159	Smith, jr., Henry, Summit, N. Y. Coffin.....	Apr. 23, 1867.
	Smith, jr., H., et al. (See Westerveldt, A. V. D., assignor.)	
61, 885	Smith, H. B., Eureka, Ill. Plow attachment.....	Feb. 5, 1867.
2, 468	Smith, Henry D., assignor to C. W. Sweet and John F. Greene, New York, N. Y. Mode of preparing chewing tobacco..... (Reissue).....	Jan. 29, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 529	Smith, H. Julius, Boston, Mass. Amalgamating the precious metals	July 9, 1867.
71, 919	Smith, Henry Julius, assignor to Joseph C. Wightman, Boston, Mass. Method of hardening and bleaching articles made of soapstone, talc, &c.	Dec. 10, 1867.
70, 278	Smith, Henry K., Boston, Mass. Sleigh bell	Oct. 29, 1867.
60, 950	Smith, Henry K., assignor to self and Charles Osgood, Norwich, Conn. Lathe rest	Jan. 1, 1867.
62, C81	Same..... Shaft coupling	Feb. 12, 1867.
	Smith, H. K., <i>et al.</i> (See Wallick, W., assignor.)	
67, 076	Smith, Henry P., Denton, Mich. Potato digger	July 23, 1867.
66, 179	Smith, Henry T., Brooklyn, N. Y. Step-ladder	June 25, 1867.
	Smith, Hervey, and B. O. Church. (See Church & Smith.)	
	Same..... same.	
60, 800	Smith, Hiram, and Thomas J. Lumis, Norwich, Conn. Machine for tenoning blind slats and boring the stiles	Jan. 1, 1867.
67, 363	Same..... Window blind	July 30, 1867.
63, 955	Smith, Hiram Moore, Richmond, Va. Hoisting machine	Apr. 16, 1867.
	Smith, Horace. (See Sanford, H. W., assignor.)	
2, 636	Smith, Horace, and Daniel B. Wesson, Springfield, Mass. Priming metallic cart-ridges. (Reissue)	June 4, 1867.
69, 717	Smith, H. W., Rainsburg, Pa., and B. C. Smith, Tolleston, Ind. Sleigh brake	Oct. 8, 1867.
	Smith, I. (See Collett, Joseph, assignor.)	
	Smith, Isaac, and William Fothergill Bartho. (See Wakefield, John, assignor.)	
62, 570	Smith, Isaac A., Connellsville, Pa. Sewing-horse	Mar. 5, 1867.
66, 051	Smith, Isaac H., Albany, N. Y. Wrench	June 25, 1867.
69, 852	Smith, Jacob R., Pittsburg, Pa. Machine for cutting tobacco	Oct. 15, 1867.
62, 375	Smith, James, Richmond, Ind. School desk	Feb. 26, 1867.
	Smith, James. (See Brown, Samuel C., assignor.)	
62, 896	Smith, James, and Samuel C. Brown, Richmond, Ind. Damper	Mar. 12, 1867.
	Smith, James, and William A. Wilson. (See Wilson & Smith.)	
64, 918	Smith, J., and J. F. Irvin, Laporte, Ind. Car coupling	May 21, 1867.
69, 593	Smith, James D., Richmond, Ind. Straw-cutter	Oct. 8, 1867.
68, 579	Smith, James L., Tuscola, Ill. Car brake	Sept. 3, 1867.
68, 537	Smith, James M., Seymour, Conn. Chuck	Sept. 3, 1867.
71, 336	Smith, James M., Centre Sandwich, N. H. Plate lifter	Nov. 26, 1867.
72, 759	Smith, James O., New York, N. Y. Lantern	Dec. 31, 1867.
70, 757	Smith, James T., and John Wark, Baltimore, Md. Steam generator	Nov. 12, 1867.
69, 853	Smith, Jared W., New Haven, Conn. Machine for cutting tobacco	Oct. 15, 1867.
60, 951	Smith, Jeremiah, New Market, Ohio. Curculio trap	Jan. 1, 1867.
66, 180	Smith, Joel J., Barnesville, Ohio. Sheep-feeding rack	June 25, 1867.
	Smith, John, <i>et al.</i> (See Sangster, William, assignor.)	
	Smith, John, and S. Constant. (See Constant & Smith.)	
71, 236	Smith, J. B., Milwaukee, Wis. Coffee pot	Nov. 19, 1867.
71, 237	Same..... same	Nov. 19, 1867.
72, 100	Same..... Machine for sharpening saws. (Antedated December 6, 1867)	Dec. 10, 1867.
	Smith, J. C., <i>et al.</i> (See Brown, J. Warren, assignor.)	
63, 113	Smith, J. D., Naugatuck, Conn. Window fastener	Mar. 19, 1867.
66, 645	Smith, J. Henry, Pittsburg, Pa. Petroleum filter	July 9, 1867.
72, 101	Smith, John Henry, Allegheny, Pa. Raising oils and burning fluids by pneumatic pressure	Dec. 10, 1867.
72, 102	Same..... Ship for transporting petroleum	Dec. 10, 1867.
70, 638	Smith, J. R., Salem, Mass. Grate bar	Nov. 5, 1867.
64, 130	Smith, John R., assignor to self and A. S. Hodges, Salem, Mass. Sash fastener	Apr. 23, 1867.
68, 248	Smith, John R., assignor to self and William H. Denniston, Connellsville, Pa. Machine for crushing and washing sand	Aug. 27, 1867.
70, 279	Smith, John L., Penn Township, Pa. Car coupling	Oct. 29, 1867.
67, 813	Smith, John T. S., New York, N. Y. Machine for cutting and punching paper	Aug. 13, 1867.
69, 594	Smith, John W., and Thomas H. Phillips, Washington, D. C. Manufacture of illuminating gas	Oct. 8, 1867.
69, 718	Smith, Johnson, Kansas, Ill. Churn dasher	Oct. 8, 1867.
72, 926	Smith, Jonathan, Tiffin, Ohio. Pencil holder	Dec. 31, 1867.
65, 291	Smith, Joseph, Belgium. Cap for spinning machine	May 28, 1867.
67, 364	Smith, Joseph, Philadelphia, Pa. Escape pipe for steam engines	July 30, 1867.
61, 366	Smith, Joseph Nottingham, Jersey City, N. J. Hydrant	Jan. 22, 1867.
62, 782	Same..... Brick machine	Mar. 12, 1867.
	Smith, J. N., and W. F. Brown. (See Brown & Smith.)	
63, 319	Smith, J. Y., Pittsburg, Pa. Drilling apparatus	Mar. 26, 1867.
64, 043	Same..... Steam-engine pistons	Apr. 23, 1867.
66, 181	Smith, L., Strongsville, Ohio. Washing machine	June 25, 1867.
	Smith, Levi C. (See Slander, Jacob, assignor.)	
	Same..... same.	
71, 803	Smith, Levi F., Philadelphia, Pa. Low-water indicator	Dec. 3, 1867.
70, 753	Smith, L. Franklin, Philadelphia, Pa. same	Nov. 12, 1867.
72, 426	Smith, L. F., Philadelphia, Pa. Steam blower	Dec. 17, 1867.
69, 265	Smith, Levi S., Gorsuch's Mills, Md. Peg cutter	Sept. 24, 1867.
71, 238	Smith, Levi S., assignor to self and Joseph V. Winemiller, Gorsuch's Mills, Md. Broom head	Nov. 19, 1867.
67, 077	Smith, Lewis A., Cincinnati, Ohio. Chair seat	July 23, 1867.
66, 182	Smith, Lucien B., Kent, Ohio. Wire fence	June 25, 1867.
70, 038	Smith, Michael, Philadelphia, Pa. Apparatus for casting refractory metals	Oct. 22, 1867.
64, 044	Smith, Mortimer L., assignor to self and J. W. Houghtelin, Detroit, Mich. Seat and back	Apr. 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 261	Smith, N. E., East Cleveland, Ohio. Splicing belting.....	July 2, 1867.
	Smith, Oliver C., and John A. Bassett. (See Bassett & Smith.)	
66, 996	Smith, Owen B., Palmer, Mass. Loom picker.....	July 23, 1867.
	Smith, Percy B. (See Storie, Ole O., assignor.)	
65, 128	Smith, P. T., Salem, Ohio. Planing machine for wood.....	May 28, 1867.
62, 662	Smith, Perry W., Abingdon, Ill. Cultivator.....	Sept. 10, 1867.
	Smith, Phineas. (See Brady, O. G., assignor.)..... (Reissue.)	
2, 575	Smith, Rees B., Mount Pleasant, Ohio. Composition for roofing and other purposes..... (Reissue.)	Apr. 23, 1867.
	Smith, Richard. (See Ellsworth, Oliver, assignor.)	
2, 791	Smith, Richard, assignor to McKellar, Smith & Jordan, Philadelphia, Pa. Printing type..... (Design.)	Sept. 24, 1867.
64, 045	Smith, Robert E., Provincetown, Mass. Gun harpoon.....	Apr. 23, 1867.
71, 955	Smith, Rodney L., Wolcottville, Conn. Twine holder.....	Dec. 3, 1867.
66, 052	Smith, R. T., Nashua, N. H. Universal joint.....	June 25, 1867.
72, 163	Smith, R. T., and J. K. Priest, Nashua, N. H. Device for shearing and clipping wool.....	Dec. 10, 1867.
66, 909	Smith, R. W., Tippecanoe, Ohio. Bridge.....	July 16, 1867.
71, 804	Smith, Samuel A., assignor to self and Edwin E. Woodman, Monroe, Wis. Bed bottom.....	Dec. 3, 1867.
	Smith, Samuel L., and Eli L. Seger. (See Seger & Smith.)	
69, 266	Smith, Seth H., Venice Center, N. Y. Car coupling.....	Sept. 24, 1867.
65, 701	Smith, Sherman, Presque Isle, Maine. Window-sash fastener.....	June 11, 1867.
62, 082	Smith, Sidney, Greenfield, Mass. Sink.....	Feb. 12, 1867.
63, 956	Smith, Sidney, Worcester, Mass. Fire-chamber for furnaces.....	Apr. 16, 1867.
	Same..... (See Pepper, Calvin, assignor.)	
64, 161	Smith, S., and A. Bardell. (See Bardell & Smith.)	
	Smith, S. B., and E. Lindsley, Cleveland, Ohio. Pantaloon guard.....	Apr. 23, 1867.
	Smith, Stephen. (See Chase, S. A., assignor.)	
	Smith, Stephen W. (See Cumming, jr., David, assignor.)	
68, 801	Smith, Sylvester, Rockford, Ill., and A. Persels, Beloit, Wis. Gate.....	Sept. 10, 1867.
70, 639	Smith, Thomas, California, Mo. Wagon brake.....	Nov. 5, 1867.
71, 656	Smith, Thomas, New York, N. Y. Washing machine.....	Dec. 3, 1867.
72, 237	Smith, Thomas, Brooklyn, N. Y. Trunk.....	Dec. 17, 1867.
	Smith, Thornton. (See Barlow, Cornelius, assignor.)	
66, 997	Smith, T. B., Ansonia, Conn. Machine for cutting veneers.....	July 23, 1867.
63, 568	Smith, T. Briggs, assignor to self and Elmer Townsend, Boston, Mass. Boot and shoe.....	Apr. 2, 1867.
63, 569	Same..... same.....	Apr. 2, 1867.
63, 570	Same..... Machine for twisting wire.....	Apr. 2, 1867.
71, 546	Smith, T. S., New Haven, Conn. Ball caster.....	Nov. 26, 1867.
68, 249	Smith, W., San Francisco, Cal. Valve for water-closets.....	Aug. 27, 1867.
	Smith, Wells & Company. (See Martino, Beesley & Currie, assignors.)..... (Design.)	
	Smith, William, New York, N. Y. Weaving corded fabrics..... (Extension.)	Mar. 23, 1867.
2, 656	Same..... same..... (Reissue.)	June 18, 1867.
67, 365	Smith, William, Nunda, N. Y. Machine for pulling hop poles.....	July 30, 1867.
69, 854	Smith, William, Pittsburg, Pa. Machine for molding pipe.....	Oct. 15, 1867.
	Smith, William. (See Beckwith, Enos P.)..... (Reissue.)	
72, 927	Smith, W. Bell, Charleston, S. C. Boiler tube cutter.....	Dec. 31, 1867.
63, 295	Smith, W. B., Lafayette, Ill. Apparatus for saturating timber.....	Feb. 19, 1867.
66, 404	Smith, William B., Aberdeen, Ind. Baling press.....	July 2, 1867.
65, 702	Smith, W. C., Warrensburg, Mo. Sugar evaporator.....	June 11, 1867.
66, 646	Smith, William C., Yantic, Conn. Churn.....	July 9, 1867.
67, 078	Smith, William E., Oquawka, Ill. Cultivator.....	July 23, 1867.
2, 773	Smith, W. E., Hartleton, Pa. Fence..... (Design.)	Aug. 27, 1867.
67, 366	Smith, W. Harold, Memphis, Tenn. Method of preserving wooden piles.....	July 30, 1867.
	Smith, W. H., and H. R. Hildreth. (See Hildreth & Smith.)	
	Smith, William L. (See Wilson, Carman, assignor.)	
2, 615	Smith, William M., West Meriden, Conn. Casket handle..... (Design.)	Apr. 16, 1867.
70, 759	Smith, William M., assignor to self and The Meriden Britannia Company, West Meriden, Conn. Casket handle.....	Nov. 12, 1867.
63, 661	Smith, William Sooy, Oak Park, Ill. Excavating and dredging.....	Apr. 9, 1867.
72, 928	Smith, William W., Chicago, Ill. Snow sweeper for streets.....	Dec. 31, 1867.
61, 479	Smith, William W., Montrose, Pa. Transplanting tray.....	Jan. 22, 1867.
70, 371	Smith, W. W., Strongsville, Ohio. Ratchet for driving wheels.....	Oct. 29, 1867.
71, 637	Smithson, Benjamin K., assignor to self and Samuel West, New York, N. Y. Apparatus for generating oxygen gas.....	Dec. 3, 1867.
63, 250	Smoot, William S., assignor to the Windsor Manufacturing Company, Washington, D. C. Cartridge retractor for breech-loading fire-arms.....	Aug. 27, 1867.
71, 074	Smyth, D. M., assignor to O. P. Dorman, Orange, N. J. Machine for cutting paper collars.....	Nov. 19, 1867.
	Snart, Edward, et al. (See Killgore, Clapsaddle, and Snart.)	
67, 143	Snead, Charles S., Louisville, Ky. Extension gate.....	July 23, 1867.
61, 109	Snedeker, Nelson S., Philadelphia, Pa. Lubricating journal.....	Jan. 8, 1867.
	Snider, E., and E. A. Kirk. (See Kirk and Snider.)	
69, 719	Snell, C. D., and J. W. Peuney, Mechanic Falls, Maine. Mechanical movement.....	Oct. 8, 1867.
	Snell, William T. (See McCoy, John, assignor.)	
67, 367	Snelling, P. H., assignor to self and James Nutt, Wartrace, Tenn. Car coupling.....	July 30, 1867.
69, 941	Snider, Jacob, jr., deceased, by Angelina Snider, administratrix, assignor to John Vaughn Snider, Philadelphia, Pa. Breech-loading fire-arm.....	Oct. 15, 1867.
68, 251	Saiffin, William, Sing Sing, N. Y. Swivel ship fender.....	Aug. 27, 1867.
63, 126	Saively, John, Williamsburg, Pa. Chimney top.....	Aug. 27, 1867.
	Snodgrass, M. R., Jamestown, Ohio. Seed planter and cultivator.....	Dec. 24, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 405	Snodgrass, William, assignor to self and James Statler, Macomb, Ill. Wagon-hub boring machine	July 2, 1867.
	Snow, E. H., and E. C. Hurlburt. (See Hurlburt and Snow.)	
	Snow, George H., and George H. Coe. (See Coe and Snow.)	
2, 737	Snow, George K., assignor through mesne assignments to R. Hoe & Co., New York, N. Y. Machine for affixing post office stamps to letters. (Reissue)	Aug. 30, 1867.
69, 499	Snow, H. D., Bennington, Vt. Steam governor	Oct. 1, 1867.
62, 783	Snow, Heman S., West Meriden, Conn. Boot heel	Mar. 12, 1867.
62, 698	Snow, Henry C., ass'or to self and C. C. Lattimer, Princeton, Ill. Cutter for wall paper.	Mar. 5, 1867.
	Snow, James P., and Sidney Allen. (See Allen and Snow.)	
	Snow, John. (See Haddleton, Joseph, assignor.)	
62, 897	Snow, Oliver, assignor to Meriden Manufacturing Co., West Meriden, Conn. Punching machines	Mar. 12, 1867.
	Snowden, George T., and Isaac V. Lynn. (See Lynn and Snowden.)	
69, 135	Snowden, Heury, Baltimore, Md. Head-rest for chairs	Sept. 24, 1867.
68, 663	Snowdon, J. N., and H. Wilkins, Brownsville, Pa. Steam generator	Sept. 10, 1867.
61, 574	Snyder, Albert, Jackson, Mich. Potato digger	Jan. 29, 1867.
70, 280	Snyder, Charles L., Hardin, Ill. Threshing machine	Oct. 29, 1867.
	Snyder, George W. (See Petry, George S., assignor.)	
69, 036	Snyder, George W., assignor to self and James Aikin, Kalamazoo, Mich. Horserake.	Sept. 10, 1867.
70, 372	Snyder, Henry D., assignor to self, O. Reynolds, and A. L. Hunt, Carbondale, Pa. Safety pocket	Oct. 29, 1867.
72, 104	Snyder, John, Williamsfield, Ohio. Corn plow	Dec. 10, 1867.
67, 681	Snyder, J. H., Rockford, Ill. Hame clasp	Aug. 13, 1867.
61, 771	Soggs, Henry, Columbus, Pa. Car coupling	Feb. 5, 1867.
62, 376	Same. Combined corn planter and hoe	Feb. 26, 1867.
70, 760	Same. Sash stop	Nov. 12, 1867.
	Soletta Oil Company. (See Martine, Charles F., assignor.)	
63, 437	Solomons, Samuel, England. Transparent slide for the magic lantern	Apr. 2, 1867.
70, 039	Somers, D. M., Brooklyn, N. Y. Button	Oct. 22, 1867.
72, 929	Somers, D. M., Brooklyn, N. Y., and W. S. Atwood, Newark, N. J. Button	Dec. 31, 1867.
61, 638	Somes, Daniel E., Washington, D. C. Cooling and packing meat	Jan. 29, 1867.
61, 886	Same. Moistening, cooling, and warming air	Feb. 5, 1867.
62, 449	Same. Process and apparatus for curing and packing meat, and for other purposes	Feb. 26, 1867.
68, 908	Same. Manufacture of ice and in cooling air and other substances	Sept. 17, 1867.
69, 955	Same. Apparatus for cooling, freezing, and heating	Oct. 15, 1867.
70, 909	Same. Cooling air and other substances	Nov. 12, 1867.
70, 910	Same. Elastic packing for the joints of doors, lids, and the like	Nov. 12, 1867.
61, 575	Sommer, Philip, Newark, N. J. Wrench. (Antedated January 17, 1867)	Jan. 29, 1867.
	Sommerfeldt, A. G. (See Smith, E. C., assignor.)	
71, 805	Soper, E., New York, N. Y. Carriage	Dec. 3, 1867.
61, 576	Soper, Philo O., San Francisco, Cal. Hay knife	Jan. 29, 1867.
69, 942	Soper, Robert W., assignor to self and Frank Richards, Janesville, Wis. Mop wringer.	Oct. 15, 1867.
	Soper, E. W., and O. M. Brooks. (See Brooks and Soper.)	
62, 699	Sorgen, John G., Kenton, Ohio. Stove-pipe drum. (Antedated January 10, 1867)	Mar. 5, 1867.
	Soule, Frederick A. (See Becklin, Edwin, jr., assignor.)	
71, 337	Soule, Isaac, Albany, N. Y. Steam engine piston valve	Nov. 26, 1867.
65, 839	Soule, Samuel W., Milwaukee, Wis. Numbering machine	June 18, 1867.
69, 136	Soules, Simon, Cresco, Iowa. Potato digger	Sept. 24, 1867.
66, 746	Soursin, Antoine, St. Louis, Mo. Shifting top for carriage	July 16, 1867.
66, 747	Same. Machine for adjusting carriage-top bows	July 16, 1867.
68, 580	Southard, A. M., assignor to self and W. J. Hobson, Savannah, Mo. Stone-drilling machine	Sept. 3, 1867.
	Souther, F. S. C., and George Pye. (See Pye & Souther.)	
68, 538	Southgate, B. F., Bridgewater, Vt. Diamond key	Sept. 3, 1867.
	Southwick, Daniel W., et al. (See Phillips, Southwick & Arnold.)	
63, 320	Southworth, D. H., New York, N. Y. Rice-hulling machine	Mar. 26, 1867.
70, 640	Soutrenon, J. M., New York, N. Y. Covering for walls of parlors and saloons.	Nov. 5, 1867.
	Sowden, Adam, and Thomas Birch. (See Birch & Sowden.)	
65, 129	Sower, Alfred, New York, N. Y. Kettle	May 28, 1867.
64, 162	Sowle, Seabury, New Albany, N. Y. Skid	Apr. 23, 1867.
68, 391	Same. Staging	Sept. 3, 1867.
66, 406	Spafford, Dwight S., and George Elsey, Morrison, Ill. Measuring faucet	July 2, 1867.
61, 480	Spafford, Nathan H., Baltimore, Md. Machine for combing and assorting bristles	Jan. 22, 1867.
65, 703	Spalding, William W., Greenland, Mich. Jigging machine for dressing ores.	June 11, 1867.
68, 318	Spang, Jacob D., Dayton, Ohio. Gas-heating apparatus for sad-irons	Aug. 27, 1867.
70, 641	Same. Gasoline cook stove	Nov. 5, 1867.
63, 662	Spangle, John P., Hopewell Center, N. Y. Car coupling	Apr. 9, 1867.
	Spangler, E. J. (See Parks, Robert, assignor.)	
	Spangler, E. J., et al. (See Cooper, John H., assignor.)	
	Spangler, John, et al. (See Myers, Walser & Spangler.)	
64, 805	Sparks, C., Downers Grove, Ill. Compound for welding steel	May 14, 1867.
	Sparks, William E., and P. B. O'Brien. (See O'Brien & Sparks.)	
67, 920	Sparrow, Benjamin F., Boston, Mass. Metallic tip	Aug. 20, 1867.
70, 281	Spalding, Charles F., St. Johnsbury, Vt. Machine for spinning metals.	Oct. 29, 1867.
	Spaulding, Edward, and Edward S. Lenox. (See Lenox & Spaulding.)	
72, 238	Spaulding, George H., Rockford, Ill. Harvester	Dec. 17, 1867.
63, 663	Spaulding, George W., Boston, Mass. Switch	Apr. 9, 1867.
	Spaulding, Hosea B. (See Marshall, William H., assignor.)	
	Spaulding, Ira D. (See Coffin, jr., D. N. B., assignor) (Reissue.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Spaulding, Irah D. (See Coffin, jr., D. N. B., assignor)..... (Reissue.)	
	Same..... same.	
66, 901	Spaulding, Myron H., Morrisville, Vt. Churn.....	July 16, 1867.
66, 407	Spaulding, Samuel B., Brandon, Vt. Manufacture of brick.....	July 2, 1867.
2, 434	Spaulding, Samuel B., assignor through mesne assignments to Daniel E. Paris, Troy, N. Y. Cooking stove..... (Reissue.)	Feb. 26, 1867.
2, 803	Spear, James, Philadelphia, Pa. Stove..... (Design.)	Oct. 15, 1867.
67, 921	Spear, Lewis H., Braintree, Vt. Preserving animal and vegetable substances. (Antedated Aug. 15, 1867.)	Aug. 20, 1867.
	Spear, Nathaniel T., et al. (See Stackpole, Greenleaf, assignor.)	
72, 105	Spear, Vivian K., Lynn, Mass. Boot-heel polisher.....	Dec. 10, 1867.
72, 106	Spedden, Robert R., and Daniel F. Stafford, Astoria, Oregon. Means for propelling vessels.....	Dec. 10, 1867.
72, 694	Speeler, Henry, Trenton, N. J. Heating pottery ovens and other like furnaces.....	Dec. 24, 1867.
2, 491	Speer, James L., Pittsburg, Pa. Clasp for metallic hoops..... (Reissue.)	Feb. 19, 1867.
71, 338	Same..... Cotton-bale tie.....	Nov. 26, 1867.
68, 664	Speidel, Reinhard, assignor to the Clinton Wire Cloth Company, New York, N. Y. Material for floors for malt kilns.....	Sept. 10, 1867.
65, 130	Spelman, Irwin H., Baconsburg, Ohio. Sheep shearer.....	May 28, 1867.
69, 855	Same..... Buzetta, Ohio. Churn.....	Oct. 15, 1867.
63, 260	Spence, Gideon O., Titusville, Pa. Apparatus for burning petroleum, &c., in conjunction with steam, or heated air, or both.....	Apr. 30, 1867.
69, 037	Spence, James F., Brooklyn, N. Y. Hydro-carbon vapor machine.....	Sept. 17, 1867.
61, 857	Spence, James F., assignor to self and Alfred Phillips, Williamsburg, N. Y. Gas apparatus.....	Feb. 5, 1867.
65, 515	Spencer, A. B., Rochester, N. Y. Filter for pharmacentists and others.....	June 4, 1867.
62, 784	Spencer, Charles F., Rochester, N. Y. Securing buttons to garments.....	Mar. 12, 1867.
68, 319	Same..... Fruit jar.....	Aug. 27, 1867.
71, 239	Same..... Sealing fruit cans.....	Nov. 19, 1867.
63, 321	Spencer, Charles F., assignor to self and Charles W. Barker, Rochester, N. Y. Lantern.....	Mar. 26, 1867.
66, 902	Same..... Lantern.....	July 16, 1867.
65, 023	Spencer, E., Ottawa, C. W. Paddle wheel.....	May 21, 1867.
67, 922	Spencer, E., Lambertville, N. J. Pencil sharpener.....	Aug. 20, 1867.
68, 127	Spencer, Elihu, Elizabeth, N. J. Combined water meter and force pump.....	Aug. 27, 1867.
72, 950	Spencer, Elihu, Ottawa, Canada. Indicator for railway stations.....	Dec. 31, 1867.
69, 038	Spencer, James C., assignor to self and Archibald B. Vandemark, Phelps, N. Y. Odometer.....	Sept. 17, 1867.
66, 748	Spencer, James L., Wellville, Va. Sulky plow and tobacco hiller attachment.....	July 16, 1867.
63, 760	Spencer, Lewis W., assignor to Schreiber Cornet Manufacturing Company, New York, N. Y. Machine for forming the branch tubes of valve cases for cornets.....	Apr. 9, 1867.
68, 761	Same..... Machine for forming the bells of cornets.....	Apr. 9, 1867.
63, 819	Same..... Machine for cutting the wind passages in the rotary valves of cornets.....	Apr. 16, 1867.
	Spencer Repeating Rifle Company. (See Lane, Thomas W., assignor.)	
71, 240	Spencer, Stephen J., Yorksbire, N. Y. Vehicle..... (See Watson & Spencer.)	Nov. 19, 1867.
64, 455	Spencer, Thomas H., Providence, R. I. Tooth brushes. (Antedated April 23, 1867.)	May 7, 1867.
	Spendelow, Henry, et al. (See Heneage, Milsom & Spendelow.)	
63, 571	Spentl, Mathias, Detroit, Mich. Wood-turning lathe.....	Apr. 2, 1867.
63, 840	Sperring, James H., Peru, Ind. Medical compound.....	June 18, 1867.
66, 531	Sperry, Ebenezer, Miami Village, Kansas. Toy gun.....	July 9, 1867.
68, 665	Same..... Sorghum evaporator.....	Sept. 10, 1867.
2, 641	Sperry, Egbert W., Wolcottville, Conn. Knife or fork handle, &c..... (Design.)	Apr. 30, 1867.
2, 642	Same..... Knife, fork, or spoon handle..... (Design.)	Apr. 30, 1867.
2, 643	Same..... same..... (Design.)	Apr. 30, 1867.
	Sperry, T. S. (See Vandercar, John, assignor.)	
2, 485	Sperry, T. S., assignor to the Silver Skirt and Wire Manufacturing Company, New York, N. Y. Manufacture of skirt wire..... (Reissue.)	Feb. 19, 1867.
60, 952	Sperry, Zealous, Potter's Corners, Pa. Churn..... (See Smith & Speth.)	Jan. 1, 1867.
2, 750	Spicer, George T., Providence, R. I. Garden urn..... (Design.)	Aug. 13, 1867.
	Spicer, P. A., and M. Crossman. (See Crossman & Spicer.)	
69, 943	Spiehman, George, Strasburg, Pa. Plow.....	Oct. 15, 1867.
62, 450	Spillman, William, Columbus, Mich. Apparatus for making lead pipe.....	Feb. 26, 1867.
71, 075	Same..... Marion Station, Miss. Bullet machine.....	Nov. 19, 1867.
66, 532	Spilman, John, Tonawanda, N. Y. Floating wheel for vessels.....	July 9, 1867.
69, 944	Spineux, Ferdinand, Belgium. Drawing and twisting head for spinning.....	Oct. 15, 1867.
66, 183	Spinning, Daniel B., Brooklyn, N. Y. Fruit and poultry box.....	June 25, 1867.
63, 252	Spittler, J. M., Clinton, Kansas. Wagon jack.....	Aug. 27, 1867.
69, 729	Spittdorf, Henry, Brighton, Mass. Armor for hoofs of horses.....	Oct. 8, 1867.
70, 911	Spofford, Charles, assignor to self, Walter E. Hayes, Charles H. and Francis E. Hersey, Boston, Mass. Car brake.....	Nov. 12, 1867.
71, 076	Spofford, Charles, assignor to self and Samuel T. Lamb, Boston, Mass. Adjustable die for cutting paper collars and other articles.....	Nov. 19, 1867.
67, 923	Spofford, Charles, and Charles H. Hersey, Boston, Mass. Cotton gin.....	Aug. 20, 1867.
	Spofford, Charles S., et al. (See Mills, Jonathan, assignor.)	
61, 960	Spofford, Fisher A., and Matthew G. Raffington, Columbus, Ohio. Portable pistol gallery.....	Feb. 12, 1867.
69, 500	Same..... Toy pistol.....	Oct. 1, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
2, 576	Spofford, N., Haverhill, Mass. Brace for bits.....(Reissue) ..	Apr. 23, 1867.
64, 539	Sponouse, Robert, Jersey Shore, Pa. Manufacture of water-proof leather.....	May 7, 1867.
69, 267	Spooner, D., Lowell, Ohio. Means for extinguishing fire in steamships.....	Sept. 24, 1867.
67, 458	Spooner, G. D., Rutland, and L. N. Johnson, Brandon, Vt. Carpenters' plane.....	Aug. 6, 1867.
66, 053	Spooner, John R., Lowell, Ohio. Button.....	June 25, 1867.
70, 282	Spooner, Nathaniel B., Plymouth, Mass. Hinge and fastener.....	Oct. 29, 1867.
71, 806	Spoonhour, Jacob, Green township, and Samuel R. Boyd, Chambersburg, Pa. Bridle bit.....	Dec. 3, 1867.
71, 658	Sporer, John M., Philadelphia, Pa. Shoemaker's lamp.....	Dec. 3, 1867.
	Spörré, John. (See Gantner, Benedict, assignor)	
66, 408	Sprague, A. J., assignor to self and Paul Jones, Toledo, Ohio. Brick machine.....	July 2, 1867.
64, 376	Sprague, George, Spring Hill, Kansas. Corn cultivator.....	Apr. 30, 1867.
65, 443	Same.....Machine for marking corn ground.....	June 4, 1867.
67, 924	Sprague, John J. (See Melcher, John W., assignor.)	
	Sprague, Richard T., Boston, Mass. Mode of liquoring sugar in centrifugal machines.....	Aug. 20, 1867.
62, 976	Spring, Charles, Dorchester, and Andrew Spring, Weston, Mass. Carriage for children.....	Mar. 19, 1867.
62, 230	Springer, J. H., and W. M. Bartram, Philadelphia, Pa. Low-water alarm for steam generators.....	Feb. 19, 1867.
66, 749	Spring, Joseph H., and John C. McDonald, assignors to selves, Richard G. Howell, and George Stiles, Philadelphia, Pa. Apparatus for carburetting air.....	July 16, 1867.
60, 953	Springer, L. C., Chicago, Ill. Magnetic lock.....	Jan. 1, 1867.
	Springer, T. G., and F. M. Robinson, (See Robinson & Springer.)	
68, 253	Sprouse, William T., Chandlersville, Ill. Plow.....	Aug. 27, 1867.
64, 163	Sproul, A. B., Hughesville, Pa. Horse hay fork.....	Apr. 23, 1867.
68, 909	Same.....Picture Rocks, Pa. Derrick.....	Sept. 17, 1867.
2, 817	Same.....Hughesville, Pa. Horse hay fork.....(Reissue)	Dec. 17, 1867.
2, 818	Same.....Picture Rocks, Pa. Horse hay fork.....(Reissue)	Dec. 17, 1867.
63, 322	Spurgin, Samuel S., Jacksonville, Ill. Riding saddle.....	Mar. 26, 1867.
63, 957	Squier, George L., Buffalo, N. Y. Evaporator for saccharine juices.....	Apr. 16, 1867.
68, 581	Same.....Harvester pitman.....	Sept. 3, 1867.
70, 912	Squier, Solomon and Horace, Monson, Mass. Machine for pressing bonnets.....	Nov. 12, 1867.
	Squire, Charles R. (See Brown, A. W., assignor.)	
	Squire, Charles R., and William F. Goodwin. (See Goodwin & Squire.)	
	Same.....same.....	
	Same.....same.....	
64, 590	Squire, Luman, Norwalk, Ohio. Thill coupling.....	May 7, 1867.
61, 027	Squires, Sidney, Boston, Mass. Wringing machine.....	Jan. 8, 1867.
69, 268	Squires, William H., New York, N. Y. Steam-generator blower.....	Sept. 24, 1867.
	Staake, F., and Charles Gudehus. (See Gudehus & Staake.)	
	Staats, Peter V. (See Duiham, John G., assignor).....(Reissue.)	
	Same.....same.....(Reissue.)	
	Staats, Peter V., et al.same.....(Reissue.)	
69, 945	Staats, William H., Crescent, N. Y. Railway switch.....	Oct. 15, 1867.
71, 807	Same.....Railroad switch.....	Dec. 3, 1867.
68, 254	Stace, William R., and H. M. Baker, assignors to selves, John A. Morrison, Seward F. Gould, and Joseph Eastwood, Rochester, N. Y. Process to be used in the manufacture of glass, soluble silicates, hydro-chloric acid and bleaching powders.....	Aug. 27, 1867.
63, 438	Stackpole, Greenleaf, New York, N. Y. Bit brace. (Antedated March 13, 1867).....	Apr. 2, 1867.
63, 184	Stackpole, Greenleaf, assignor to self, Nathaniel T. Spear, Cyrus and Darius Cobb, New York, N. Y. Means for propelling canal boats. (Antedated March 13, 1867).....	Mar. 26, 1867.
63, 323	Stadermann, John, and Henry Sauerbier, New York, N. Y. Breast protector.....	Mar. 26, 1867.
	Stachlen, William. (See Jedamsky, Gustav, assignor.)	
2, 856	Stafford, Arthur, Brooklyn, N. Y. Key tag.....(Design) ..	Dec. 31, 1867.
63, 324	Stafford, C. W., Saybrook, Conn. Pavement.....	Mar. 26, 1867.
63, 664	Same.....Garbage and ash box.....	Apr. 9, 1867.
63, 665	Same.....Ash or garbage box.....	Apr. 9, 1867.
66, 201	Same.....Pavement.....	June 25, 1867.
69, 297	Same.....same.....	Sept. 24, 1867.
	Stafford, Daniel F., and Robert R. Spedden. (See Spedden & Stafford.)	
68, 910	Stafford, D. S., deceased, by Eliza Stafford, administratrix, assignor to herself, Sullivan Burgess, and Joseph Stafford, Decatur, Ill. Cultivator.....	Sept. 17, 1867.
68, 464	Stafford, Edwin, Philadelphia, Pa. Operating condensing rollers in carding machines.....	Sept. 3, 1867.
67, 814	Stafford, H. P., assignor to self and M. C. Wykel, Decatur, Ill. Gang plow.....	Aug. 13, 1867.
	Stafford, Joseph. (See Boon, Alonzo T., assignor.)	
	Stafford, J., and A. T. Boon. (See Boon and Stafford.)	
71, 077	Stafford, Joseph F., North Granville, N. Y. Damper.....	Nov. 19, 1867.
2, 568	Stafford, M. B., New York, N. Y. Window-sash fastening.....(Reissue)	Apr. 16, 1867.
69, 501	Stagg, David I., New York, N. Y. Attachment for school desks.....	Oct. 1, 1867.
	Stagg, Peter M. (See Massey, John, assignor.)	
	Stahl, Frank. (See Dorwart, Benjamin K., assignor.)	
70, 373	Staleup, William P., assignor to self and John P. Lancaster, Brookville, Ind. Mill-burr dresser.....	Oct. 29, 1867.
70, 283	Staley, Albert, Trenton, Iowa. Steam-engine slide-valve.....	Oct. 29, 1867.
62, 083	Stamp, William, Susquehanna Depot, Pa. Steam gauge.....	Feb. 12, 1867.
67, 144	Stanurd, H. T., Wayne, Mich. Machine for applying and measuring forces.....	July 23, 1867.
	Stanbery, George A., and James Sheward. (See Sheward & Stanbery.)	
69, 269	Stanbery, Ira, St. Louis, Mo. Safty reins.....	Sept. 24, 1867.
	Standfield, John, and Charles Frederick Cooke. (See Cooke & Standfield.)	
	Standish, L. F., et al. (See Tyler, Chandler & Standish.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 274	Standish, Syranus, Pacheco, Cal. Amalgamator	Jan. 15, 1867.
67, 079	Standish, William L., Pittsburg, Pa. Machine for cutting bungs	July 23, 1867.
69, 137	Stanger, M. E., Wheeling, Ill. Shovel plow	Sept. 24, 1867.
	Stanley, Augustus, and Samuel N. Chapin. (See Chapin & Stanley.)	
	Stanley, Charles E. (See Smith, Joseph Sherburne, assignor)	(Reissue.)
	Same	(Reissue.)
	Stanley, E. Y., and Alvin Colburn. (See Colburn & Stanley.)	
63, 325	Stanley, Henry, St. Johnsbury, Vt. Reservoir for cooling grain and flour	Mar. 26, 1867.
61, 577	Stanley, I. N., Brooklyn, N. Y. Apparatus for desulphurizing ores	Jan. 29, 1867.
2, 815	Same	(Reissue.)
61, 691	Stanley, Robert, Charlton, Iowa. Churn	Jan. 29, 1867.
63, 960	Stannard, Abram C., Rock county, Wis. Washing machine	June 18, 1867.
	Stannard, George, and P. Byrns. (See Byrns & Stannard.)	
64, 884	Stannard, Monroe, Hartford, Conn. Sewing machine	Apr. 23, 1867.
62, 898	Stansbury, Alexander T., and Thomas M., Lewistown, Ill. Cultivator	Mar. 12, 1867.
68, 465	Stansbury, T. G., Medora, Ill. Belt tightener	Sept. 3, 1867.
62, 899	Stanton, C. B., Scott, N. Y. Churn	Mar. 12, 1867.
70, 642	Stanton, Henry, Syracuse, N. Y. Finishing brad	Nov. 5, 1867.
68, 392	Stanton, James P., Pedricktown, N. J. Potato plow	Sept. 3, 1867.
67, 815	Stanton, Robert B., Oxford, Ohio. Reversible feed for sewing machines	Aug. 13, 1867.
64, 720	Stanton, William H., Dunmore, Pa. Safety-valve device	May 14, 1867.
68, 802	Staples, Caroline A., Boston, Mass. Dressing case and bath tub	Sept. 10, 1867.
	Staples, Edmond L., and Charles W. Cotton. (See Cotton & Staples.)	
62, 700	Staples, Ezra, and William W. Gould, Skowhegan, Maine. Car coupling	Mar. 5, 1867.
	Staples, Henry, and Company. (See Hammond, Joshua F., assignor.)	
62, 084	Staples, M. W., Catskill, N. Y. Wash boiler	Feb. 12, 1867.
2, 816	Same	(Reissue.)
68, 320	Stapleton, David, Iowa City, Iowa. Sheep rack	Aug. 27, 1867.
63, 762	Starbuck, Charles, Philadelphia, Pa. Cam hitching hook	Apr. 9, 1867.
	Starbuck, George F., et al. (See Smith, Clark & Starbuck)	(Design.)
65, 841	Starbuck, Nathan, Wilmington, Ohio. Ditching machine	June 18, 1867.
72, 333	Stark, John, Thomasville, Ga. Seed planter	Dec. 17, 1867.
71, 078	Starkey, William, assignor to self and E. L. Reeves, Bridgeport, N. J. Attaching thills & carriages. (Antedated November 8, 1867.)	Nov. 19, 1867.
66, 647	Starkweather, Albert G., Burlington, Vt. Mop wringer	July 9, 1867.
71, 419	Stearnes, Samuel S., Macomb, Ill. Plow	Nov. 26, 1867.
69, 856	Starr, George W., Clarksburg, West Va. Automatic railroad switch	Oct. 15, 1867.
	Starr, Joseph. (See Dayton, Joseph A., assignor.)	
72, 334	Starr, jr., Nicholas, Homer, N. Y. Harrow	Dec. 17, 1867.
	Starr, Robert H., and Andrew Cowan. (See Cowan & Starr.)	
66, 533	Starratt, William A., Boston, Mass. Steelyard	July 9, 1867.
67, 459	Starritt, John D., Chicago, Ill. Clothes-line reel	Aug. 6, 1867.
62, 900	Startzman, William H., Big Lick, Va. Method of attaching hoes to their handles	Mar. 12, 1867.
68, 393	Same	Cultivator plow.
	Startzman, W. H., and J. W. Neal. (See Neal & Startzman.)	
69, 138	States, G. W., and A. W. Lutts, Norwalk, Ohio. Farm gate	Sept. 24, 1867.
71, 079	Statler, C. V., Woodhull, Ill. Combined shrinking and punching machine	Nov. 19, 1867.
	Statler, James. (See Snodgrass, William, assignor.)	
61, 110	Stauffer, David, Spang Hills, Ohio. Stump extractor	Jan. 8, 1867.
64, 591	Stayman, A. F., Baltimore, Md. Preparing smoking tobacco	May 7, 1867.
61, 275	Stayman, A. F., assignor to self, J. W. Hodges, and P. de Murguiondo, Baltimore, Md. Mode of utilizing tobacco dust	Jan. 15, 1867.
	St. Charles Street Railroad Company. (See McLellan, William H., assignor.)	
67, 145	St. Clair, Colin Cree, Washington, D. C. Mode of preserving dead bodies	July 23, 1867.
2, 483	Steeley, Thomas I., assignor to Robert T. Campbell, Washington, D. C. Har- vester	(Division A, reissue.)
	Same	(Division B, reissue.)
2, 783	Same	Reaper and mower
63, 552	Stearnes, A. T., Dorchester, Mass. Machine for making wooden eaves troughs	Apr. 2, 1867.
66, 184	Stearns, Caleb S., assignor to self and W. E. C. Worcester, Marlboro', Mass. Ma- chine for trimming heels of boots and shoes	June 25, 1867.
65, 775	Stearns, Charles, assignor through mesne assignments to Jacob A. Kissell and Nathan Blickensderfer, Lowell, Mass. Lightning rod	June 11, 1867.
66, 903	Stearns, Charles E., Boston, Mass. Stair rod	July 16, 1867.
69, 020	Stearns, Joseph B., Boston, Mass. Fire alarm telegraph	Sept. 17, 1867.
66, 419	Stearns, Otis W., Lebanon, N. H. Wood-bending machine	July 2, 1867.
68, 009	Stebbins, C., Pike, N. Y. Sewing machine	Aug. 20, 1867.
66, 054	Stebbins, Darius, assignor to self and E. Morse, Wallingford, Conn. Lightning-rod insulator	June 25, 1867.
64, 919	Stedman, E. E., Randolph, Ohio. Corn sheller	May 21, 1867.
61, 276	Stedman, O. F., Ravenna, Ohio. Watch case	Jan. 15, 1867.
67, 223	Same	Watch
67, 224	Same	Watch case. (Antedated February 22, 1867.)
72, 760	Steeger, Henry, New York, N. Y. Construction of hot-water boilers	Dec. 31, 1867.
70, 147	Steel, Charles F., Brooklyn, N. Y. Manufacture of postage stamps	Oct. 22, 1867.
	Steele, George C. (See Winchell, James F., assignor.)	
	Same	same.
	Same	same.
	Same	same.
63, 666	Steele, J. Dutton, Pottstown, Pa. Bridge	Apr. 9, 1867.
62, 231	Steele, John S., Rockingham, Vt. Sand box for carriage axles	Feb. 19, 1867.
70, 040	Steele, W., and P. Henderson, Sistersville, West Va. Shank laster	Oct. 22, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
67, 834	Steer, P. J., Washington, D. C. Check for trunks.	Aug. 13, 1867.
62, 901	Steers, Abraham, assignor to self, Henry L. Elder, and S. H. Kennedy, New York, N. Y. Apparatus for making extracts	Mar. 12, 1867.
65, 292	Steers, A., assignor to the American Tanning Company, New York, N. Y. Apparatus for tanning	May 28, 1867.
68, 010	Steers, Abraham, assignor to self, Henry L. Elder, and S. H. Kennedy, New York, N. Y. Leaching tan bark	Aug. 20, 1867.
66, 648	Steffe, William, and E. C. Bender. (See Bender & Steffe.)	
63, 506	Steger, Joseph, New York, N. Y. Car-starting apparatus	July 9, 1867.
71, 808	Steger, Joseph, assignor to self and W. Hauff, New York, N. Y. Whip socket	Feb. 26, 1867.
61, 772	Steinel, Edward, Amsterdam, N. Y. Bed-bottom spring	Dec. 3, 1867.
66, 904	Steinmetz, M. V. B., Annville, Pa. Churn	Feb. 5, 1867.
72, 102	Stelle, David D., assignor to self and Thomas E. McDonald, New Brunswick, N. J. Combined planter, harrow, and cultivator	July 16, 1867.
62, 571	Steller, C. E., Chicago, Ill. Cultivator	Dec. 10, 1867.
66, 410	Stemler, Charles, and William Caven. (See Caven & Stemler). (Design.)	
60, 801	Stengel, Jost, Croton, Mich. Washing machine	Mar. 5, 1867.
65, 293	Stengel, Jost, et al. (See Andrews, Cummer, Ganweiler & Stengel.)	
67, 601	Stenger, William, and Alois Beyrnhaimer, Jefferson, Ohio. Bed bottom	July 2, 1867.
67, 602	Stenton, R. S., Brooklyn, N. Y. Wrench	Jan. 1, 1867.
67, 603	Stephen, John, Womelsdorf, Pa. Shaft coupling	May 23, 1867.
72, 108	Same.....Pastry cutter	Aug. 6, 1867.
65, 131	Same.....Ladies' thimble	Aug. 6, 1867.
67, 080	Same.....Pot-hole lid for cooking stoves	Aug. 6, 1867.
65, 714	Stephens, Benjamin F., Brooklyn, N. Y. Eye cup	Dec. 10, 1867.
68, 394	Stephens, Edward F., Towanda, Pa. Card or label holder	May 23, 1867.
60, 954	Stephens, H., Mt. Vernon, Ohio. Double shovel plow	May 7, 1867.
61, 481	Stephens, Nathan, Brooklyn, N. Y. Tap for cement-lined pipes	July 23, 1867.
61, 482	Stephens, R. E., Owen Sound, Canada. Breech-loading fire-arm	June 11, 1867.
63, 326	Stephens, Samuel, and Thomas N. Paine. (See Paine & Stephens.)	
67, 369	Stephens, William B., Stephens's Mills, N. Y. Mill-pick	Sept. 3, 1867.
69, 502	Stephenson, James, Canandaigua, N. Y. Door and gate spring	Jan. 1, 1867.
70, 913	Stephenson, John, New York, N. Y. Street car	Jan. 22, 1867.
70, 129	Same.....Roof for railroad cars	Jan. 22, 1867.
64, 377	Stephenson, John S., Cleveland, Ohio. Apparatus for carburetting gas and air	Mar. 26, 1867.
70, 479	Stephenson, W. R., Trauser Station, Pa. Saw	July 30, 1867.
60, 802	Sterett, Joseph F., and Charles M. J. Reynolds, Ottumwa, Iowa. Combined corn-planter and cultivator	Oct. 1, 1867.
67, 081	Sterling, Elisha, Cleveland, Ohio. Fish-hook	Nov. 12, 1867.
71, 809	Sterling, J. A. (See Brickill, W. A., assignor.)	
60, 955	Sterling, Robert D., New York, N. Y. Joint bit and check	Oct. 22, 1867.
72, 931	Sterling, W. G. and C., New York, N. Y. Lantern	Apr. 3, 1867.
63, 573	Stern, E. O., et al. (See Archercau, H. A., assignor.)	
63, 958	Sternbergh, James H., Reading, Pa. Metal planer	Nov. 5, 1867.
64, 261	Sterns, Verrum. (See Tyler, Hiram, assignor.)	
65, 295	Sterry, Francis A., Canton, Mass. Means for adjusting spindles in spinning rings	Jan. 1, 1867.
61, 773	Same.....Spindle step	July 23, 1867.
62, 378	Same.....Spindle bolster	Dec. 3, 1867.
62, 377	Sterry, Frank W., Morrisania, N. Y. Compound for sweetening, coloring, and flavoring tobacco	Jan. 1, 1867.
63, 573	Stetefeldt, Charles, Austin, Nev. Furnace for roasting and treating ores	Dec. 31, 1867.
63, 573	Steuernagel, August, and Edmund Johnson. (See Johnson & Steuernagel.)	
63, 958	Stevens and McLazen. (See Root, John, assignor.)	
64, 261	Stevens, Benjamin D., assignor to self and Charles Gill, Decorah, Iowa. Machinery for forming sheet-metal pans	July 2, 1867.
63, 803	Stevens, Charles L., Galesburg, Ill. Water-elevator for railroad tanks	Jan. 1, 1867.
70, 480	Stevens, Edward, and John A. Knight, St. Louis, Mo. Mail-bags	Nov. 5, 1867.
70, 481	Stevens, E. M., Boston, Mass. Machine for cutting soles of boots and shoes	Nov. 5, 1867.
2, 447	Stevens, E. M., assignor to William N. Ely, Stratford, Conn. Hand pegging machine	Jan. 8, 1867.
65, 294	Same.....Boston, Mass. Pegging machine. (Reissue.)	May 25, 1867.
63, 573	Stevens, E. M., assignor to Alfred B. Ely, Boston, Mass. Heel-stiffener	Apr. 2, 1867.
63, 958	Stevens, E. M., assignor through mesne assignments to A. B. Ely, Chelsea, Mass. Rubber heel-stiffener	Apr. 16, 1867.
64, 261	Stevens, E. M., assignor to Alfred B. Ely, trustee, Boston, Mass. Shuttle-guard for looms	Apr. 30, 1867.
65, 295	Stevens, Francis A., Chicago, Ill. Steam generator. (Antedated May 22, 1867)	May 28, 1867.
63, 573	Stevens, Frederick. (See Carmichael, Robert, assignor.)	
63, 958	Stevens, Frederick H., and John Richardson. (See Richardson & Stevens.)	
64, 261	Stevens, H. B., and D. J. Powers. (See Powers & Stevens.)	
65, 295	Same.....same	
63, 573	Stevens, Hiram L., and George W. Wheeler. (See Wheeler & Stevens.)	
61, 773	Stevens, J. and E., and Company. (See Frisbie, Russel, assignor) (Design.)	
62, 377	Same.....same (Design.)	
62, 377	Same.....same	
62, 377	Stevens, John, New York, N. Y., and John Johnson, Saco, Maine. Preparing mica for tablets and other purposes	Feb. 26, 1867.
61, 578	Stevens, Joshua, Chicopee Falls, Mass. Sash-fastener. (Antedated January 19, 1867.)	Jan. 29, 1867.
61, 773	Same.....Machine for pulling out hat tips. (Antedated January 21, 1867.)	Feb. 5, 1867.
69, 503	Stevens, J. H., Boston, Mass. Fire-alarm telegraph	Oct. 1, 1867.
62, 378	Stevens, J. L. and G. W., San Francisco, Cal. Case for transporting eggs	Feb. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 667	Stevens, Levi, Fitchburg, Mass. Machine for carburetting air to produce inflammable gas.	Apr. 9, 1867.
65, 705	Same..... Apparatus for treating air and hydro-carbon vapor for illuminating gas.	June 11, 1867.
68, 666	Same..... Combination apparatus for carburetting air.	Sept. 10, 1867.
65, 296	Stevens, Levi, assignor to Norman C. Munson, Fitchburg, Mass. Apparatus for carburetting air.	May 28, 1867.
69, 504	Stevens, M. W., and E. H. Drake, Stoughton, Mass. Odometer.	Oct. 1, 1867.
	Stevens, Robert C. (See Lloyd, Samuel, assignor.)	
70, 630	Stevens, R. R., Mokelumne Hill, Cal. Means for propelling vessels.	Oct. 22, 1867.
60, 956	Stevens, Simon, New York, N. Y. Mode of storing petroleum and other liquids so as to prevent loss from fire.	Jan. 1, 1867.
68, 321	Same..... Production and manufacture of carbonic acid, and in the application of the same for various useful purposes.	Aug. 27, 1867.
64, 306	Stevens, Solomon, New Carlisle, Ind. Beehive.	May 14, 1867.
69, 305	Stevens, William, Bloomington, Ill. Furnace.	Oct. 1, 1867.
67, 370	Stevens, W. X., Waterford, N. Y. Compound tool.	July 30, 1867.
62, 977	Stevens, W. X., assignor to J. M. and D. B. King, Worcester, Mass. Lathe for chasing and backing down taps.	Mar. 19, 1867.
63, 959	Stevens, W. X., Worcester, and W. E. Puffer, Lexington, Mass. Damper for stove pipes.	Apr. 16, 1867.
63, 763	Stevenson, George, Zionsville, Ind. Grain cleaner.	Apr. 9, 1867.
72, 932	Stevenson, jr., John B., Philadelphia, Pa. Manufacture of oil-cloth.	Dec. 31, 1867.
60, 957	Stevenson, Richard B., York township, Ohio. Composition paste or cement for roofing.	Jan. 1, 1867.
68, 911	Stevenson, Thomas B., Dayton, Ohio. Instrument for measuring lumber.	Sept. 17, 1867.
	Stevenson, Wm. H. and Howard S., and John A. Dodge. (See Dodge & Stevenson.)	
71, 547	Stevenson, William M., Sharon, Pa. Steam cut-off valves.	Nov. 26, 1867.
61, 111	Stever, J., and J. A. Way, assignors to John H. Sessions, Bristol, Conn. Wood lathe for turning knobs.	Jan. 8, 1867.
65, 132	Stever, Jeremiah, and John A. Way, Bristol, Conn. Machine for making ferrules.	May 28, 1867.
64, 378	Steves, S. G., Jamestown, N. Y. Car truck.	Apr. 30, 1867.
69, 946	Steward, A., Plano, Ill. Ruffler for sewing machines.	Oct. 15, 1867.
	Steward, Ira. (See Falls, William F., assignor.)	
64, 046	Steward, John F., Plano, Ill. Knot indicator for knitting machines.	Apr. 23, 1867.
65, 297	Stewart, Archibald, Troy, Wis. Draught equalizer for horse power.	May 28, 1867.
63, 574	Stewart, A. R., Douglas Harbor, Canning, N. B. Wood lathe for turning irregular forms.	Apr. 2, 1867.
71, 810	Stewart, A. W., Middletown, Ohio. Composition for polishing knives.	Dec. 3, 1867.
63, 857	Stewart, B. F., Freeport, Ohio. Horse hay fork.	Oct. 15, 1867.
	Stewart, C. A., and G. A. Lloyd. (See Lloyd & Stewart.)	
71, 420	Stewart, David, Philadelphia, Pa. Cracker-making machine.	Nov. 26, 1867.
72, 335	Stewart, David, Kittanning, Pa. Manufacture of iron.	Dec. 17, 1867.
72, 109	Stewart, Edward, Fort Madison, Iowa. Harvester rake.	Dec. 10, 1867.
60, 958	Stewart, Henry C., Cincinnati, Ohio. Glue pot.	Jan. 1, 1867.
62, 902	Stewart, James, Bangor, Maine. Hawse pipe stopper.	Mar. 12, 1867.
62, 903	Same..... Revolving table.	Mar. 12, 1867.
70, 284	Stewart, James, Money Creek, Minn. Mode of attaching axes to their handles.	Oct. 29, 1867.
65, 024	Stewart, James, and David Windson, Sandwich, Ill. Concrete brick machine.	May 21, 1867.
	Stewart, John. (See Vanstone, Samuel, assignor.)	
72, 557	Stewart, J. S., Homer, N. Y. Building block.	Dec. 24, 1867.
	Stewart, Mathew, Philadelphia, Pa. Floor plates of malt kilns. (Extension).	Dec. 17, 1867.
65, 444	Stewart, Robert, Elmira, N. Y. Engine governor.	June 4, 1867.
63, 114	Stewart, R. L., deceased, by Josephine Stewart, administratrix, Owosso, Mich. Saw mill.	Mar. 19, 1867.
61, 028	Stewart, R. N., Philadelphia, Pa. Paper box. (Antedated December 30, 1866).	Jan. 8, 1867.
71, 659	Stewart, Samuel B., Brush Valley, Pa. Grates for stoves and other heaters.	Dec. 3, 1867.
71, 241	Stewart, T. B., Weathersfield, Conn. Car axle box.	Nov. 19, 1867.
71, 811	Stewart Uzziel, Berlin, Wis. Mill pick.	Dec. 3, 1867.
71, 961	Stewart, U. T., Fayette county, Tenn. Cultivator.	June 18, 1867.
68, 255	Stewart, W. B., Brooklyn, N. Y. Bedstead.	Aug. 27, 1867.
68, 322	St. George, jr., George, New York, N. Y. Construction of barrels.	Aug. 27, 1867.
64, 920	Stübs, H. L., Savannah, Ga. Temporary rudder.	May 21, 1867.
65, 298	Same..... Apparatus for removing water from the holds of vessels.	May 28, 1867.
70, 041	Stich, Adolph C., Kalamazoo, Mich. Bed-spring guide.	Oct. 22, 1867.
62, 507	Sticht, Charles, France. Imitation of pearl on solid substances.	Feb. 26, 1867.
67, 371	Stickel, W. H., Knightstown, Ind. Prop block for carriage tops.	July 30, 1867.
65, 445	Stickney, Curtis R., Hartford, Conn. Combined match box and candlestick.	June 4, 1867.
71, 421	Stickney, Hamilton, Reno, Pa. Cooking stove.	Nov. 26, 1867.
67, 604	Stickney, Washington, Lockport, N. Y. Bed bottom.	Aug. 6, 1867.
68, 912	Stickney, W., assignor to Sarah E. Stickney, Lockport, N. Y. Bed bottom.	Sept. 17, 1867.
	Stidolph, D. W., et al. (See Vanderbilt, George R., assignor.)	
64, 807	Sticht, Otto, New York, N. Y. Making glass letters, numbers, &c.	May 14, 1867.
67, 925	Stiker, F. P., Buffalo, N. Y. Faucet.	Aug. 20, 1867.
69, 853	Stiles, Edwin, Cleveland, Ohio. Farm fence.	Oct. 15, 1867.
	Stiles, George, et al. (See Springer & McDonald, assignors.)	
2, 542	Stiles, Norman C., West Meriden, Conn. Punching apparatus. (Reissue).	Apr. 2, 1867.
71, 060	Stiles, N. C., Meriden, Conn., and John S. Miller, Springfield, Mass., assignors to Norman C. Stiles. Drop press.	Nov. 19, 1867.
	Stiles, N. C., et al. (See Hoadley, Robert, assignor.)	
67, 372	Stiles, Peter B. B., Galesburg, Ill. Rotary barrow.	July 30, 1867.
70, 914	Stiles, William C., Nevada City, Cal. Gold separator.	Nov. 12, 1867.

List of patents of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 905	Stillman, William F., Ilion, N. Y. Machine for rolling hoes	July 16, 1867.
	Stillwell, Joel P., and George Dcland. (See McLean, George, assignor.)	
66, 998	Stilwell, Edwin R., Dayton, Ohio. Feed-water heater	July 23, 1867.
67, 605	Stilwell, James T., assignor to self and E. P. Townsend, Dowagiac, Mich. Faucet	Aug. 6, 1867.
2, 742	Stilwell, R., assignor to self and A. D. Farrel, New York, N. Y. Spring mattress (Reissue)	Aug. 20, 1867.
71, 081	Stimson, Enos, Montpelier, Vt. Door and gate spring	Nov. 19, 1867.
72, 558	Stimson, Lucius S., assignor to self and Jerome B. Melvin, Lowell, Mass. Instrument for dying the hair	Dec. 24, 1867.
69, 506	Stine, William, Elmore, Ohio. Stove-pipe joint	Oct. 1, 1867.
68, 667	Stith, Henry T., assignor to self and Myron Dickson, Stanton, Kans. Anti-fraction journal box	Sept. 10, 1867.
	St. John, Chauncey, and Loring Pickering. (See Pickering & St. John.)	
71, 242	St. John, Cornelius, Charlestown, Mass. Lamp	Nov. 19, 1867.
72, 695	Same.....Parasol	Dec. 24, 1867.
71, 812	St. John, James, Stamford, Conn. Folding glasses for plants, hot beds, &c.	Dec. 3, 1867.
66, 185	St. John, R. H., assignor to J. W. Russell and D. S. Covert, Bellefontaine, Ohio. Marking attachment for sewing machines	June 25, 1867.
66, 906	St. Louis, Antoine, Keeseville, N. Y. Machine for making spikes and nails	July 16, 1867.
70, 374	St. Louis, Antoine, assignor to self and P. S. Whitcomb, Keeseville, N. Y. Horse-shoe nail machine	Oct. 29, 1867.
	St. Louis Lead and Oil Company. (See Waters, James L., assignor).....(Design.)	
72, 933	Stoakes, John T., England. Car coupling	Dec. 31, 1867.
67, 816	Stock, John, El Paso, Ill. Bureau and bedstead	Aug. 13, 1867.
62, 232	Stockbridge, Charles H., Whateley, Mass. Brace for bits	Feb. 19, 1867.
70, 915	Stocker, Amos, Watertown, N. Y. Ventilating device for boots and shoes	Nov. 12, 1867.
69, 139	Stockham, John S., Red Dog, Cal. Rock drill	Sept. 24, 1867.
63, 575	Stocking, Edgar B., Binghamton, N. Y. Billiard-cue tip and fastener	Apr. 2, 1867.
	Stocking, R. V., et al. (See Columbia, Stocking & Woodruff.)	
64, 721	Stockton, G. W., Oquaka, Ill. Cultivator	May 14, 1867.
71, 548	Stockton, Joseph B., Edmonton, Ky. Tobacco pipe	Nov. 26, 1867.
62, 296	Stockton, S. W., Philadelphia, Pa. Artificial teeth	Feb. 19, 1867.
65, 576	Stoddard, Charles, Hancock, N. Y. Sleigh runner	Apr. 2, 1867.
63, 577	Stoddard, J. B., Baltimore, Md. Ice boat	Apr. 2, 1867.
65, 962	Stoddard, James G., and Benjamin F. Gallup, Groton, Conn. Cylinder press for extracting oil from fish	June 18, 1867.
67, 373	Stoddard, Merritt L., Corning, N. Y. Burning fluid	July 30, 1867.
72, 934	Stoddard, W. M., San Francisco, Cal. Marking gauge for sewing machines	Dec. 31, 1867.
66, 999	Stofer, John, Cleveland, Ohio. Toilet glass	July 23, 1867.
61, 639	Stokely, John, Hiram, Ohio. Chimney collar	Jan. 29, 1867.
64, 379	Stoker, H. M., Watson, Ill. Fence	Apr. 30, 1867.
65, 516	Stokes, Benjamin S., Manchester, N. H. Furnace for heating articles of steel in the process for tempering	June 4, 1867.
2, 642	Same.....Crucible for metallic baths.....(Reissue)	June 11, 1867.
61, 367	Stokes, F. U., Cincinnati, Ohio. Window screen for railroad cars. (Antedated January 6, 1867)	Jan. 22, 1867.
69, 859	Stokes, Septimus C., Manchester, N. H. Faucet	Oct. 15, 1867.
62, 379	Stoll, Henry C., Mokena, Ill. Revolving harrow	Feb. 26, 1867.
63, 668	Stone, Anson K., Oronoko, Minn. Carriage	Apr. 9, 1867.
63, 669	Same.....same	Apr. 9, 1867.
67, 225	Stone, Frederic, New York, N. Y. Oiler. (Antedated July 17, 1867)	July 30, 1867.
71, 916	Stone, Giles M., St. Louis, Mo. Grinding mill	Nov. 12, 1867.
2, 732	Stone, Gustavus, Beloit, Wis. Harvester cutter.....(Reissue)	Aug. 13, 1867.
68, 256	Stone, Henry, Williamsburg, N. Y. Grater	Aug. 27, 1867.
69, 040	Stone, Henry C., assignor to self and John C. Gibbs, Brookfield, Mass. Pegging machine	Sept. 17, 1867.
62, 451	Stone, John H., Philadelphia, Pa. Manufacture of pepper boxes	Feb. 26, 1867.
66, 907	Same.....Coal stove	July 16, 1867.
	Stone, John H., and James W. Aiken. (See Aiken & Stone.)	
61, 888	Stone, Joseph, Chicago, Ill. Forging machine	Feb. 5, 1867.
69, 041	Stone, Joseph M., assignor to Davis & Furber, North Andover, Mass. Hanger	Sept. 17, 1867.
71, 813	Stone, Thomas, Plainfield, Ind. Brick machine. (Antedated November 23, 1867)	Dec. 3, 1867.
71, 422	Stone, William, Hollidaysburg, Pa. Axle box for cars	Nov. 26, 1867.
62, 297	Stonebraker, H., Baltimore, Md. Pain killer	Feb. 19, 1867.
62, 298	Same.....Liniment	Feb. 19, 1867.
	Stoner, A. M., and A. M. Freeman. (See Freeman & Stoner.)	
70, 643	Stoner, H. K., Lancaster, Pa. Horse rake	Nov. 5, 1867.
69, 800	Stoner, John B., Lacon, Ill. Flood gate. (Antedated October 1, 1867)	Oct. 15, 1867.
69, 861	Same.....Portable flood fence. (Antedated September 27, 1867)	Oct. 15, 1867.
70, 644	Stoody, Jacob, Ripley, Ohio. Lifting jack	Nov. 5, 1867.
62, 085	Storer, George, New Britain, Conn. Basket machine	Feb. 12, 1867.
61, 029	Storer, George, New Britain, and George W., Portland, Conn. Attachment for cluster boards of vessels	Jan. 8, 1867.
2, 629	Storer, Jacob J., Boston, Mass. Desulphurizing coal and ores.....(Reissue)	May 28, 1867.
64, 164	Storle, Ole O., ass'or to self and Percy B. Smith, North Cape, Wis. Horse hay forks	Apr. 23, 1867.
71, 660	Storle, Ole O., ass'or to self and Isaac N. Mason, Norway, Wis. Grain binder	Dec. 3, 1867.
61, 889	Storm, Alfred, Brooklyn, N. Y. Animal trap	Feb. 5, 1867.
68, 668	Storm, Alfred, Rutland, Vt. Bed-clothes clasp	Sept. 10, 1867.
2, 445	Storm, William Mont., New York, N. Y. Breech-loading fire-arms. (Division A, reissue)	Jan. 1, 1867.
2, 446	Same.....Breech-loading fire-arms.....(Division B, reissue)	Jan. 1, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 456	Storm, William Mont., New York, N. Y. Proof meter and register for alcoholic spirits and other liquids.	May 7, 1867.
64, 457	Same. Liquid meter.	May 7, 1867.
63, 670	Storms, William S., Middletown, Ohio. Furnace for steam boilers.	Apr. 9, 1867.
72, 569	Storrs, Charles E., W. E. Keyos, and David W. Jones, Grantville, Mich. Cultivator.	Dec. 24, 1867.
68, 257	Stott, Chas., San Francisco, Cal. Apparatus for distilling and rectifying petroleum. (Antedated August 19, 1867.)	Aug. 27, 1867.
63, 439	Stoit, James, Philadelphia, Pa. Table cutlery.	Apr. 2, 1867.
63, 327	Stouder, David, Dayton, Ohio. Drying house and oven.	Mar. 26, 1867.
71, 661	Stouffer, H. C., J. Heaton, and A. A. Bushong, Columbiana, Ohio. Horse hay fork.	Dec. 3, 1867.
64, 047	Stoffer, P. J., assignor to self and Henry White, Uniontown, Pa. Composition for preserving eggs.	Apr. 23, 1867.
71, 662	Stout, George W., and John C. Richardson, assignors to selves, James Davis, jr., and Samuel R. Hawley, Newark, N. J. Hat-ironing machine.	Dec. 3, 1867.
	Stout, Hiram W. (See Jones, Charles W., assignor.)	
61, 112	Stout, Joseph J., Greensburg, Ind. Evaporator.	Jan. 8, 1867.
65, 706	Stout, Thomas B., Keyport, N. J. Tack hammer.	June 11, 1867.
69, 507	Same. Washing machine.	Oct. 1, 1867.
69, 721	Stover, H. D., and John W. Hutchinson, New York, N. Y. Cotton press.	Oct. 8, 1867.
66, 534	Stover, Theophilus, Cambridgeport, Mass. Mosquito screen for windows.	July 9, 1867.
67, 146	Same. Window-blind fastening.	July 23, 1867.
71, 920	Stow, Enos E., Plantsville, Conn. Handles for tea and coffee pots.	Dec. 10, 1867.
62, 160	Stow, Henry M., San Francisco, Cal. Rock chamber drill.	Feb. 19, 1867.
72, 110	Same. Street pavement.	Dec. 10, 1867.
72, 111	Same. same.	Dec. 10, 1867.
70, 917	Stow, Orson W., Plantsville, Conn. Machine for flanging and wiring metallic plates.	Nov. 12, 1867.
72, 561	Stow, O. W., Plantsville, Conn. Machine for folding tinned plates.	Dec. 24, 1867.
72, 336	Stowell, B. T., Quincy, Ill. Excavator.	Dec. 17, 1867.
67, 460	Stowell, John, Clarkstown, Mass. Safety cock.	Aug. 6, 1867.
64, 921	Stowell, W. A., Moretown, Vt. Car coupling.	May 21, 1867.
	Strahan, W. H., et al. (See Bechtel, Strahan & Hardy.)	
70, 285	Strait, Ranson E., Battle Creek, Mich. Pumps.	Oct. 29, 1867.
67, 682	Strange, Joseph W., Bangor, Maine. Insertable saw teeth.	Aug. 13, 1867.
61, 640	Stratner, Frederic, Wilmington, Del. Valve gear for steam engine.	Jan. 29, 1867.
72, 427	Stratton, David F., Christiansburg, Ohio. Gauge for setting wagon axles.	Dec. 17, 1867.
	Stratton, D. H., et al. (See Holden, Mooers, Stratton & Reynolds.)	
70, 645	Stratton, Isaac, Keene, N. H. Fastening for pantaloons.	Nov. 5, 1867.
65, 134	Stratton, R. A., Philadelphia, Pa. Mangle.	May 28, 1867.
	Stratton, Wm. and Mat., Philadelphia, Pa. Portable gas apparatus. (Extension.)	Jan. 17, 1867.
65, 133	Straub, Isaac, Kenton Co., Ky. Grinding mill.	May 28, 1867.
70, 375	Straus, Louis, Louisville, Ky. Car replacer.	Oct. 29, 1867.
	Straw, John, and E. S. Wilkins. (See Wilkins & Straw.)	
66, 107	Strayer, J., and T. Hazelhurst, South Bend, Ind. Bolt cutter.	June 25, 1867.
	Strayer, Lewis, et al. (See Hall, Thomas G., assignor.)	
61, 113	Streeter, A. W., Shelburne Falls, Mass. Bit stock.	Jan. 8, 1867.
72, 428	Streeter, L. R., assignor to Alfred B. Ely, trustee, Chelsea, Mass. Artificial plate for teeth.	Dec. 17, 1867.
71, 814	Streit, Anton and Henry, assignors to J. A. Fay & Co., Cincinnati, Ohio. Wood planing machine.	Dec. 3, 1867.
63, 328	Stremme, C. C., Austin, Texas. Vitreography.	Mar. 26, 1867.
60, 959	Strocvell, William, Jersey City, N. J. Clamp.	Jan. 1, 1867.
64, 922	Strickland, James B., Scranton, Pa. Adjustable eccentric.	May 21, 1867.
67, 606	Strickland, Seneca E., Amboy, Ill. Sash fastener.	Aug. 6, 1867.
67, 082	Strigel, Joseph, Louisville, Ky. Disinfecting and antiseptic compound.	July 23, 1867.
	Strout, Jonathan. (See Bell, George, assignor.)	
	Same. (See Shank, John T., assignor.)	
71, 082	Strobeck, Jacob, Parishville, N. Y. Mode of churning butter.	Nov. 19, 1867.
62, 233	Strode, James E., Litchfield, Ill. Grain dryer.	Feb. 19, 1867.
60, 722	Strode, James E., assignor to self and Thomas H. Strode, Carrolton, Ill. Wagon brace and fender.	Oct. 8, 1867.
67, 926	Stroeve, Louis, Philadelphia, Pa. Medicine.	Aug. 20, 1867.
68, 011	Strong, Albert, and Joseph A. Dadmun, South Boston, Mass. Fruit-stem cutter.	Aug. 20, 1867.
66, 262	Strong, A. D., Ashtabula, Ohio. Cider press.	July 2, 1867.
69, 947	Stroug, D. W., Dutch Flat, Cal. Laying telegraph wires on railroads.	Oct. 15, 1867.
64, 458	Strong, Walter L., assignor to self, G. W. Stroug and J. F. Taylor, San Francisco, Cal. Amalgamator.	May 7, 1867.
65, 135	Strope, D. B., Fort Wayne, Ind. Pneumatic spring.	May 28, 1867.
61, 483	Strothmann, F., assignor to Peters, Webb & Co., Louisville, Ky. Sounding board for pianos.	Jan. 22, 1867.
72, 337	Stroud, Harry, jr., Clinton, Ill. Tire heater.	Dec. 17, 1867.
61, 774	Stroud, William D., Oshkosh, Wis. Broom head.	Feb. 5, 1867.
63, 671	Same. Corn sheller.	Apr. 9, 1867.
63, 329	Stroup, W. H., Pittsburg, Pa. Runner for chairs.	Mar. 26, 1867.
69, 140	Same. Corset.	Sept. 24, 1867.
69, 508	Same. Sleigh runner.	Oct. 1, 1867.
69, 042	Strouvelle, M. A., St. Louis, Mo. Belting for driving machinery.	Sept. 17, 1867.
69, 723	Striker, John B., Philadelphia, Pa. Metal roofing.	Oct. 8, 1867.
	Stryker, Samuel G., et al. (See Loomis, Wells, Hitchcock and Stryker.)	
	Stuard, T. P. and J. (See Dimelow, John, assignor.)	
67, 147	Stuart, Edward, Shufordsville, Miss. Cotton press.	July 23, 1867.
	Stuart, Henri L. (See Williams, C. M., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Stuart, Henry L. (See Boynton, John F., assignor.)	
	Same.....(See Williams, C. M., assignor).....(Reissue.)	
62, 978	Stuart, jr., Ithamar W., Charlottesville, Ind. Car coupling.....	Mar. 19, 1867.
61, 890	Stuart, James B.,unker Hill, Ill. Mode of securing boxes in metallic hubs.....	Feb. 5, 1867.
62, 161	Same.....Metallic hub for the wheels of vehicles.....	Feb. 19, 1867.
63, 330	Same.....Sprng for vehicles.....	Mar. 26, 1867.
64, 380	Same.....Fifth wheel for wagons.....	Apr. 30, 1867.
	Stuart, Peterson & Co. (See Martino, Beesley & Currier, assignors.)	
	Stuart, P. C. (See Carpenter, George W., assignor.)	
61, 277	Stubbs, Eli, West Elkton, Ohio. Machine for filing saws.....	Jan. 15, 1867.
67, 817	Stubbs, Enoch E., West Elkton, Ohio. Cultivator.....	Aug. 13, 1867.
66, 750	Stubbs, Enoch E., and Thomas C. Davis, West Elkton, Ohio. Evaporating pan.....	July 16, 1867.
72, 761	Stubbs, Robert S., Dover, N. H. Fastening for bottle stoppers.....	Dec. 31, 1867.
2, 620	Stubber, John, ass'or to John Carton, Utica, N. Y. Locomotive head light. (Reissue).....	July 16, 1867.
60, 804	Stuckenrath, Albert, New York, N. Y. Cut-off for steam engines.....	Jan. 1, 1867.
	Studley, Charles A., and George F. Card. (See Card & Studley.)	
69, 862	Study, Leonard, Plum Hollow, Iowa. Corn planter.....	Oct. 15, 1867.
	Stuffer, George, et al. (See Sangster, William, assignor.)	
65, 446	Sturdevant, Edwin B., Germantown, Ohio. Revolving stand for pictures.....	June 4, 1867.
61, 278	Sturdy, James H., Attleboro', Mass. Steam generator.....	Jan. 15, 1867.
71, 663	Sturgeon, John M., New York, N. Y. Sizing for bank note paper.....	Dec. 3, 1867.
	Sturges, Frank & Co. (See Potwin, W. S., assignor.)	
72, 935	Sturges, R. C., Barnstable, Mass. Feed bucket.....	Dec. 31, 1867.
61, 891	Sturgess, Charles M., Washington, Iowa. Harness tree.....	Feb. 5, 1867.
70, 286	Sturtevant, B. F., West Roxbury, Mass. Blower wheel.....	Oct. 29, 1867.
66, 751	Sturtevant, Edward L., Boston, Mass. Magazine fire-arm.....	July 16, 1867.
64, 048	Sugg, George, and W. Metz, Chicago, Ill. Beostead fastening.....	Apr. 23, 1867.
	Suggett, Joseph H. (See Peire, N., as-ignor.)	
63, 764	Suidter, James W., Sharon, Wis. Portable fence.....	Apr. 9, 1867.
63, 672	Sullivan, Edward, Pittsburg, Pa. Piston packing.....	Apr. 9, 1867.
61, 114	Sullivan, George, West Liberty, Ohio. Ditching machine.....	Jan. 8, 1867.
72, 239	Sullivan, James, South Boston, Mass. Steam engine governor.....	Dec. 17, 1867.
67, 927	Sullivan, T. J., Rochester, N. Y. Permutation lock for doors, &c.....	Aug. 20, 1867.
62, 979	Summers, A. F., and C. Nye, Peoria, Ill. Egg detector.....	Mar. 19, 1867.
62, 162	Summers, J. W., Sandy Hill, N. Y. Steam generator.....	Feb. 19, 1867.
68, 913	Sumner, David H., South Boston, Mass. Measuring can.....	Sept. 17, 1867.
	Sumner, Eli J. (See Johnson, Richard P., assignor.)	
	Sumner, J., et al. (See Cowan, B. F., assignor.)	
67, 928	Sumner, James D., Lexington, Mass. Water meter.....	Aug. 20, 1867.
67, 607	Sunderland, L. A., Chagrin Falls, Ohio. Dairy can.....	Aug. 6, 1867.
64, 923	Sursa, J. W., San Leandro, Cal. Gang plow.....	May 21, 1867.
	Susmann, Herman. (See De La Granga, E., assignor.)	
	Same.....same.	
71, 423	Sutherland, J. B., Detroit, Mich. Refrigerator car.....	Nov. 26, 1867.
66, 263	Sutherland, William H., Seven Mile, Ohio. Extension umbrella.....	July 2, 1867.
61, 115	Sutliff, W. W., Town Line, Pa. Gate.....	Jan. 8, 1867.
71, 083	Same.....Gate spring.....	Nov. 19, 1867.
72, 562	Sutter, Joseph, New York, N. Y. Folding table. (Antedated Dec. 11, 1867).....	Dec. 24, 1867.
68, 395	Sutton, Oscar B., Kensico, N. Y. Carriage jack. (Antedated Aug. 20, 1867).....	Sept. 3, 1867.
70, 287	Sutton, Samuel K., Paterson, N. J. Sled brake.....	Oct. 29, 1867.
67, 374	Sutton, Sedgwick A., assignor to self and Lysander Flagg, Pawtucket, R. I. Apparatus for cutting files.....	July 30, 1867.
69, 043	Suvern, Ernst, Prussia. Disinfecting compound.....	Sept. 17, 1867.
72, 936	Suverkrup, Bernhard, Louisville, Ky. Straw cutter.....	Dec. 24, 1867.
62, 904	Svanson, Svan, Sweede Point, Iowa. Harrow.....	Mar. 12, 1867.
62, 452	Swain, J. M., Howard, Ind. Harvester.....	Feb. 26, 1867.
	Swain, Charles F., and Andrew R. Eggleston. (See Eggleston & Swain.)	
67, 608	Swain, David M., La Crosse, Wis. Boiler water gauge.....	Aug. 6, 1867.
63, 012	Swan, James, Seymour, Conn. Manufacture of augers.....	Aug. 20, 1867.
70, 288	Swan, James, Paterson, N. J. Machine for stripping willow.....	Oct. 29, 1867.
65, 963	Swan, John, Baltimore, Md. Sleeping car.....	June 18, 1867.
70, 131	Same.....Car coupling.....	Oct. 22, 1867.
61, 368	Swan, Joseph Wilson, England. Mode of printing photographs.....	Jan. 22, 1867.
62, 163	Swann, Jobu Russell, England. Safety valve.....	Feb. 19, 1867.
	Swann, R. C., and John L. Riter. (See Riter & Swann.)	
62, 905	Swarthout, Henry, Altay, N. Y. Churn power.....	Mar. 12, 1867.
63, 331	Swartz, Abram S., assignor to self and W. A. Case, Buffalo, N. Y. Apparatus for preparing mash for brewers and distillers.....	Mar. 26, 1867.
67, 929	Swartz, Daniel M., Lewisburg, Pa. Dumping platform for harvesters.....	Aug. 20, 1867.
66, 412	Swartz, George W., Newburg, Pa. Hay raker and loader.....	July 2, 1867.
72, 112	Swartz, John D., Milton, Pa. Washing machine.....	Dec. 10, 1867.
71, 243	Swathel, Wilber, assignor to W. J. H. H., and C. H. Clark, Southington, Conn. Machine for heading bolts.....	Nov. 19, 1867.
70, 646	Swazey, Arthur, Chicago, Ill. Amalgamator.....	Nov. 5, 1867.
	Sweeney, L., and P. Gaughran. (See Gaughran & Sweeney.)	
	Sweeney, George, et al. (See Dunham, John G., assignor).....(Reissue.)	
	Sweet, C. W., and John F. Greene. (See Smith, Henry D., assignor).....(Reissue.)	
61, 116	Sweet, Edward De Loss, Chicago, Ill. Tariff indicator for telegraphs.....	Jan. 8, 1867.
63, 332	Sweet, Eli, Whitney's Point, N. Y. Hay loader.....	Mar. 26, 1867.
66, 908	Sweet, George C., assignor to self and Frank Douglas, Norwich, Conn. Screw plate.....	July 16, 1867.
	Sweet, Henry L., deceased, by William H. Sweet, administrator, Foxboro', Mass. Guide for sewing on binding.....(Extension).....	Dec. 18, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 086	Sweet, John E., assignor to John T. Bon and E. R. Sanford, Syracuse, N. Y. Machinery for making oval picture frames.....	Feb. 12, 1867.
	Sweet, Miles, and William P. Kellogg. (See Kellogg & Sweet.)	
68, 803	Sweet, Mordecai, Richland Ind. Cultivator.....	Sept. 10, 1867.
67, 683	Sweet, William A., Syracuse, N. Y. Fagot for rails of railroads.....	Aug. 13, 1867.
63, 960	Sweet, William T., Fayette, N. Y. Device for washing carriage wheels.....	Apr. 16, 1867.
68, 258	Sweetland, Anthony B., ass'or to self and Jas. Daley, Fitchburg, Mass. Refrigerator.....	Aug. 27, 1867.
61, 892	Sweetland, J. B., Pontiac, Mich. Churn.....	Feb. 5, 1867.
61, 893	Same.....Sawing machine.....	Feb. 5, 1867.
65, 517	Same.....same.....	June 4, 1867.
71, 815	Same.....Corn harvester.....	Dec. 3, 1867.
71, 816	Same.....Harvester rake.....	Dec. 3, 1867.
72, 113	Sweigert, George D., assignor to self, John and Felix W. Sweigert, Martec Township, Pa. Portable fence.....	Dec. 10, 1867.
71, 424	Swett, Charles, Vicksburg, Miss. Artificial leg.....	Nov. 26, 1867.
68, 466	Swett, N. A., Westerbrook, Me. Hecling plate.....	Sept. 3, 1867.
62, 701	Swift, Carlos, Mt. Carroll, Ill. Method of attaching cords to window sashes.....	Mar. 5, 1867.
	Swift, F. (See Seely, H. H., assignor.)	
72, 696	Swift, F., assignor to self and Horace Wilson, Hudson, Mich. Grain separator.....	Dec. 24, 1867.
	Swift, F., and Stephen M. Wirts. (See Wirts & Swift.)	
68, 804	Swift, Jacob A., and Frank Teelin. (See Teelin & Swift.)	
69, 863	Swift, John M., Shelbyville, Ill. Gate.....	Sept. 10, 1867.
	Swift, Orrin W., New Haven, Conn. Device for capping screws.....	Oct. 15, 1867.
	Same.....(See Thompson, Charles E., assignor.)	
70, 042	Swindell, William, Allegheny, Pa. Melting furnace for the manufacture of steel.....	Oct. 22, 1867.
66, 186	Swinnerton, James F., Marion, Ohio. Horse rake.....	June 25, 1867.
60, 960	Swisher, P., Versailles, Ohio. Burglar alarm gun.....	Jan. 1, 1867.
63, 333	Sword, Porter L., Adrian, Mich. Brick machine.....	Mar. 26, 1867.
2, 532	Sword, Porter L., and George S. Tiffany, assignors to Porter L. Sword, Adrian, Mich. Brick machine.....(Reissue).....	Mar. 26, 1867.
	Sykes, Byron. (See Ferris, Gilbert J., assignor.)	
62, 702	Sykes, Chester W., assignor to James Morse, H. H. Wright, Albert Pickernell, Marshall W. Parker, Richard S. Jenness, Daniel Dorr, James A. Kelley, George Ochs, Clarence L. Wilkins, and Erastus Wilkins, Suffield, Conn. Combined knife and scissors.....	Mar. 5, 1867.
67, 375	Sykes, Samuel, Chippewa Falls, Wis. Dogs for saw logs.....	July 30, 1867.
72, 563	Sykes, William, Newton Lower Falls, Mass. Mode of removing burrs from wool.....	Dec. 24, 1867.
2, 658	Sylla, Philo, Elgin, Ill., and Augustus Adams, Sandwich, Ill., assignors, through mesne assignments, to themselves. Harvester.....(Reissue).....	May 14, 1867.
	Sylla, Philo, Elgin, Ill., and Augustus Adams, Sandwich, Ill. Grass and grain harvester.....(Extension).....	Sept. 19, 1867.
	Same.....same.....(Extension).....	Sept. 19, 1867.
	Same.....same.....(Extension).....	Sept. 19, 1867.
	Same.....same.....(Extension).....	Sept. 19, 1867.
	Same.....same.....(Extension).....	Sept. 19, 1867.
	Same.....Harvester.....(Extension).....	Sept. 19, 1867.
	Same.....Grain and grass harvester.....(Disclaimer).....	Sept. 21, 1867.
71, 339	Sylvester, Charles F., and John Brooks, North Bridgewater, Mass. Reaming tool.....	Nov. 26, 1867.
68, 669	Sylvester, Fordyce, New York, N. Y. Refining petroleum.....	Sept. 10, 1867.
66, 055	Sylvester, Isaiah W., New York, N. Y. Advertising machine. (Antedated June 15, 1867).....	June 25, 1867.
67, 684	Sylvester, Lewis, Philadelphia, Pa. Brick mold piston.....	Aug. 13, 1867.
68, 396	Same.....Brick machine.....(Extension).....	Sept. 3, 1867.
64, 593	Symmes, G., and T. W. Hayes, Brooklyn, N. Y. Steam generator.....	May 7, 1867.
70, 043	Symonds, Dexter, Lowell, Mass. Vapor burner.....	Oct. 22, 1867.
65, 136	Symonds, Dexter, assignor to self, Benjamin Woodward, and M. S. Marshall, Lowell, Mass. Oil stills.....	May 28, 1867.
65, 137	Same.....Mode of purifying and deodorizing oils.....	May 28, 1867.
71, 084	Synnot, John, San Francisco, Cal. Writing apparatus for the blind.....	Nov. 19, 1867.
60, 961	Syrcher, John, Buffalo, N. Y. Wheel toy.....	Jan. 1, 1867.
63, 578	Taber, J. E., Fall River, Mass. Siuk trap.....	Apr. 2, 1867.
65, 447	Taber, Seman, St. Joseph, Mo. Lifting jack.....	June 4, 1867.
68, 397	Taft, Benjamin F., assignor to the Ames Plow Company, Groton Junction, Mass. Wheel hub.....	Sept. 3, 1867.
72, 762	Taft, Charles, Northbridge, Mass. Shingle carriage.....	Dec. 31, 1867.
47, 818	Taft, George C., Worcester, Mass. Wrench.....	Aug. 13, 1867.
72, 114	Same.....Variable crank for boring machines.....	Dec. 10, 1867.
64, 808	Taft, Horatio N., Sag Harbor, N. Y. Door fastener.....	May 14, 1867.
65, 138	Taft, Timothy F., assignor to Augustus Rice, Shrewsbury, Mass. Machine for cutting sheet or bar metal.....	May 28, 1867.
66, 752	Tainter, Charles C., Springfield, Ill. Apparatus for warming water by petroleum lamps.....	July 16, 1867.
67, 226	Tainter, Daniel, Chicago, Ill. Feeding apparatus for carding machines.....	July 30, 1867.
63, 115	Tait, A. H., and J. W. Avis, New York, N. Y. Apparatus for distilling petroleum. &c.....	Mar. 19, 1867.
63, 116	Same.....Process and apparatus for the fermentation of saccharine liquids.....	Mar. 19, 1867.
70, 647	Same.....Refrigerator for brewers. (Antedated Oct. 25, 1867).....	Nov. 5, 1867.
65, 707	Talbot, C. A., and William P. Lupton. (See Lupton & Talbot.)	
	Talbot, John G., Sloansville, N. Y. Farm gate.....	June 11, 1867.
	Talcott, Daniel W. (See Merriam, Scovil S., assignor.)	
	Talcott, Mancel. (See Skinner, Russell J., assignor.)	
66, 413	Talcott, S. C., Ashtabula, Ohio. Button hole for carriages.....	July 2, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery,	Date.
68, 128	Talpey, Joseph A., assignor to self and Mellen Bray, Somerville, Mass. Wrench...	Aug. 27, 1867.
62, 785	Tambling, W. H., Mazomanie, Wis. Churn.....	Mar. 12, 1867.
68, 295	Tandler, Joseph, Grand Rapids, Mich. Trip hammer.....	Aug. 27, 1867.
69, 509	Tandy, A., Columbia, Mo. Gate.....	Oct. 1, 1867.
64, 722	Tangye, Edward, Belgium. Apparatus for welding chain links.....	May 14, 1867.
66, 187	Tanner, Charles M., Mentor Ohio. Extension scaffold.....	June 25, 1867.
68, 467	Tanner, William, New York, N. Y. Theatrical scenery.....	Sept. 3, 1867.
65, 448	Tansey, Verlin G., Quincy, Ill. Fire kindler.....	June 4, 1867.
71, 085	Tapley, J. F., Springfield, Mass. Bronzing machine.....	Nov. 19, 1867.
	Tapley, J. F., et al. (See Bryan, Clark W., assignor.)	
	Taplin, Horace. (See Haskell, Job H., assignor.)	
64, 262	Tarbell, Edmund. (See Hartford, D. Frank, assignor.)	
2, 722	Tarnutzer, John P., Fond-du-Lac, Wis. Cultivator.....	Apr. 30, 1867.
	Tarr, James G., and Augustus H. Wanson, Gloucester, Mass. Paint for ships' bottoms..... (Reissue).....	Aug. 6, 1867.
61, 579	Tarr, John Blake, Chicago, Ill. Railroad rail.....	Jan. 29, 1867.
61, 580	Same..... Metallic pavement.....	Jan. 29, 1867.
67, 000	Same..... Machinery for making cast-steel car wheels.....	July 23, 1867.
67, 227	Same..... Cast-steel car wheel.....	July 30, 1867.
70, 482	Same..... Mold for casting car wheels.....	Nov. 5, 1867.
71, 425	Same..... Engine for the use of steam and air combined.....	Nov. 26, 1867.
68, 013	Tarrant, Esau, Muskegon, Mich. Sewing machine.....	Aug. 20, 1867.
63, 765	Tash, W., Berlin, Ill. Wagon brake.....	Apr. 9, 1867.
65, 449	Tate, Isaac C., New London, Conn. Vise for holding wood.....	June 4, 1867.
67, 685	Same..... Vise..... (See Lee, John, assignor.)	Aug. 13, 1867.
64, 165	Tate, J. E., Columbia, Tenn. Cultivator.....	Apr. 23, 1867.
68, 582	Tate, William H., Orleans, Ind. Medical compound.....	Sept. 3, 1867.
64, 594	Tattershall, Joseph, Indianapolis, Ind. Compound for making artificial stone, and for coating stone, brick, &c.....	May 7, 1867.
	Tattershall, Richard. (See Cooper, Samuel B., assignor.)	
66, 108	Tattershall, Richard, and John A. Burchard, Beloit, Wis. Gate.....	June 25, 1867.
	Taunton, R. H., and Edward Davies. (See Davies & Taunton.)	
66, 264	Taylor, Abijah, Indianapolis, Ind. Method in propelling vehicles.....	July 2, 1867.
	Taylor, A. E. (See Wiard, John, assignor.)	
66, 909	Taylor, Albert L., Springfield, Vt. Pastry roller.....	July 16, 1867.
70, 648	Taylor, Ambrose, Osawatimie, Kansas. Lute.....	Nov. 5, 1867.
67, 609	Taylor, Benjamin C., Dayton, Ohio. Horse rake.....	Aug. 6, 1867.
62, 289	Taylor, Benjamin F., assignor to self and George Taylor, Philadelphia, Pa. Mode of photographing engravers' blocks.....	Feb. 19, 1867.
62, 572	Taylor, Charles, assignor to self, James Harris, Bartlett Lingley, and Henry C. Lovell, St. John's, New Brunswick. Machine for sharpening saws.....	Mar. 5, 1867.
68, 539	Taylor, C. N., Cookstown, N. J. Grinding mill.....	Sept. 3, 1867.
62, 234	Taylor, Daniel B., Avon, Mich. Ladder.....	Feb. 19, 1867.
65, 299	Taylor, E. B., South Sudbury, Mass. Clothes sprinkler.....	May 28, 1867.
62, 508	Taylor, Esau D., and William H. Ballou, Hornellsville, N. Y. Tube-driving or boring wells.....	Feb. 26, 1867.
66, 535	Taylor, E. H., Batavia, N. Y. Sad iron.....	July 9, 1867.
60, 962	Taylor, George W., Springfield, Vt. Blacking-box holder.....	Jan. 1, 1867.
72, 240	Taylor, Henry, and J. M. Coale, Baltimore, Md. Steam-generator safety valve.....	Dec. 17, 1867.
66, 265	Taylor, H. H., and J. H. Wilson, Rochester, N. Y. Machine for rolling steuch-trap pipe.....	July 2, 1867.
68, 129	Taylor, Henry K., England. Indicator for water closets. (Patented in England April 20, 1865).....	Aug. 27, 1867.
	Taylor, J. E. (See Butterfield, C. H., assignor.)	
	Taylor, J. F., et al. (See Strong, Walter L., assignor.)	
70, 761	Taylor, J. H., New York, N. Y. Process for preventing decay in wood.....	Nov. 12, 1867.
60, 963	Taylor, James R., New York, N. Y. Boat-detaching tackle.....	Jan. 1, 1867.
60, 964	Same..... same.....	Jan. 1, 1867.
60, 965	Same..... same.....	Jan. 1, 1867.
60, 966	Same..... same.....	Jan. 1, 1867.
61, 279	Same..... same.....	Jan. 15, 1867.
61, 280	Same..... same.....	Jan. 15, 1867.
61, 281	Same..... same.....	Jan. 15, 1867.
65, 300	Taylor, James S., Danbury, Conn. Machine for shrinking hat bodies. (Extension).....	Apr. 24, 1867.
68, 895	Same..... Machine for sizing hats, &c.....	May 28, 1867.
70, 649	Taylor, John G., East Bethlehem, Pa. Churn.....	Sept. 10, 1867.
	Taylor, Joseph P., Hudson City, and Jackson R. Baker, Jersey City, N. J. Baling press.....	Nov. 5, 1867.
69, 044	Taylor, J. W., Oshkosh, Wis. Shaft coupling.....	Sept. 17, 1867.
69, 373	Taylor, Le Roy M., and W. D. Fowler, Washington, D. C. Journal box.....	Oct. 1, 1867.
64, 459	Taylor, Luman D., Granville Centre, Pa. Hay loader.....	May 7, 1867.
62, 509	Taylor, O. C., Rome, Pa. Wagon brake.....	Feb. 26, 1867.
61, 961	Taylor, R. C., Brockport, N. Y. Railroad time indicator.....	Feb. 12, 1867.
	Taylor, R. M., and G. Simpson. (See Simpson & Taylor.)	
67, 461	Taylor, Samuel, Boston, Mass. Dust brush.....	Aug. 6, 1867.
66, 910	Taylor, S. J., Rome, N. Y. Combined corn planter and cultivator.....	July 16, 1867.
	Taylor, S. J., and E. E. Seymour. (See Seymour & Taylor.)	
61, 581	Taylor, S. N., Horicon, Wis. Universal joint.....	Jan. 29, 1867.
71, 549	Taylor, Theodore H., deceased, by Harriet E. Taylor, executrix, Saratoga Springs, N. Y. Medicine.....	Nov. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 117	Taylor, Thomas, Washington, D. C. Alloy for sabots of projectiles.....	Jan. 8, 1867.
61, 640	Same..... Elastic mold.....	Jan. 29, 1867.
67, 001	Taylor, Thomas, New Orleans, La. Crank motion.....	July 23, 1867.
69, 948	Taylor, T. Grow, Lawrenceville, N. Y. Rule and letter scale. (Antedated April 17, 1867).....	Oct. 15, 1867.
71, 550	Taylor, Virgil C., Des Moines, Iowa. Music staff.....	Nov. 26, 1867.
66, 649	Taylor, William W., Newark, N. J. Carpet stretcher.....	July 9, 1867.
72, 115	Teachout, James, Waterford, N. Y. Rotary take-up for knitting machine.....	Dec. 3, 1867.
72, 116	Same..... Knitting machine.....	Dec. 3, 1867.
72, 117	Same..... same.....	Dec. 3, 1867.
64, 809	Teahl, John H., Eberly's Mills, Pa. Bush for spindles of grinding mills.....	May 14, 1867.
67, 610	Teal, Norman, Kendallville, Ind. Invalid bed attachment.....	Aug. 6, 1867.
67, 686	Teale, J. P., and W. J. Brasington, Brooklyn, N. Y. Steering apparatus.....	Aug. 13, 1867.
70, 044	Tears, L. H., assignor to self and Theodore Hatfield, Troy, Pa. Horse hay fork.....	Oct. 22, 1867.
63, 961	Teed, Jesse, Tompkins, N. Y. Animal trap.....	Apr. 16, 1867.
2, 667	Teel, A. C., Gerard, Ill. Farm gate..... (Reissue).....	July 2, 1867.
63, 724	Teelin, Frank, and Jacob A. Swift, Blo-svale, N. Y. Sleigh brake.....	Oct. 8, 1867.
64, 595	Tefft, George, Salem, N. Y. Locomotive and other wheels.....	May 7, 1867.
66, 911	Teller, D. C., Terre Haute, Ind. Steak broiler.....	July 16, 1867.
70, 132	Teller, D. W., and W. L. Savage, assignors to selves and W. H. Hoag, North Greenwich, Conn. Telegraph insulator.....	Oct. 22, 1867.
71, 817	Temple, Joseph, Terre Haute, Ind. Cutter-head for dressing moldings.....	Dec. 3, 1867.
71, 818	Same..... Stitching clamp.....	Dec. 3, 1867.
71, 664	Templeton, Charles M., Concord, N. H. Stuffing box for packing.....	Dec. 3, 1867.
64, 810	Templeton, D. D., New York, N. Y. Garbage box.....	May 14, 1867.
70, 762	Templeton, G. L., Pierceton, Ind. Gate.....	Nov. 12, 1867.
67, 228	Templeton, William, Rockville, Pa. Milk pan.....	July 30, 1867.
65, 301	Tehney, John L., and John W. Bailey, Skowhegan, Maine. Compound for coating oil-cloths, &c.....	May 26, 1867.
69, 045	Terrell, Clark M., Oskaloosa, Iowa. Hay shoker.....	Sept. 17, 1867.
72, 308	Terrell, Clark M., and Nathan W. Hussey, Oskaloosa, Iowa. Churn.....	Dec. 17, 1867.
	Terry, Eli. (See Doolittle, A. B., assignor.)	
	Same..... (See Bevens, Ira N., assignor.)	
64, 381	Terry, F. F., Port Gibson, N. Y. Shank and socket for hand hay fork.....	Apr. 30, 1867.
72, 118	Terry, John B., Hartford, Conn. Manufacturing illuminating gas.....	Dec. 3, 1867.
72, 697	Same..... Gasoline locomotive head light.....	Dec. 24, 1867.
71, 551	Terry, Simeon, Boscawen, N. H. Corn sheller.....	Nov. 26, 1867.
63, 579	Terry, William A., Prairie du Chien, Wis. Washing machine.....	Apr. 2, 1867.
70, 376	Terry, William A., Bristol, Conn. Alarm clock.....	Oct. 29, 1867.
65, 776	Terry, William J., Walla Walla, W. T. Fastenings for neck ties.....	June 11, 1867.
2, 508	Terwilliger, William, and William H., and John S. Lockwood, New York, N. Y. Construction of burglar-proof safes, and in the preparation of materials for the same..... (Reissue).....	Mar. 12, 1867.
63, 673	Tesseyman, John, Dayton, Ohio. Planing machine.....	Apr. 9, 1867.
2, 670	Tetlow, Henry, Philadelphia, Pa. Trademark..... (Design).....	June 4, 1867.
	Tetlow, S., and G. A. Lloyd. (See Lloyd & Tetlow.)	
63, 962	Tevis, E. Lawrence, Philadelphia, Pa. Hinge for shutters.....	Apr. 16, 1867.
	Tewksbury, W. D., and M. S. Curtis. (See Curtis & Tewksbury.)	
71, 244	Thatcher, John M., Bergen, N. J. Air-heating furnace.....	Nov. 19, 1867.
69, 270	Thayer, Austin E., assignor to M. B. Bryant, Plymouth, Conn. Third seat for carriages.....	Sept. 24, 1867.
61, 030	Thayer, Eli, New York, N. Y. Decocting apparatus for tea and coffee.....	Jan. 8, 1867.
61, 031	Same..... Steam generator.....	Jan. 8, 1867.
61, 118	Same..... Belt coupling.....	Jan. 8, 1867.
61, 119	Same..... Boot and shoe.....	Jan. 8, 1867.
64, 596	Thayer, Ellis, Worcester, Mass. Paint and varnish brush.....	May 7, 1867.
68, 259	Thayer, Ellis, assignor to self and George W. Thayer, Worcester, Mass. Dust brush.....	Aug. 27, 1867.
	Thayer, M. A., and W. H. Boomer. (See Davis, G. B., assignor.)	
68, 260	Thayer, Stephen E., Manchester, Vt. Remedy for spavin in horses.....	Aug. 27, 1867.
	Theall, Horace, et al. (See Bowden, James, assignor.)	
71, 819	Theberath, Charles M., Newark, N. J. Mounting harness.....	Dec. 3, 1867.
	Theberath, Charles M., and Jacob H. (See Ulrich, William, assignor.)	
	Thieling, John H. (See Wolf, Robert, assignor.)	
66, 414	Thierry, Lewis, and George B. Hill, Detroit, Mich. Machine for making hot-pressed nuts.....	July 2, 1867.
61, 120	Thirault, Alexis, New York, N. Y. Distilling petroleum.....	Jan. 8, 1867.
63, 963	Thirault, Alexis, assignor to self and B. S. Hilton, Williamsburg, N. Y. Apparatus for treating petroleum. (Antedated April 5, 1867).....	Apr. 16, 1867.
72, 564	Thiry, F., assignor to Warner Miller, Belgium. Apparatus for controlling the motion of travelling webs in paper machines, &c.....	Dec. 24, 1867.
70, 289	Tholl, Charles, Boston, Mass. Carriage shaft connection.....	Oct. 29, 1867.
70, 045	Thoma, Alois, assignor to self, Samuel Bromberg, and Artemus W. Wilder, New York, N. Y. Kiln for roasting iron ore.....	Oct. 22, 1867.
70, 046	Same..... Furnace for smelting iron ore.....	Oct. 22, 1867.
70, 047	Same..... Furnace for reducing iron ore.....	Oct. 22, 1867.
70, 048	Same..... Furnace for melting and purifying steel.....	Oct. 22, 1867.
70, 049	Thoma, A., sr., Piqua, Ohio. Tool for jewelling watches.....	Oct. 22, 1867.
67, 462	Thoma, Augustin, Augustin F., and Albin, Piqua, Ohio. Instrument for setting jewels.....	Aug. 6, 1867.
73, 483	Thomas, Alfred, Worcester, Mass. Lathe way smoother.....	Nov. 5, 1857.
	Thomas, C. F. S., et al. (See Thornton, Thomas F., assignor)..... (Reissue.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 842	Thomas, C. F. S., et al. (See Bacon, Charles E., assignor.)	
65, 842	Thomas, Charles H., Philadelphia, Pa. Method of bottling mineral water	June 18, 1867.
61, 775	Thomas, D. M., Dowagiac, Mich. Bed bottom	Feb. 5, 1867.
70, 650	Thomas, Edrick, Kickapoo, Ill. Lubricating carriage axles	Nov. 5, 1867.
71, 245	Thomas, Elishu H., jr., assignor to J. Estey & Co., Brattleboro, Vt. Organ bellows	Nov. 19, 1867.
63, 980	Thomas, Ephraim, Middleboro', Mass. Horseshoe-nail machine	Mar. 19, 1867.
62, 300	Thomas, George C., Brooklyn, N. Y. Baggage check	Feb. 19, 1867.
61, 894	Thomas, James B. (See Cram, John, assignor.)	
61, 894	Thomas, John A., assignor to self and Henry J. Miller, Buffalo, N. Y. Machine for polishing metal tubes	Feb. 5, 1867.
64, 597	Thomas, John H., Philadelphia, Pa. Window frame	May 7, 1867.
66, 415	Thomas, John Hopkins, Rochester, N. Y. Beehive	July 2, 1867.
63, 670	Thomas, John R., Millintown, Pa. Corn plow	Sept. 10, 1867.
64, 460	Thomas, Johnston, Huntingdon, Pa. Churn dasher	May 7, 1867.
65, 025	Thomas, Jonathan, Mount Union, Ohio. Fence	May 21, 1867.
63, 117	Thomas, Joseph, New York, N. Y. Braiding attachments for sewing machines	Mar. 19, 1867.
63, 440	Thomas, Levi H., Waterbury, Vt. Curtain fixture. (Antedated March 27, 1867)	Apr. 2, 1867.
70, 651	Thomas, Martha, Lower Merion, Pa. Retaining link for shutters	Nov. 5, 1867.
70, 652	Thomas, Nicholas, Chicago, Ill. Machine for cutting tubes	Nov. 5, 1867.
69, 046	Thomas, Robert, Parkersburg, West Va. Window sash	Sept. 17, 1867.
72, 119	Thomas, S. T., and J. H. Dolley, Guilford, N. H. Loom	Dec. 10, 1867.
66, 536	Thomas, William H., Chicago, Ill. Machine for grinding clay	July 9, 1867.
70, 290	Thomas, W. R., Catasauqua, Pa. Flasks for casting car wheels	Oct. 29, 1867.
68, 323	Thompson, Andrew, Ottumwa, Iowa. Trace attachment	Aug. 27, 1867.
67, 463	Thompson, Charles E., assignor to self and Orrin W. Swift, New Haven, Conn. Method of capping and nicking the caps of screw heads	Aug. 6, 1867.
69, 271	Thompson, E. C., and William Walker, New Haven, Conn. Machine for nicking screw caps	Sept. 24, 1867.
71, 552	Thompson, Clark Brown, and David Jones O'Harra. (See O'Harra & Thompson.)	
71, 553	Thompson, Edward, Hokah, Minn. Dumping car	Nov. 26, 1867.
2, 569	Same. Apparatus for constructing railroads	Nov. 26, 1867.
2, 570	Thompson, George, East Tarentun, Pa. Manufacture of caustic alkali. (Division A. Reissue.)	Apr. 16, 1867.
2, 571	Same. Process of putting up caustic alkali. (Division B. Reissue.)	Apr. 16, 1867.
2, 571	Same. Manufacture of caustic alkali. (Division C. Reissue.)	Apr. 16, 1867.
	Thompson, George, and A. W. Johnson. (See Johnson & Thompson.)	
	Same. same (Reissue.)	
64, 263	Thompson, Heady, Hector, N. Y. Brand for marking animals	Apr. 30, 1867.
65, 450	Thompson, Henry, Rockland, Maine. Windlass for vessels	June 4, 1867.
69, 141	Thompson, Henry, Wyoceua, Wis. Washing machine	Sept. 24, 1867.
63, 766	Thompson, Hiram, Worcester, Mass. Machine for shaping and heading bars of metal.	Apr. 9, 1867.
70, 484	Thompson, Hiram C., Bristol, Conn. Wire bell for clocks	Nov. 5, 1867.
71, 086	Thompson, J., and B. B. Herrick, Edgewood, Ill. Machine for digging post holes	Nov. 19, 1867.
62, 573	Thompson, James, Vevay, Ind. Washing machine	Mar. 5, 1867.
69, 864	Same. Wash board	Oct. 15, 1867.
71, 246	Thompson, James M. (See Holt, Gardiner L., assignor.)	
	Thompson, Jared, Milwaukee, Wis. Abdominal supporter	Nov. 19, 1867.
	Thompson, Jared, sr. (See Horkert, S. L., assignor.)	
66, 416	Thompson, John, Hartville, Ohio. Churning apparatus	July 2, 1867.
2, 574	Thompson, John, assignor to Martin Reed, Rochester, N. Y. Machine for cutting hoops (Reissue.)	Apr. 23, 1867.
66, 650	Thompson, John A., Auburn, N. Y. Composition of matter for disintegrating and preparing fertilizers	July 9, 1867.
	Thompson, John H., deceased, by Charlotte M. Thompson, administratrix, James M., and Hosea Q. Thompson, Holderness, N. H. Machine for trimming soles of boots and shoes (Extension.)	Oct. 29, 1867.
72, 120	Thompson, John W., Greenfield, Mass. Gate	Dec. 10, 1867.
	Thompson, Lysander F. (See Chandler, George W., assignor.)	
70, 050	Thompson, M. L., assignor to self and John P. Rittenhouse, Flemington, N. J. Barrel head	Oct. 22, 1867.
61, 121	Thompson, Nathan, England. Boring tool	Jan. 8, 1867.
69, 142	Same. Pipe coupling. (Patented in England March 15, 1867)	Sept. 24, 1867.
69, 143	Same. Mode of closing the mouths of bottles, jars, &c. (Patented in England March 28, 1867)	Sept. 24, 1867.
72, 565	Same. Brooklyn, N. Y. Hose coupling	Dec. 24, 1867.
72, 566	Same. Pipe coupling	Dec. 24, 1867.
71, 820	Thompson, Nathaniel, Farmington, Mich. Device for transmitting motion	Dec. 3, 1867.
	Thompson, S. D., et al. (See Lacy, E. F., assignor.)	
65, 964	Thompson, Taylor P., Charlestown, Mass. Bed bottom	June 18, 1867.
68, 583	Thompson, Thomas G., and Barclay Ballard, Richmond, Ind. Loom	Sept. 3, 1867.
69, 047	Thompson, T. G., Richmond, and A. F. Fox, Greensboro', Ind., assignors to Thompson, Ballard & Co. Hand loom	Sept. 17, 1867.
	Thompson, Val. (See Hoke, Seth, assignor.)	
67, 819	Thompson, Warren A., West Winsted, Conn. Ox yoke	Aug. 13, 1867.
64, 382	Thompson, William, assignor to the Cleveland Gas Machine Company, Cleveland, Ohio. Gas generator and carburetter	Apr. 30, 1867.
71, 665	Thompson, William, and J. E. Hall, Cleveland, Ohio. Carburetting apparatus	Dec. 3, 1867.
	Thompson, William L., and Joseph A. Robbins. (See Hilton, A. J. H., assignor.)	
63, 441	Thompson, William S., Rochester, N. Y. Lantern	Apr. 2, 1867.
72, 121	Thoms, Jaues, South Boston, Mass. Tail-piece for violins	Dec. 10, 1867.
63, 580	Thorn, Amaltha E., Fletcher, Ohio. Churz	Apr. 2, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
62, 087	Thorn, Wm. J., assignor to self and F. A. Betts, Westbrook, Me. Picker cushion for looms	Feb. 12, 1867.
65, 026	Thornburg, Harris W., assignor to C. W. Morrison, Morrisown, Ind. Cattle pump	May 21, 1867.
69, 949	Thorne, John W., Brooklyn, N. Y. Clamp for traveling trunks	Oct. 15, 1867.
69, 048	Thornton, J. B., Madison, Wis. Device for hitching horses	Sept. 17, 1867.
69, 374	Thornton, John S., Port Gibson, N. Y. Wind mill	Oct. 1, 1867.
66, 192	Thornton, M. L. and R. W., Lumpkin, Ga. Corr and cotton seed planter	July 16, 1867.
2, 666	Thornton, Thomas F., assignor, through mesne assignments, to Geo. A. Prince, Chas. E. Bacon, and C. F. S. Thomas, Buffalo, N. Y. Swell for melodeons (Reissue)	July 2, 1867.
71, 821	Thornou, Walter T., assignor to self and Alexander D. Wright, Bellville, Mich. Adjustable seat fastener	Dec. 3, 1867.
68, 468	Thornton, William McK., Clinton, Wis. Buckle	Sept. 3, 1867.
66, 417	Thorp, James P., Southington, Conn. Device for tethering animals	July 2, 1867.
62, 906	Thorp, Joseph W., Sanbornon Bridge, N. H. Ironing machine	Mar. 12, 1867.
64, 166	Thorpe, James Edward, assignor to self and W. J. F. Liddell, Erie, Pa. Steam pump	Apr. 23, 1867.
	Thorpe, Mason H. (See Oliver, H. W., assignor.)	
66, 913	Thrasher, D. C., and B. F. Aiken, Freetown, Mass. Breech-loading fire-arm	July 16, 1867.
2, 811	Thurber, A. D., New York, N. Y. Label border (Design)	Oct. 22, 1867.
63, 185	Thurber, Theodore, Atouorn, N. Y. Piston packing	Mar. 26, 1867.
66, 537	Same.....Steam piston packing	July 9, 1867.
	Same.....(See Sebellmann, Francis Joseph, assignor.)	
65, 302	Thurmon, James P., and Lemuel, Warrenton, Mo. Medical compound	May 28, 1867.
	Thurston, A., and F. K. Smith. (See Smith & Thurston.)	
72, 429	Thyng, J. Warren, Salem, Mass. Coffee maker	Dec. 17, 1867.
69, 272	Tibbals, James S., Milford, Conn. Lunch box	Sept. 24, 1867.
71, 087	Tibbles, T. Henry, assignor to self and F. L. McHenry, Kansas City, Mo. Hand loom	Nov. 19, 1867.
63, 334	Tice, Isaac P., New York, N. Y. Spirit meter and separator	Mar. 26, 1867.
63, 335	Same.....same	Mar. 26, 1867.
63, 336	Same.....Meter attachment for stills	Mar. 26, 1867.
63, 964	Same.....Spirit meter. (Antedated April 5, 1867.)	Apr. 16, 1867.
67, 083	Same.....Toy ball player	July 23, 1867.
67, 611	Same.....Spirit meter and registering apparatus	Aug. 6, 1867.
72, 241	Same.....Still	Dec. 17, 1867.
72, 698	Same.....Spirit meter	Dec. 24, 1867.
72, 699	Same.....same	Dec. 24, 1867.
72, 700	Same.....same	Dec. 24, 1867.
72, 701	Same.....same	Dec. 24, 1867.
72, 702	Same.....same	Dec. 24, 1867.
68, 130	Tichenor, Henry T., Fort Branch, Ind. Axle	Aug. 27, 1867.
63, 088	Tickler, Wm. E., Ezra T. and Daniel M. Marshall, Pierceton, Ind. Smut machine	Feb. 12, 1867.
72, 430	Tierman, John M., Pittsburg, Pa. Tongue support for street railroad cars	Dec. 17, 1867.
68, 469	Tietjens, Ilans H., Lyons, Iowa. Cultivator	Sept. 3, 1867.
67, 002	Tietz, Johann, Baltimore, Md. Plow	Aug. 23, 1867.
2, 547	Tiffany, C. L., New York, N. Y. Ornament of American Jockey Club (Design)	Jan. 8, 1867.
65, 965	Tiffany, David B., Xenia, Ohio. Tool for jewelling watches	June 18, 1867.
	Tiffany, George S., and Porter L. Sword. (See Sword & Tiffany) (Reissue.)	
67, 229	Tiffany, Joel, Albany, N. Y. Process of treating paper stock to make pulp	July 30, 1867.
68, 261	Same.....Process of preparing paper pulp from straw and other materials	Aug. 27, 1867.
72, 339	Same.....Base-burning stove	Dec. 17, 1867.
61, 122	Tilden, Howard, Boston, Mass. Coffee pot	Jan. 8, 1867.
	Same.....(See Hall, Daniel B., assignor.)	
	Same.....(See Mullally, William, assignor.)	
2, 843	Tilden, H. P., Philadelphia, Pa. Skate runner (Design)	Nov. 26, 1867.
70, 485	Tilghman, Benjamin C., Philadelphia, Pa. Mode of treating vegetable substances for making paper pulp. (Antedated October 16, 1867.)	Nov. 5, 1867.
	Tilghman, Richard A., Philadelphia, Pa. Process for purifying fatty bodies. (Extension)	Nov. 23, 1867.
63, 337	Tillinghast, James, Buffalo, N. Y. Railway switch	Mar. 26, 1867.
	Tilman, Noah H. (See Brighton, William, assignor.)	
63, 581	Tilton, E. W., Oshkosh, Wis. Saw	Apr. 2, 1867.
64, 723	Tilton, Frederick W., Bristol Station, Tenn. Combined seeder and cultivator	May 14, 1867.
	Tilton, J. C. (See Andrews, Joseph K., assignor.)	
65, 303	Tilton, Leonard, Brooklyn, N. Y. Wood-splitting machine	May 28, 1867.
63, 304	Same.....Device for transmitting motion	May 28, 1867.
63, 574	Timby, Theodore R., Saratoga Springs, N. Y. Hoe	Mar. 5, 1867.
2, 562	Same.....same (Division A. Reissue)	Apr. 16, 1867.
2, 563	Same.....Handle for implements (Division B. Reissue)	Apr. 16, 1867.
63, 451	Same.....Ventilating door	June 4, 1867.
	Tindall, Samuel, and James Barwick. (See Barwick & Tindall.)	
68, 806	Tingley, A. D., Adrian, Mich. Brake for horse-power	Sept. 10, 1867.
63, 328	Tingley, Washington, New York, N. Y. Drill for wells	Mar. 26, 1867.
62, 575	Tinker, John B., assignor to self and J. L. Beazan, Buffalo, N. Y. Sash lock	Mar. 5, 1867.
72, 567	Tinkham, L. N., Sylvania, Pa. Horse hay forks	Dec. 24, 1867.
	Tinney, Cornelius, and James F. Campbell. (See Campbell & Tinney.)	
61, 369	Tirrell, J. P., North Bridgewater, Mass. Manufacture of shoe lacings	Jan. 22, 1867.
63, 442	Tirrell, J. P., assignor to self, J. O. and J. E. Nash, and Ira Merritt, North Bridgewater, Mass. Machine for forming the barbs of crocheting and knitting needles	Apr. 2, 1867.
	Titcomb, D. A. (See Bellamy, John H., assignor.) (Design.)	
	Same.....same (Design.)	
	Same.....same (Design.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Titcomb, D. A. (See Bellamy, John H., assignor.).....(Design.)	
	Same.....same.....(Design.)	
72, 122	Titcomb, R. S., Gloversville, N. Y. Folding bedstead and crib.....	Dec. 10, 1867.
66, 418	Tittle, Daniel J., assignor to Abbie M. Tittle, Albany, N. Y. Car coupling.....	July 2, 1867.
	Titus, J. A., and Charles H. Sawin. (See Sawin & Titus.)	
65, 305	Titus, Samuel H., Pennington, N. J. Clothes dryer.....	May 28, 1867.
72, 568	Titus, William D., Brooklyn, N. Y. Plow.....	Dec. 24, 1867.
66, 056	Tobey, Elisha, and Copley A. Nott, Watertown, N. Y. Signal for railroads.....	June 25, 1867.
63, 186	Tobey, William M., New London, Conn. Ironing machine.....	Mar. 26, 1867.
68, 262	Tobias, J. C., Helena, Ark. Cotton seed planter.....	Aug. 27, 1867.
69, 860	Tobias, Zacharias, Covington, Ohio. Horse-power.....	Oct. 15, 1867.
70, 377	Tobin, John, Newark, N. J. Flour sifter. (Antedated October 9, 1867)	Oct. 29, 1867.
71, 340	Todd, jr., Asabel, Pultneyville, N. Y. Fence.....	Nov. 26, 1867.
60, 703	Todd, Henry, assignor to the Bridgeport Brass Company, Bridgeport, Conn. Machine for polishing sheet metal.....	Mar. 5, 1867.
2, 564	Same.....Machine for grinding sheet metal.....(Reissue)	Apr. 16, 1867.
71, 666	Todd, Hiram, Columbus, Ohio. Regulating watches.....	Dec. 3, 1867.
66, 651	Todd, John, Bellefonte, Pa. Water wheel.....	July 9, 1867.
	Todd, John, assignor to self and William P. Duncan, Bellefonte, Pa. Circular saw mill.....	Dec. 31, 1867.
	Todd, J. S. (See Randolph, M., assignor.)	
	Todd, Paul P. (See Robinson, Daniel T., assignor.)	
	Same.....(See Miller, Wesley, assignor.)	
67, 376	Toley, Charles E., Brooklyn, N. Y. Propeller.....	July 30, 1867.
62, 907	Tolhurst, George W., New York, N. Y. Boot and shoe.....	Mar. 12, 1867.
	Toll, Charles. (See Custer, George, assignor.)	
63, 966	Tollinger, George, Wrightsdales, Pa. Sorghum stripper.....	June 18, 1867.
66, 057	Tomb, Asa M., Lyons, N. Y. Bed bottom.....	June 25, 1867.
64, 167	Tomiñ, William H. T., Mullica Hill, N. J. Horse hay fork.....	Apr. 23, 1867.
64, 724	Tompkins, Charles R., Rochester, N. Y. Step for upright shafts.....	May 14, 1867.
70, 051	Same.....Mortising machine.....	Oct. 22, 1867.
71, 341	Same.....Adjusting cutter head to planing machine.....	Nov. 26, 1867.
	Same.....(See Graham, James S., assignor.)	
71, 426	Tompkins, Marie E., Brooklyn, N. Y. Liquid for bleaching and removing stains.....	Nov. 26, 1867.
69, 510	Tompkins, Robert F., New York N. Y. Wood-mitering machine.....	Oct. 1, 1867.
65, 139	Toms, C. S., Utica, N. Y. Composition for cleaning metal, wood, and other articles.....	May 28, 1867.
68, 671	Tooly, D. B., Albion, N. Y. Cement.....	Sept. 10, 1867.
	Toothaker, S., and O. Higley. (See Higley & Toothaker.)	
65, 452	Topham, William H., assignor to self and Peck Brothers and Company, New Haven, Conn. Motor regulator and register attachment for organ.....	June 4, 1867.
	Topliff, C. L. (See Totten, Sineus E., assignor.)	
	Same.....same.....	
69, 866	Topliff, Isaac N., Adrian, Mich. Clip circle. (Antedated September 28, 1867).....	Oct. 15, 1867.
67, 230	Torbert, David R., Columbus, Ga. Cotton press.....	July 31, 1867.
64, 383	Torrey, E. F. and E. S., New York, N. Y. Weather strip.....	Apr. 30, 1867.
60, 967	Torrey, E. S., New York, N. Y. Means for attaching elastic tips to legs of furniture.....	Jan. 1, 1867.
61, 282	Same.....Elastic tips for legs of furniture.....	Jan. 15, 1867.
61, 895	Same.....Cream freezer.....	Feb. 5, 1867.
64, 811	Same.....Weather strip.....	May 14, 1867.
67, 464	Torrey, R. S., Bangor, Maine. Tool extractor.....	Aug. 6, 1867.
62, 164	Torrey, William A., Mount Clair, N. J. Manufacture of elastic rolls.....	Feb. 19, 1867.
	Torrey, William A., and Edward L. Perry. (See Perry & Torrey.)	
	Torrey, A. C., and M. Converse. (See Converse & Torrey.)	
60, 805	Toshaed, William, New York, N. Y. Car spring.....	Jan. 1, 1867.
2, 723	Totman, Edsell, Columbus, Pa. Horse power.....(Reissue)	Aug. 6, 1867.
63, 443	Totten, Robert C., Pittsburg, Pa. Mold for casting grooved rolls.....	Apr. 2, 1867.
61, 484	Totten, Sineus E., assignor to self and C. L. Topliff, Brooklyn, N. Y. Can-opener.....	Jan. 22, 1867.
65, 843	Same.....Awl.....	June 18, 1867.
	Toucey, J. M., and W. Buchanan. (See Buchanan & Toucey.)	
71, 427	Tourjee, Eben, Providence, R. I. Key-board attachment for musical instruments.....	Nov. 26, 1867.
64, 461	Touslee, M. G., and F. E. Marcellus, Fulton, Ill. Nose jewel for swine.....	May 7, 1867.
68, 131	Tousley, Miron G., assignor to Andrew and John P. Chaiser, Fulton, Ill. Snout ring for swine.....	Aug. 27, 1867.
65, 617	Tower, Ambrose, New York, N. Y. Cap for upholsterer's springs.....	June 11, 1867.
69, 144	Tower, Ibrook, Milford, Mich. Fruit picker.....	Sept. 24, 1867.
66, 266	Tower, Lewis C., Rochester, N. Y. Thermometer.....	July 2, 1867.
	Tower, William, and Allen Calkins. (See Calkins & Tower.)	
62, 089	Towers, William H., Boston, Mass. Brick machine.....	Feb. 12, 1867.
62, 704	Same.....Mode of kindling fire.....	Mar. 5, 1867.
2, 662	Towers, William H., assignor to the New England Vulcanite Hide Company, Boston, Mass. Process of preparing hides and other animal tissues for the manufacture of various articles.....(Reissue)	June 25, 1867.
63, 820	Towne, A. N., Chicago, Ill. Handle for signal lanterns.....	Apr. 16, 1867.
	Towne, A. N., et al. (See Martin, Henry, assignor.)	
62, 576	Towre, H. A., Chicago, Ill. Hand-hole plate for steam generators.....	Mar. 5, 1867.
	Townsend, Elmer. (See Smith, T. Briggs, assignor.)	
	Same.....same.....	
	Same.....same.....	
	Townsend, Elmer. (See Robbins, S. C., assignor.)	
	Townsend, E. P., (See Stilwell, James T., assignor.)	
67, 687	Townsend, George A., Hornellsville, N. Y. Automatic damper.....	Aug. 13, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 384	Townsend, George W., Galesburg, Mich. Stump extractor.....	Apr. 30, 1867.
66, 168	Townsend, H. S., Greenvale, Ill. Seed and grain sieve.....	June 25, 1867.
	Townsend, Isaac. (See Dexter, Albert M., assignor.)	
	Townsend, J. M., et al. (See Fairchild, J. M., assignor.)	
	Same.....same.	
	Townsend, J. M., and J. K. Bundy. (See Fairchild, J. M., assignor.)	
63, 339	Townsend, Samuel P., New Providence, N. J. Manufacture of railroad ties, bridges, buildings, wharves, fences, and other articles of galvanized iron.....	Mar. 26, 1867.
65, 306	Townsend, Samuel P., Union county, N. J. Finishing iron work of plows, stoves, pipes, levees, dams, &c.....	May 28, 1867.
	Townsend, S. P., and J. Allen. (See Allen & Townsend.)	
69, 273	Townsend, William H., Camden, Ohio. Method of attaching horses to carriages.....	Sept. 24, 1867.
2, 830	Townsend, Wisner H., New York, N. Y. O. l. cloth.....(Design).....	Nov. 5, 1867.
64, 264	Townsend, L. M., Sedalia, Mo. Fastening for window blinds.....	Apr. 30, 1867.
	Townson, Joseph N. (See Drew, James W., assignor.)	
71, 921	Towse, Daniel, Pittsburg, Pa. Aerial carriage and way.....	Dec. 10, 1867.
71, 922	Same.....same.....	Dec. 10, 1867.
71, 923	Same.....same.....	Dec. 10, 1867.
	Toys, T. W., et al. (See Miller, Charles H., assignor.)	
71, 822	Tracy, Ezekiel, Kansas City, Mo. Burglar alarm door lock.....	Dec. 3, 1867.
63, 340	Tracy, James, Brewer's Village, Me. Saw mill.....	Mar. 26, 1867.
71, 428	Tracy, J. W., St. Louis, Mo. Gas cigar lighter.....	Nov. 26, 1867.
66, 652	Tracy, Sylvester S., assignor to self and Henry Merritt, Cleveland, Ohio. Tool.....	July 9, 1867.
62, 981	Tracy, Thomas, New Britain, Conn. Butt machine.....	Mar. 19, 1867.
62, 510	Tracy, William, Chicago, Ill. Railway switch. (Antedated January 6, 1867).....	Feb. 26, 1867.
	Traderag Company. (See Eynon, David, assignor.)	
65, 986	Trager, Abraham, New York, N. Y. Hoop skirt.....	June 18, 1867.
68, 470	Trageser, John, and Ignatz Illofsky, New York, N. Y. Apparatus for distilling.....	Sept. 3, 1867.
70, 133	Trainer, Joseph, Rural Dale, Ohio. Animal trap.....	Oct. 22, 1867.
71, 247	Traugh, Samuel A., assignor to self and Jephtha Garrard, Cincinnati, Ohio. Car wheel.....	Nov. 19, 1867.
63, 341	Traut, Justus A., assignor to self and Jeremy W. Bliss, New Britain, Conn. Endless belt for polishing.....	Mar. 26, 1867.
67, 377	Traver, Morris, Poughkeepsie, N. Y. Spittoon for railroad cars.....	July 30, 1867.
66, 419	Traxler, Cornelius, La Grange, Ind. Gate.....	July 2, 1867.
66, 653	Trayser, George, Indianapolis, Ind. Piano.....	July 9, 1867.
61, 896	Trayser, Philip P., assignor to self and Richard W. Tyson, Baltimore, Md. Bolt-heading machine.....	Feb. 5, 1867.
65, 618	Treadwell, John H., Swampscot, Mass. Tart cutter.....	June 11, 1867.
67, 12	Treadwell, Mary L., New York, N. Y. Frame for mosquito nets.....	Aug. 6, 1867.
2, 593	Treadwell, N., New York, N. Y. Apparatus for supplying gas on steamboats and other vessels.....(Reissue).....	May 7, 1867.
72, 937	Treadwell, W. B., Albany, N. Y. Cooking stove.....	Dec. 31, 1867.
72, 938	Same.....same.....	Dec. 31, 1867.
	Treall, H., et al. (See Adams, Hawley, assignor.)	
66, 420	Treat, John E., Oxford, Mich. Extension fruit ladder.....	July 2, 1867.
62, 301	Tredway, James Clifford, Buffalo, N. Y. Horse collar.....	Feb. 19, 1867.
67, 613	Trees, James, Greensburg, Pa. Hose nozzle.....	Aug. 6, 1867.
67, 614	Same.....Water pipe.....	Aug. 6, 1867.
72, 569	Tremper, Harman A., Hammonon, N. J. Copy holder.....	Dec. 24, 1867.
60, 806	Trent, Joseph, Millertown, N. Y. Liquid measure.....	Jan. 1, 1867.
69, 511	Same.....Car coupling.....	Oct. 1, 1867.
	Tresch, John, and Anton Keil. (See Keil & Tresch.)	
	Trested, R. H. (See Kendall, John L., assignor.)	
70, 134	Trevitt, C. S., assignor to self and H. E. Wentworth, Washington, D. C. Animal trap.....	Oct. 22, 1867.
66, 421	Trexler, Cornelius, La Grange, Ind. Gate.....	July 2, 1867.
68, 807	Trexler, O. S., Naperville, Ill. Ventilating device for ceilings and walls.....	Sept. 10, 1867.
76, 378	Triuks, Gregor, New York, N. Y. Folding chair.....	July 30, 1867.
62, 235	Tripp, L. A., assignor to self and C. H. Horton, Middletown, N. Y. Curtain fixture.....	Feb. 19, 1867.
67, 465	Tripp, L. A., assignor to self and S. M. Boyd, Middletown, N. Y. Window shade fixture.....	Aug. 6, 1867.
	Tripp, T., et al. (See Herbster, E., assignor.)	
65, 844	Trissler, W. H., Cleveland, Ohio. Preserving fruit.....	June 18, 1867.
2, 492	Trittin, Emil, assignor through mesne assignments to Alexander J. Walker, New York, N. Y. Lamp burner.....(Reissue).....	Feb. 19, 1867.
66, 422	Troth, Edward M., New York, N. Y. Rock-drilling machine.....	July 2, 1867.
72, 939	Troth, Edward M., assignor to self and John A. Secor, New York, N. Y. Marine steam engine governor.....	Dec. 31, 1867.
62, 577	Trotter, Charles W., Rochester, N. Y. Hot-air furnace.....	Mar. 5, 1867.
65, 967	Trotter, Chas. W., assignor to Gommenginger & Trotter, Rochester, N. Y. Furnace.....	June 18, 1867.
63, 582	Trout, Jacob G., Philadelphia, Pa. Burglar alarm. (Antedated March 20, 1867).....	Apr. 2, 1867.
	Trowbridge, D. S. (See Bishop, George W., assignor.)	
66, 267	Trowbridge, Rufus, Waterloo, Iowa. Shovel plow.....	July 2, 1867.
69, 512	Troxel, John, Reedsburg, Ohio. Mop head.....	Oct. 1, 1867.
65, 453	Troxel, J. F., Bloomsburg, Ohio. Steam engine.....	June 4, 1867.
72, 123	Same.....same.....	Dec. 10, 1867.
2, 643	Troxel, John S., assignor to William N. Whiteley, Springfield, Ohio. Harvester.....(Division A. Reissue).....	June 11, 1867.
2, 743	Same.....Harvester reel.....(Division B. Reissue).....	Aug. 20, 1867.
72, 242	Troxell, John P., Hancock, Md. Stove for heating sad-irons.....	Dec. 17, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 135 2, 724	Truby, William, Brush Valley, Pa. Manure fork, &c	Oct. 22, 1867.
61, 692	Truesdale, Charles, assignor to self and William Resor & Co., Cincinnati, Ohio. Culpola and other melting furnaces (Reissue)	Aug. 6, 1867.
61, 283	Truesdell, William H., Eighn, Ill. Sash fastener	Jan. 29, 1867.
69, 274	Truman, James W., Macon, Ga. Tobacco pipe	Jan. 15, 1867.
70, 291	Trusty, William H., Philadelphia, Pa. Wagon jack	Sept. 24, 1867.
61, 642	Tryon, Charles H., Greenwood, Ill. Apparatus for stacking hay	Oct. 29, 1867.
70, 918	Tuck, Joseph H., Brooklyn N. Y. Packing for stuffing boxes, &c. (Disclaimer)	Jan. 29, 1867.
72, 940	Tucker, A. W., Waxahachie, Texas. Harvester	Feb. 18, 1867.
67, 930	Tucker, Charles B., and L. S. Babbitt, assignors to L. S. Babbitt, Chicago, Ill. Bed bottom	Nov. 12, 1867.
66, 268	Tucker, Charles L., Chicago, Ill. Package for holding and shipping lard	Dec. 31, 1867.
64, 598	Tucker, Cyrus, Bloomington, Ill. Alarm lock for tills	Aug. 20, 1867.
2, 673	Tucker, F. O. and W. W., assignors through mesne assignments to themselves, West Meriden, Conn. Way top (Reissue)	July 2, 1867.
65, 307	Tucker, F. O. and W. W., et al. (See Hoquey, Robert, assignor.)	May 7, 1867.
70, 919	Tucker, James W., New York, N. Y. Hoisting machine	July 9, 1867.
61, 897	Tucker, John E., Boston, Mass. Patent	May 28, 1867.
62, 236	Tucker, John E., assignor to self, T. Tucker, J. H. Lincoln, and A. P. Hammon, Montfort, Wis. Foot rest for horses	Nov. 12, 1867.
62, 982	Tucker, R. Sands, Brooklyn, N. Y. Composition for coating and insulating telegraphic wires	Feb. 5, 1867.
68, 914	Tucker, Samuel B., St. Louis, Mo. Instrument for supporting fractures	Feb. 19, 1867.
66, 654	Tucker, Samuel B., and M. James Barwick. (See Hodgins, Samuel, assignor.)	Mar. 19, 1867.
70, 292	Tucker, Sewall, Worcester, Mass. Piston packing ring	Sept. 17, 1867.
68, 808	Tucker, Stephen D., New York, N. Y. Printing machine	July 9, 1867.
65, 308	Tucker, Welcome C., Richmond, Va. Machine for cutting paper, pasteboard, &c.	Oct. 29, 1867.
62, 786	Tucker, William, Paris, Ill. Wood planing machine	Sept. 10, 1867.
68, 924	Tucker, William, and Emery Andrews. (See Andrews & Tucker.)	May 28, 1867.
71, 924	Tucker, William B., Hillsboro', Ohio. Churn	Mar. 12, 1867.
62, 705	Tucker, Samuel B., and Patrick Cahill, assignors to A. P. Critchlow, Northampton, Mass. Machine for ornamenting buttons	Mar. 12, 1867.
67, 379	Tucker, Samuel B., and Patrick Cahill, assignors to A. P. Critchlow, Northampton, Mass. Machine for ornamenting buttons	Aug. 27, 1867.
64, 812	Tucker, Samuel B., and Patrick Cahill, assignors to A. P. Critchlow, Northampton, Mass. Machine for ornamenting buttons	Dec. 10, 1867.
72, 243	Tuder, Joseph F., Philadelphia, Pa. Rest for sharpening saws	Nov. 26, 1867.
71, 429	Tufts, Seth G., Maineville, Ohio. Harness hames	May 28, 1867.
65, 309	Tufts, Timothy, assignor to Charles C. Beers and Person Davis, Somerville, Mass. Brick molding machine	Aug. 13, 1867.
67, 840	Tuhy, H. L., Cincinnati, Ohio. Book binders' beveling machine	May 7, 1867.
64, 462	Tunison, John C., and John Gross. (See Gross & Tunison.)	July 9, 1867.
66, 655	Tunnicliff, John, and Patrick Cahill, assignors to A. P. Critchlow, Northampton, Mass. Machine for ornamenting buttons	Sept. 17, 1867.
69, 049	Tunstill, William, Paterson, N. J. Braiding machine	Sept. 17, 1867.
68, 915	Tupper, Horace, Bay City, Mich. Window sash	Sept. 17, 1867.
65, 310	Tupper, Lorenzo B. (See Lasher, Daniel, assignor.) (Reissue.)	May 28, 1867.
66, 423	Turck, Maynard I., Schodack, N. Y. Horse hay fork	July 2, 1867.
67, 048	Turner, Alexander. (See Smith, Charles G., assignor.)	July 23, 1867.
71, 083	Turner, Benjamin F., Bridgeton, N. J. Ladder	Nov. 19, 1867.
66, 424	Turner, Benjamin F., Bridgeton, N. J. Ladder	July 2, 1867.
63, 187	Turner, Charles M., and Charles B. Corey. (See Corey & Turner.)	Mar. 26, 1867.
72, 124	Turner, Charles M., and Charles B. Corey. (See Corey & Turner.)	Dec. 10, 1867.
69, 275	Turner, D. H., New York, N. Y. Cooling and purifying animal charcoal	Sept. 24, 1867.
66, 423	Turner, Edward A., assignor to self and John Morrissey, New York, N. Y. Car coupling	May 28, 1867.
67, 048	Turner, Edward A., assignor to self and John Morrissey, New York, N. Y. Car coupling	July 2, 1867.
71, 083	Turner, Hiram, Ripon, Wis. Gate	July 23, 1867.
66, 424	Turner, John, Marshalltown, Iowa. Stove-pipe shelf	Nov. 19, 1867.
63, 187	Turner, John, Grand Haven, Mich. Stump extractor	July 2, 1867.
72, 124	Turner, Lafayette, Cedar Rapids, Iowa. Bag holder	Dec. 10, 1867.
69, 275	Turner, L. W., assignor to self and G. S. Wilcox, Yalesville, Conn. Weather strip	Sept. 24, 1867.
66, 423	Turner, Nathan, West Lynn, Mass. Wardrobe	May 28, 1867.
67, 048	Turner, Reuben D., New York, N. Y. Apparatus for ageing and refining wines and liquors	July 2, 1867.
71, 083	Turner, Seymour & Judds. (See Manville, Eli J., assignor.)	Sept. 10, 1867.
66, 424	Turner, Seymour & Judds. (See Manville, Eli J., assignor.)	Sept. 10, 1867.
63, 187	Turner, Sidney S., Westboro', Mass. Piston rod packing	Dec. 16, 1867.
72, 340	Turner, Thomas J., Richland county, Ill. Horse rake	June 4, 1867.
67, 688	Turner, U., Versailles, Ky. Counting machine	Aug. 13, 1867.
66, 269	Turner, William J., Utica, N. Y. Boot and gaiter strap	July 2, 1867.
65, 027	Turner, William T., Philadelphia, Pa. Umbrella	May 21, 1867.
70, 378	Turney, G. L., assignor to S. A. Harshaw, England. Papering pins	Oct. 29, 1867.
68, 809	Tuttle, Chauncey E., et al. (See Wallis, Mattoon & Tuttle.)	Sept. 10, 1867.
66, 189	Tuttle, Ebenezer, Canaan, Me. Water wheel	June 25, 1867.
62, 302	Tuttle, Edward A., Brooklyn, N. Y. Hot-air register (Extension)	Dec. 16, 1867.
69, 275	Tuttle, Joseph H., (deceased), by George N. Reed and Percis L. Tuttle, administrators, Geneva, N. Y. Saw (Extension)	Oct. 8, 1867.
62, 302	Tuttle, Lewis G., North Haven, Conn. Cultivator	June 4, 1867.
69, 275	Tuttle, S. D., and J. H. Gans, Eaton, Ohio. Cultivator	Feb. 19, 1867.
	Tuttle, Sidney S. (See Pierpont, Joshua, assignor.)	Oct. 8, 1867.
	Tuttle, jr., W., and S. H. Wheeler. (See Wheeler & Tuttle.)	
	Tuttle, W. S., and B. O. Woods. (See Woods & Tuttle.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
72, 125	Tweddle, Herbert W. C., Pittsburg, Pa. Apparatus for distilling oils	Dec. 10, 1867.
72, 126	Same.....Distilling hydro-carbon oils	Dec. 10, 1867.
67, 380	Tweedy, Armstrong, Collinsville, Ohio. Hedge trimming machine	July 30, 1867.
69, 276	Twitcheil, Charles S., assignor to James G. English and Edwin F. Merrick, New Haven, Conn. Folding chair	Sept. 24, 1867.
68, 398	Tyer, Henry G., Andover, Mass. Overshoe	Sept. 3, 1867.
2, 820	Same.....same.....(Reissue).....	Dec. 24, 1867.
72, 764	Tyler, A. P., Cleveland, Ohio. Lamp	Dec. 31, 1867.
71, 248	Tyler, C. N., Buffalo, N. Y. Lamp	Nov. 19, 1867.
63, 118	Tyler, H., Gaines, N. Y. Pump valve	Mar. 19, 1867.
68, 810	Tyler, Hiram, assignor to self and Venum Sterns, Gaines, N. Y. Pump	Sept. 10, 1867.
70, 279	Tyler, Hiram, assignor to self, Charles T. Richards, and John Marsh, Gaines, New York. Pump	Oct. 29, 1867.
61, 284	Tyler, Philos B., William M. Chandler, Springfield, Mass., and L. F. Standish, Chicopee, Mass., assignors to Repeating Light Company. Apparatus for lighting lamps, gas-burners, &c.	Jan. 15, 1867.
71, 667	Tyler, Reuben, and Peter Campbell, jr., Diana, N. Y. Composition for roofing	Dec. 3, 1867.
68, 132	Tyler, Samuel W., Troy, N. Y. Machine for pulling flax	Aug. 27, 1867.
62, 090	Tyler, Samuel W., assignor to self, Thomas McCleeman, George P. Prescott, Wm. Deyermann, Edward H. Jones, and Henry Holmes, Troy, N. Y. Machine for pulling flax	Feb. 12, 1867.
66, 914	Tynan, Joseph E., and M. McGill. (See McGill & Tynan.) Tynan, J. E. and William P., Paterson, N. J. Locomotive truck	July 16, 1867.
	Tyng, Levi B. (See Nesbitt, John, assignor.)	
	Tyrrel, H. A., and F. A. Blake. (See Blake & Tyrrel.)	
62, 511	Tyson, J. D., and H. Bean. (See Bean & Tyson.) Tyson, J. W., Lower Providence, Pa. Cultivator	Feb. 26, 1867.
63, 188	Tyson, Richard W. (See Trayser, Philip P., assignor.) Udell, Calvin G., Chicago, Ill. Extension ladder	Mar. 26, 1867.
68, 672	Ufford, Samuel N. and Hezekiah G. (See Burton, Henry E., assignor.) Uhry, H., New York, N. Y. Valve gear for steam engine	Sept. 10, 1867.
62, 453	Utting, Leonhardt, assignor to Conrad Liebrich, Philadelphia, Pa. Hasp for trunk lock	Feb. 26, 1867.
62, 813	Same.....Trunk lock	May 14, 1867.
67, 231	Ulmer, C., Mobile, Ala. Cotton bale tie	July 30, 1867.
72, 570	Ulrich, William, assignor to self, Charles M. and Jacob H. Theberath, Newark, N. J. Reflector	Dec. 24, 1867.
68, 263	Ulrich, William B., and R. B. Locke. (See Locke & Ulrich.) Umfrid, Charles T., Wurttemberg. Grinding mill	Aug. 27, 1867.
65, 708	Underhill, John K., Brooklyn, N. Y. Button fastening	June 11, 1867.
69, 595	Underwood, Flavius J., Rock Island, Ill. Pump. (Antedated September 27, 1867.) Underwood, Henry, ass'or to P. Jewell & Sons, New York, N. Y. Lap joint.....(Reissue)	Oct. 8, 1867.
2, 433	Same.....(Reissue).....	Jan. 1, 1867.
70, 293	Underwood, John, assignor to Ephraim Ball, Muscatine, Iowa. Machine for cutting teeth of wheels	Oct. 29, 1867.
70, 294	Same.....Babbeting and drilling jig	Oct. 29, 1867.
67, 931	Underwood, John C., and Peter Johnson, assignors to selves, Charles A. Vaile, and David Nordyke, Richmond, Ind. Device for soldering cans	Aug. 20, 1867.
67, 821	Underwood, E. P., Brooklyn, N. Y. Lubricator for spindles	Aug. 13, 1867.
	Union Steam Valve Company. (See Whittier, Charles, assignor.)	
	Union Sugar Refinery. (See Jasper, Gustavus A., assignor).....(Reissue.)	
	United States Blasting Oil Company. (See Nobel A., assignor).....(Reissue.)	
	Same.....same.....(Reissue.)	
61, 123	Unthank, Daniel, Spicelaad, Ind. Portable fence	Jan. 8, 1867.
	Upham, James P. (See Holden, G. William, assignor.)	
	Upham, J. P., et al. (See Fuller, Jim B., assignor.)	
62, 091	Upham, Lewis W., and Samuel C. Bradley. (See Bean, Albert B., assignor.) Upham, Samuel C., Philadelphia, Pa. Nutritive medicine	Feb. 12, 1867.
62, 512	Same.....Nutritive and curative preparation	Feb. 26, 1867.
62, 908	Upson, Andrew S., and Samuel Frisbie. (See Frisbie & Upson.) Upton, Albert W., Lowell, Mass. Knob latch for doors	Mar. 12, 1867.
62, 787	Upton D., Rochester, and C. H. Nichols, Buffalo, N. Y. Ash pan and fire grate for locomotive	Mar. 12, 1867.
60, 968	Upton, George, South Danvers, Mass. Manufacture of glue	Jan. 1, 1867.
63, 965	Upton, Thomas L., Farmington, West Va. Medical vegetable liniment	Apr. 16, 1867.
63, 126	Same.....Medical vegetable salve	Apr. 16, 1867.
61, 964	Uren, Richard, Houghton, Mich. Apparatus for washing ore	Jan. 8, 1867.
65, 311	Urie, Thomas, Springfield, Iowa. Wagon-brake lock	May 28, 1867.
63, 706	Usher, Charles, Iowa Falls, Iowa. Manufacture of iron and steel	Mar. 5, 1867.
67, 321	Utley, David, 2d., Moscow, N. Y. Sad-iron heater	July 30, 1867.
	Utley, Grey, and T. E. Marable. (See Marable & Utley.)	
	Utter, Isaac. (See Clarke, Orlando, assignor.)	
61, 285	Utter, Samuel S., New York, N. Y. Cooking stove	Jan. 15, 1867.
	Vacuum Oil Company. (See Everest, Hiram B., assignor.)	
70, 136	Vail, Charles M., Elmira, N. Y. Cooler for water, milk, beer, &c.....	Oct. 22, 1867.
	Vail, Ellen A. (See Kendall, John L., assignor.)	
64, 924	Vail, Jacob, assignor to self and John H. Linderman, Beloit, Wis. Gate	May 21, 1867.
69, 726	Vail, John, Yankee Jims, Cal. Washing machine	Oct. 8, 1867.
2, 622	Vail, P. W., Newark, N. J. Hats	Apr. 16, 1867.
69, 277	Same.....Machine for pressing hats	Sept. 24, 1867.
	Vail, P. W., et al. (See Labiaux, John L., assignor.)	
	Vailo, Charles A., et al. (See Underwood & Johnson, assignors.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
69, 050	Vaill, E. W., Worcester, Mass. Folding chair	Sept. 17, 1867.
69, 145	Same	Sept. 24, 1867.
72, 127	Vale, Joseph G., Cumberland county, Pa. Grain drill	Dec. 10, 1867.
65, 845	Valentine, James F., Union county, Ohio. Mode for dressing side strap for harness	June 18, 1867.
2, 558	Valentine, Samuel W., Bristol, Conn. Scissors	Jan. 15, 1867.
2, 767	Same	Aug. 20, 1867.
70, 920	Valkmar, jr., Charles, assignor to self, Wm. P. Myers, and Thomas Hedim, New York, N. Y. Mode of preparing cloth for receiving lithographic and other impressions	Nov. 12, 1867.
64, 725	Valliquette, L., et al. (See Allen, Peter, assignor.) Van, John, Cincinnati, Ohio. Cooking range	May 14, 1867.
62, 237	Van Alen, Timothy O. (See Manley, G. B., assignor.) Van Alstine, Burk, Channahon township, Ill. Mop wringer	Feb. 19, 1867.
66, 753	Van Aukon, Sidney, and James H. Graham, Binghamton, N. Y. Milk strainer	July 16, 1867.
67, 382	Van Ausdall, Henry, Keokuk, Iowa. Apparatus for kindling fire	July 30, 1867.
70, 295	Van Benthuyssen, Joseph D., New Orleans, La. Bale tie	Oct. 29, 1867.
64, 599	Van Brunt, Cornelius. (See Loomis, Kellogg H., assignor.) Van Brunt, D. C. and G. W., and H. Barber. (See Barber & Van Brunt.) Van Buren, J. S., South Troy, N. Y. Heating stove	May 7, 1867.
70, 137	Vance, N. S., and E. Watkins, Decatur, Ill. Instrument for cutting post holes	Oct. 23, 1867.
70, 653	Vance, Samuel B. H., assignor to Mitchell, Vance & Co., New York, N. Y. Means of suspending gasoliers and drop lights	Nov. 5, 1867.
64, 168	Vandecar, Israel D., Chicago, Ill. Excavator	Apr. 23, 1867.
64, 169	Same	Apr. 23, 1867.
71, 312	Vandegrift, Andrew J., Cincinnati, Ohio. Parallel movement	Nov. 26, 1867.
63, 867	Vandegrift, James, Princeton, Ill. Plow	Oct. 15, 1867.
67, 383	Vandegrift, J., and M. Richards. (See Richards & Vandegrift.) Vandemark, Archibald B. (See Spencer, James C., assignor.) Van De Mark, Charles Phelps, N. Y. Cooking stove	July 30, 1867.
72, 571	Same	Dec. 24, 1867.
66, 425	Vandevinne, F. J., Belgium. Excavator or digging machine	July 2, 1867.
71, 343	Vanderbelt, jr., Peter, Hughesville, Pa. Horse hay fork	Nov. 26, 1867.
72, 128	Vanderbilt, George R., assignor to self, J. J. Lindstrom, and D. W. Stidolph, Mount Vernon, N. Y. Window sash stop	Dec. 10, 1867.
62, 165	Van Derburgh, Geo. E., New York, N. Y. Composition for artificial stone. (Ante-dated February 14, 1867)	Feb. 19, 1867.
62, 166	Same	Feb. 19, 1867.
2, 501	Van Derburgh, George E., assignor to the New York Quartz Company, New York, N. Y. Forming emery wheels and grinding and polishing surfaces	Mar. 5, 1867.
66, 190	Vandercar, John, assignor to T. S. Sperry, Brooklyn, N. Y. Feed bag. (Ante-dated June 20, 1867)	June 25, 1867.
67, 232	Vandercar, John, assignor to the Phoenix Furnace Bar Company, New York, N. Y. Grate bar for furnace	Nov. 25, 1867.
61, 125	Vanderhoven, Marcus, Utica, N. Y. Dust pan	July 30, 1867.
62, 092	Vanderveer, Tristram Dodge. (See Conroy, Loughlin, assignor.) Vander Weyde, P. H., Philadelphia, Pa. Refining petroleum and lubricating oil	Jan. 8, 1867.
62, 093	Same	Feb. 12, 1867.
62, 094	Same	Feb. 12, 1867.
62, 095	Same	Feb. 12, 1867.
62, 096	Same	Feb. 12, 1867.
62, 097	Same	Feb. 12, 1867.
62, 098	Same	Feb. 12, 1867.
62, 099	Same	Feb. 12, 1867.
62, 100	Same	Dec. 17, 1867.
68, 916	Van Deusen, Benjamin, Troy, N. Y. Spittoon for railroad car	Sept. 17, 1867.
64, 600	Van Deusen, Joseph B., New York, N. Y. Rotary steam engine	May 7, 1867.
69, 051	Vandevort, Robert, Pittsburg, Pa. B of heel	Sept. 17, 1867.
63, 119	Van Dewerker, Jacob B., Cobleskill, N. Y. Hop frame	Mar. 19, 1867.
71, 554	Van de Wiele, Louis F., Brooklyn, N. Y. Clamp strap for school books	Nov. 26, 1867.
66, 426	Van Doren, Francis, Adrian, Mich. Dray	July 2, 1867.
63, 811	Same	Sept. 10, 1867.
69, 513	Same	Oct. 1, 1867.
72, 432	Vandoren, sr., Theodore, Washington, D. C. Taking the form and measure of gentlemen to cut coats and vests	Dec. 17, 1867.
72, 129	Van Dusen, George W., Williamsburg, N. Y. Musical instrument	Dec. 10, 1867.
69, 514	Van Dyck, Charles, Nashville, Tenn. Spring bed	Oct. 1, 1867.
63, 264	Van Dyke, William, and W. W. Eastwick, Keokuk, Iowa. Roofing composition	Aug. 27, 1867.
62, 788	Van Emon, Samuel, Cincinnati, Ohio. Hoisting machine	Mar. 12, 1867.
63, 444	Van Eps, C. H., Farmington, Iowa. Gate	Apr. 2, 1867.
66, 754	Van Etten, E. E., Mount Morris, N. Y. Clamp for filing saws	July 16, 1867.
72, 130	Vanfleet, Barnet, and Fredrek Bauschleker. (See Bauschleker & Vanfleet.) Vang, Andreas, Chicago, Ill. Water indicator for boilers	Dec. 10, 1867.
64, 170	Van Gaasbeek, B., Mount Vernon, N. Y. Ironing table	Apr. 23, 1867.
64, 533	Van Gaasbeek, John, Mount Vernon, N. Y. Method of raising bents in buildings	Apr. 2, 1867.
61, 485	Van Gieson, William H., Passaic, N. J. Cork screw	Jan. 22, 1867.
62, 467	Van Hagen, Isaac, Chicago, Ill. Foot rest	Feb. 19, 1867.
70, 654	Van Hofe, William, New York, N. Y. Bottle stopper	Nov. 5, 1867.
67, 615	Van Horn, B. (See Bradley, Henry W., assignor.) Van Horn, Charles A., Chenango, N. Y. Churn	Aug. 6, 1867.
67, 233	Van Horn, James B., and J. B. Roberts, Newtown, Pa. Roofing composition	July 30, 1867.
	Van Horn, M. L. (See Gillilan, William, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 674	Van Houten, Charles H., and Joseph M. Crane, Newark, N. J. Machine for pouncing hats	Apr. 9, 1867.
69, 596	Van Houten, James H., assignor to Noah W. King and Albert Caswell, New York, N. Y. Burial case	Oct. 8, 1867.
66, 427	Van Kannel, T., Cincinnati, Ohio. Cider mill	July 2, 1867.
66, 538	Same..... Door spring	July 9, 1867.
	Van Lutheran, Henry, <i>et al.</i> (See Mills, Jonathan, assignor.)	
72, 131	Van Orman, Oliver, Ripon, Wis. Horse hay fork	Dec. 10, 1867.
61, 776	Van Patten, Frederick, Auburn, N. Y. "Fifth wheel," or whiffletree attachment to carriages	Feb. 5, 1867.
70, 296	Van Pelt, John, Perry, Ill. Hull for vessels	Oct. 29, 1867.
	Van Pelt, J. H., and H. A. S. Park. (See Park & Van Pelt.)	
67, 466	Van Riper, John E., Dearborn, Mich. Harrow	Aug. 6, 1867.
	Van Riper, J. H., <i>et al.</i> (See Maunton, Jabez, assignor.)	
	Same..... same	
	Same..... same	
65, 312	Van Sandt, John H., and James J. Hart, Princeton, Ind. Rotary steam engine	May 28, 1867.
	Van Sickle, J. N., and A. Washburn. (See Washburn & Van Sickle.)	
62, 098	Van Sickle, R. M., New York, N. Y. Elevator	Feb. 12, 1867.
69, 727	Same..... Combined friction wheel and brake crank	Oct. 8, 1867.
69, 868	Same..... Adjustable roller frame for elevator platforms	Oct. 15, 1867.
65, 454	Vanstone, Samuel, assignor to self and John Stewart, Providence, R. I. Making car wheels	June 4, 1867.
70, 380	Same..... Connecting link for chains	Oct. 29, 1867.
	Van Tine, A. C. (See Jackson, R. H., assignor.)	
65, 846	Van Tine, Henry C., Pittsburg, Pa. Apparatus for burning petroleum and other hydrocarbons	June 18, 1867.
61, 643	Van Trum, Isaac, assignor to Marine Signal Company, Wilmington, Del. Fog signal. (Antedated January 19, 1867)	Jan. 29, 1867.
	Van Vechten, J. R., and J. P. Fitch. (See Powers, Timothy J., assignor.)	
2, 617	Van Velthoven, Richard, and Joseph H. Hazzard, assors through mesne assignments to William W. Harding, Philadelphia, Pa. Photographic album..... (Reissue)	May 21, 1867.
62, 380	Van Vleck, John P., Rock county, Wis. Hand corn planter	Feb. 26, 1867.
65, 619	Van Voorhis, H. B., Pittsburg, Pa. Gate	June 11, 1867.
69, 375	Van Voorhis, Isaac, Hillsboro', Pa. Hay derrick	Oct. 1, 1867.
62, 707	Van Vranken, Mary, Washington, D. C. Attachment for heating kettles and boilers by gas	Mar. 5, 1867.
62, 099	Van Winkle, A., Newark, N. J. Soda-water stand	Feb. 12, 1867.
2, 781	Van Wormer, Jasper, and Mich'l McGarvey, Albany, N. Y. Stove boiler. (Design)	Sept. 10, 1867.
61, 898	Van Wyck, William, Bel'eville, N. J. Method of refining and bleaching sugar, sirup, &c	Feb. 5, 1867.
65, 313	Same..... Composition for filtering petroleum, sirups, and other liquids	May 28, 1867.
67, 234	Van Zandt, James D., Brooklyn, N. Y. Cork pull	July 30, 1867.
72, 572	Varela, A. C., Washington, D. C. Beehive	Dec. 24, 1867.
70, 763	Varney, Isaac, Kennebunk, Maine. Carriage jack	Nov. 12, 1867.
62, 983	Varney, Thomas, San Francisco, Cal. Machine for concentrating ores	Mar. 19, 1867.
63, 675	Same..... Quartz mill	Apr. 9, 1867.
61, 286	Vaughn, T., and A. Rix, San Francisco, Cal. Quartz crusher	Jan. 15, 1867.
71, 430	Vaughan, Aaron C., Philadelphia, Pa. Burner for locomotive head lights	Nov. 26, 1867.
71, 451	Same..... Head light for locomotives	Nov. 26, 1867.
72, 132	Vaughan, Lewis, Rapids, Oh.o. Washing machine	Dec. 10, 1867.
	Vaughn, A. H. (See Force, Albert M., assignor.)	
72, 703	Vaughn, John, College Grove, Tenn. Combined planter and cultivator	Dec. 24, 1867.
69, 869	Vaux, Ethan P., Washington, D. C. Pipes for the transmission of fluids	Oct. 15, 1867.
	Veazie, F., and W. S. Colwell. (See Colwell & Veazie.)	
71, 925	Veazie, Joseph A., Boston, Mass. Billiard-cue tip	Dec. 10, 1867.
64, 171	Veber, W. F., Perrysburg, Ohio. Fence gate	Apr. 23, 1867.
2, 734	Vedder, Nicholas S., Troy, N. Y. Plate of a stove..... (Design)	Aug. 6, 1867.
2, 735	Same..... same..... (Design)	Aug. 6, 1867.
2, 736	Same..... Plate and door of a stove..... (Design)	Aug. 6, 1867.
2, 737	Same..... Plate of a stove..... (Design)	Aug. 6, 1867.
2, 738	Same..... Door of a stove..... (Design)	Aug. 6, 1867.
2, 739	Same..... same..... (Design)	Aug. 6, 1867.
2, 740	Same..... same..... (Design)	Aug. 6, 1867.
	Vedder, Nicholas S., and Clement Olhaber. (See Olhaber & Vedder.)	
	Veerkamp, Florence, <i>et al.</i> (See Shloss, Veerkamp & Leopold.)	
	Velle, S. H., <i>et al.</i> (See Moore, Gilpin, assignor.)	
65, 314	Venner, George W., Charlestown, Mass. Photographic camera. (Antedated May 15, 1867)	May 28, 1867.
64, 601	Verbeck, Philip, Neenah, Wis. Window fastening	May 7, 1867.
67, 822	Vere, Henry Holton, assignor to John E. Fishley, New York, N. Y. Spring mattress	Aug. 13, 1867.
67, 384	Vergniais, Jean Louis, France. Dredging machine	July 30, 1867.
64, 622	Vermilya, William, Dayton, Ohio. Composition for invigorating fruit and forest trees	May 7, 1867.
68, 471	Verney, L. T., France. Printing press	Sept. 3, 1867.
68, 614	Verniaud, C., and D. I. Lucie, Quincy, Ill. Pump	Aug. 20, 1867.
65, 968	Verree, John P., and W. A. Mitchell, Philadelphia, Pa. Rollers for rolling old rails	June 18, 1867.
	Verree, John P., <i>et al.</i> (See Pratt, Daniel R., assignor.)	
69, 515	Very, A. O., Andover, N. Y. Loom	Oct. 1, 1867.
70, 921	Vetter, Casper, assignor to self and Peter Schneider, Cincinnati, Ohio. Self-closing hinge	Nov. 12, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 915	Vetter, Michael, assignor to self and Simon Kahn, Muscatine, Iowa. Window shade.	July 16, 1867.
67, 467	Vieira, Manuel J., Mendota, Ill. Shampooing mixture	Aug. 6, 1867.
2, 600	Viets, Inlay B., New Britain, Conn. Axe handle (Design)	Mar. 19, 1867.
61, 582	Villard, Frederick, Mt. Eaton, Ohio. Crucible tongs	Jan. 9, 1867.
62, 578	Same.....Revolving chimney top	Mar. 5, 1867.
70, 922	Villee, A. S., Lancaster, Pa. Guide or clamp for harness motion	Nov. 12, 1867.
60, 969	Vincent, Hunneville, assignor to self and Hugh B. Brown, New York, N. Y. Hoop skirt	Jan. 1, 1867.
	Vine, John S. (See Harris, John, assignor.)	
65, 777	Vining, P. T., New York, N. Y. Preserving flowers and other vegetable forms	June 11, 1867.
67, 385	Vinsonheller, J. P., Urbana, Ohio. Paint	July 30, 1867.
	Vinton, G. W., et al. (See Moore, Gilpin, assignor.)	
72, 765	Violet, Francis N., Fond du Lac, Wis. Window-sash supporter	Dec. 31, 1867.
65, 140	Vliet, Garret, assignor to William Vliet, Milwaukee, Wis. Gate for water wheels	May 28, 1867.
69, 728	Vogtli, Franz, Montgomery City, Mo. Spinning machine	Oct. 8, 1867.
61, 486	Vogel, Charles, New York, N. Y. Machine for cutting files	Jan. 22, 1867.
67, 235	Vogelmann, Timotheus, Hamilton, Ohio. Step ladder	July 30, 1867.
	Vogler, William, and Charles Parker. (See Parker & Vogler.)	
67, 085	Vogt, C., and X. Krapf, Allentown, Pa. Churn	July 23, 1867.
	Vogt, J. Henry, and J. Jacob Gass. (See Canter, William, assignor.)	
69, 278	Vogt, Peter A., Buffalo, N. Y. Refrigerator	Sept. 24, 1867.
67, 086	Voigt, Hermann, Buffalo, N. Y. Curtain fixture	July 23, 1867.
	Volkers, H. W., et al. (See Crchn, Moritz, assignor.)	
65, 709	Volkman, F., Hoboken, N. J. Plow	June 11, 1867.
2, 703	Volkmann, Bruno, assignor to Frederk Volkmann, Hoboken, N. J. Plow. (Reissue)	July 30, 1867.
72, 704	Vollmer, Charles F., Harrisburg, Pa. Extension bed lounge	D. C. 24, 1867.
61, 487	Vollschwitz, Rudolph, New York, N. Y. Boot and shoe	Jan. 22, 1867.
60, 970	Vollschwitz, Rudolph, assignor to self and J. J. Schlapfer, New York, N. Y. Door lock	Jan. 1, 1867.
71, 344	Vom Hofe, Julius, Brooklyn, N. Y. Fishing reel	Nov. 26, 1867.
	Vonder Luke, C. F. (See Anton, M., assignor.)	
67, 616	Von Proben, Louis, New York, N. Y. Nutmeg grater	Apr. 6, 1867.
63, 967	Von Laekum, Peter, St. Charles, Minn. Device for sacking grain	Apr. 16, 1867.
71, 249	Same.....Elba, Minn. Snow plow	Nov. 19, 1867.
	Von Phul, Frederick. (See Michel, Charles E., assignor.)	
64, 385	Von Pohrnhoff, Alois Pohnr, Brooklyn, N. Y. Process in the manufacture of bi-carbonate of soda	Apr. 30, 1867.
67, 087	Same.....Apparatus for the manufacture of bi-carbonate of soda	July 23, 1867.
67, 923	Voorhees, T. D., Easton, Pa. Screw driver	Nov. 12, 1867.
63, 968	Voorhis, Peter, New York, N. Y. Method of obstructing ice in rivers and harbors	Apr. 16, 1867.
2, 796	Same.....same (Reissue)	Nov. 5, 1867.
71, 250	Vose, Albert, Pittsfield, Vt. Hay loader	Nov. 19, 1867.
72, 133	Vose, Albert, assignor to self and Ambrose S. Vose, Pittsfield, Vt. Hay raker and loader	Dec. 10, 1867.
63, 120	Vose, Richard, New York, N. Y. Window-sash supporter	Mar. 19, 1867.
68, 133	Same.....Car spring	Aug. 27, 1867.
68, 134	Same.....same	Aug. 27, 1867.
71, 926	Same.....same	Dec. 10, 1867.
72, 941	Same.....same	Dec. 31, 1867.
62, 789	Votaw, Aaron, New Garden, Ohio. Wagon brake	Mar. 12, 1867.
65, 620	Same.....Churn	June 11, 1867.
60, 807	Vrooman, Henry S., Hoboken, N. J. Channelling machine	Jan. 1, 1867.
	Wackerman, Barbara. (See Sehnders, Henry F., assignor.)	
	Waddell, Robert, England. Balancing slide valve of steam engines (Extension)	Apr. 1, 1867.
71, 555	Waddle, Uriah B., Cleveland, Ohio. Feather renovator	Nov. 26, 1867.
72, 134	Wade, George E., Jefferson City, Mo. Washing machine	Dec. 10, 1867.
65, 315	Wade, S. H., Montgomery Center, Vt. Butter worker	May 28, 1867.
70, 655	Wadgymer, Arthur, assignor to self, Byron Sloper, and W. C. Gould, St. Louis, Mo. Process of preserving eggs	Nov. 5, 1867.
72, 942	Wadhams, Edward, Yorkville, N. Y. Roller journal-box	Dec. 31, 1867.
63, 584	Wadhams, H. F., South Danville, N. Y. Device for gathering apples	Apr. 2, 1867.
67, 223	Wadsworth, Arthur, Newark, N. J. Stem-winding watch	Aug. 13, 1867.
68, 399	Wadsworth, Calvin, Madison, Ohio. Self-relieving grape gatherer	Sept. 3, 1867.
71, 927	Wage, W. P., assignor to self and M. Clark, Barre Center, N. Y. Apparatus for turning on gas	Dec. 10, 1867.
	Wagener, Adam, et al. (See Carlton, William, assignor.)	
	Wagenhorst, James J., et al. (See Klahr, Joseph, assignor.)	
65, 969	Waggoner, John A., Kilgore, Ohio. Chimney cow	June 18, 1867.
	Wagner, Albert, et al. (See Nulsen, Hansens & Wagner.)	
64, 814	Wagner, C. P., New York, N. Y. Cotton and hay press	May 14, 1867.
68, 812	Wagner, C. Philip, New York, N. Y. Press	Sept. 10, 1867.
61, 267	Wagner, George, Washington, D. C. Boot and shoe	Jan. 15, 1867.
66, 058	Wagner, John, and John Schmid, Philadelphia, Pa. Fire escape	June 25, 1867.
70, 764	Wagner, Joseph, New Castle, Pa. Well tube	Nov. 12, 1867.
70, 765	Wagner, Michael, assignor to self and Herman Witte, Cincinnati, Ohio. Fountain pen	Nov. 12, 1867.
	Wagner, S., and L. L. Langstroth. (See Langstroth & Wagner.)	
	Wagor, R. H., and W. H. Davis. (See Davis & Wagor.)	
2, 486	Wailay, Charles W., New Orleans, La. Cotton bale tie (Reissue)	Feb. 19, 1867.
62, 909	Same.....Life-preserving raft	Mar. 12, 1867.
67, 003	Same.....Device for pulling metal hoops from the finishing rolls of rolling machines	July 23, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
67, 236	Wailey, Charles W., New Orleans, La. Die for forming cotton ties	July 30, 1867.
69, 870	Same..... Cotton bale tie.....	Oct. 15, 1867.
62, 579	Wainwright, Benjamin, East Boston, Mass. Rib-knitting loom.....	Mar. 5, 1867.
	Wait, Justin B. (See Scofield, Levi, assignor.)	
62, 238	Wait, Samuel B., Mariner's Harbor, N. Y. Propeller	Feb. 19, 1867.
65, 455	Waite, Enoch, South Natick, Mass. Felting machine.....	June 4, 1867.
65, 456	Waite, Enoch, assignor to self and the Elliott Felting Mills, Franklin, Mass. Machine for forming wats for felting, wadding, &c.....	June 4, 1867.
66, 539	Waite, Enoch, assignor to self and S. M. Weld, sr., Franklin, Mass. Carpet wadding	July 9, 1867.
	Waite, George, administrator of John Watts, deceased. (See Watts, John.)	
	Waite, Gilman, <i>et al.</i> (See Mellish, Henry, assignor.)	
	Same.....same.....	
	Same.....same.....	
	Same.....same.....	
70, 052	Waite, John L., Burlington, Iowa. Telegraph insulator	Oct. 22, 1867.
68, 917	Waite, Stephen, New Bedford, Mass. Driven pump.....	Sept. 17, 1867.
62, 580	Wakefield, Christopher H., Montpelier, Vt. Machine for shrinking tire.....	Mar. 5, 1867.
72, 135	Wakefield, John, assignor to Isaac Smith and William Fothergill Bartho, England. Bolt and rivet machine. (Patented in England Sept. 14, 1865).....	Dec. 10, 1867.
	Wakelee, T., and T. Burr. (See Burr & Wakelee.)	
63, 585	Wakeman, Edgar, Brooklyn, Cal. Boat and davit tackle.....	Apr. 2, 1867.
65, 621	Wakeman, jr., William W., New York, N. Y. Lamp for burning off paint.....	June 11, 1867.
61, 288	Wakeman, jr., W. W., New York, and R. Ross, Brooklyn, N. Y. Paint burner.....	Jan. 15, 1867.
64, 049	Walber, James, Washington, D. C. Machine for felting hat bodies.....	Apr. 23, 1867.
71, 928	Waldo, George H., Prattsburg, N. Y. Horse hay fork.....	Dec. 10, 1867.
64, 265	Waldron, Adelia, assignor to self and J. H. Atkinson, San José, Cal. Washing machine.....	Apr. 30, 1867.
62, 454	Waldron, Josiah V., assignor to self and George Oberlander, New York, N. Y. Rosette.....	Feb. 26, 1867.
65, 316	Waldron, William R., Webster, Mich. Device for unloading and stacking hay.....	May 23, 1867.
	Walker, William S. (See Hall, George, assignor.)	
	Walker, Alexander J., New York, N. Y. Spirit lamp..... (Extension)	May, 20, 1867.
	Same. (See Archer and Deavs, assignors.)	
	Same. (See Trittin, Emil, assignor.)..... (Reissue.)	
	Same. (See Callender, Mills, L., assignor.)..... (Reissue.)	
72, 943	Walker, Alfred, New Haven, Conn. Spring bed bottom.....	Dec. 31, 1867.
69, 052	Walker, A. K. P., Richmond, Maine. Fastening for breastpins.....	Sept. 17, 1867.
71, 823	Walker, Benjamin, Greenpoint, N. Y. Forge hammer. (Antedated Nov. 23, 1867).....	Dec. 3, 1867.
62, 708	Walker, C. T., Benford's Store, Pa. Washing machine.....	Mar. 5, 1867.
62, 381	Walker, E. C., Newark, N. J. Hoop skirt.....	Feb. 26, 1867.
64, 386	Walker, Edward L., Jenner's Cross-roads, Pa. Washing machine.....	Apr. 30, 1867.
72, 244	Walker, Edwin R., assignor to Elliott P. Gleason, New York, N. Y. Argand burner.....	Dec. 17, 1867.
70, 381	Walker, Elisha, and A. M. Reed, La Porte, Ind. Cultivator.....	Oct. 29, 1867.
62, 100	Walker, George W., Boston, Mass. Cooking stove.....	Feb. 12, 1867.
72, 342	Same.....same.....	Dec. 17, 1867.
61, 488	Walker, James, Cincinnati, Ohio. Cork extractor.....	Jan. 22, 1867.
62, 101	Same.....Brewers' mash tun.....	Feb. 12, 1867.
62, 121	Same.....Boot-jack.....	Mar. 19, 1867.
68, 813	Walker, J. B., Elizabeth, Pa. Flexible rammer for turret guns.....	Sept. 10, 1867.
67, 824	Walker, James C., Waco Village, Texas. Mode of extracting essences.....	Aug. 13, 1867.
67, 932	Same.....Coffee pot.....	Aug. 20, 1867.
68, 265	Same.....Ship viameter.....	Aug. 27, 1867.
68, 472	Same.....Grain meter.....	Sept. 3, 1867.
69, 729	Same.....Hot air, steam, and water gauge.....	Oct. 8, 1867.
61, 489	Walker, J. H., Worcester, Mass. Machine for cutting soles.....	Jan. 22, 1867.
71, 929	Same.....Machine for rolling leather.....	Dec. 10, 1867.
62, 455	Walker, James T., Palmyra, N. Y. Whistling toy.....	Feb. 26, 1867.
	Walker, John G., <i>et al.</i> (See Walpole, William R., assignor.)	
69, 871	Walker, Joshua, Kansas City, Mo. Elevator.....	Oct. 15, 1867.
72, 341	Same.....Clothes dryer.....	Dec. 17, 1867.
62, 168	Walker, Richard, Milford, Mass. Let-off motion for looms.....	Feb. 19, 1867.
70, 297	Same.....same.....	Oct. 29, 1867.
67, 386	Walker, Richard, Batavia, N. Y. Lifting jack.....	July 30, 1867.
71, 668	Walker, Richard, assignor to self and Joseph B. Bancroft, Milford, Mass. Machine for cutting and mitering printers' rules.....	Dec. 3, 1867.
	Walker, Richard B., and Lewis Miller. (See Jenkins, John V., assignor.) (Reissue.)	
	Same.....same..... (Reissue.)	
	Same. (See Kennedy, Albert H., assignor.)..... (Reissue.)	
	Same. (See Jenkins, John V., assignor.)..... (Reissue.)	
71, 251	Walker, Robert L., Globe Village, Mass. Water grate for furnaces.....	Nov. 19, 1867.
	Walker, Robert P., New York, N. Y. Machine for hulling and scouring coffee. (Extension)	
61, 583	Walker, Samuel, Boston, Mass. Narrow ware loom.....	Dec. 13, 1867.
65, 778	Walker, Stephen W., Anson, Maine. Horse rake.....	Jan. 29, 1867.
61, 032	Walker, Sylvanus, New York, N. Y. Pliers.....	June 11, 1867.
	Same. (See Sergeant, Isaac A., assignor.)..... (Reissue.)	Jan. 8, 1867.
	Same.....same..... (Reissue.)	
66, 428	Walker, Thomas George, New York, N. Y. Drying and preparing peat.....	July 2, 1867.
	Walker, William, and C. E. Thompson. (See Thompson & Walker.)	
69, 516	Walker, W. B., Salem, Iowa. Loom.....	Oct. 1, 1867.
66, 916	Walker, W. H. H., Bangor, Maine. Meat chopper.....	July 16, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
63, 676	Walker, W. J., assignor to Caroline M. Walker, Baltimore, Md. Manufacture of light bread	Apr. 9, 1867.
66, 191	Walker, Joseph, New York, N. Y. Signal lamp	June 25, 1867.
67, 617	Wallace, D. F., and D. F. Cockerill, Ripley, Ohio. Churn dasher	Aug. 6, 1867.
62, 581	Wallace, George, Cincinnati, Ohio. Apparatus for fermenting malt and other liquors.	Mar. 5, 1867.
66, 109	Wallace, James, Sheridan, Pa. Plow	June 25, 1867.
	Same. (See Zeller & Lechner, assignors.)	
61, 126	Wallace, James B., assignor to self, R. Walling, and J. Crook, Franklin, Ohio. Invalid chair	Jan. 8, 1867.
70, 924	Wallace, John, Louisville, Ky. Grate combination	Nov. 12, 1867.
63, 767	Wallace, John Robert, and Benjamin A. McClain, Murfreesboro, Tenn. Cotton cultivator	Apr. 9, 1867.
64, 463	Wallace, Marquis D., White Creek, N. Y. Churn	May 7, 1867.
68, 814	Wallace, N. B., Fond du Lac, Wis. Watch	Sept. 10, 1867.
70, 298	Wallace, S. H., Parnassus, Pa. Miners' pick	Oct. 29, 1867.
64, 050	Wallace, Samuel Jacob, Keokuk, Iowa. Hay stacker	Apr. 23, 1867.
61, 777	Wallace, William, Ansonia, Conn. Chain	Feb. 5, 1867.
66, 755	Wallach, Antony, assignor to self and Adolph Wallach, New York, N. Y. Hook for watch chains	July 16, 1867.
71, 824	Same. Safety hook for watch chains	Dec. 3, 1867.
66, 192	Wallick, W., assignor to self, S. F. Prince, and H. K. Smith, Philadelphia, Pa. Machine for feeding nail plates	June 25, 1867.
	Walling, R., et al. (See Wallace, James B., assignor.)	
65, 622	Wallis, John N., and Theodore, Fleming, N. Y. Wagon-axle box	June 11, 1867.
	Wallis, John N., and George Quick. (See Quick and Wallis.)	
62, 122	Wallis, Theodore, A. B. Mattoon, and Chauncey E. Tutler, Auburn, N. Y. Attaching thill to wagons	Mar. 19, 1867.
65, 779	Wallis, William R., Alliance, Ohio. Method of attaching eave troughs to houses	June 11, 1867.
71, 825	Wallize, Samuel H., Washingtonville, Pa. Brake for sleds	Dec. 3, 1867.
71, 930	Same. Combined fertilizer and corn planter	Dec. 10, 1867.
	Walls, B. F., et al. (See Cushing, Walls & Wood.)	
61, 693	Wallwork, M., assignor to self and James Nutt, Shelbyville, Tenn. Method of preventing accidents on railroads	Jan. 29, 1867.
	Walman, F., and J. A. Bartlett. (See Bartlett & Walman.)	
67, 004	Walmsey, John, Buffalo, N. Y. Potato digger	July 23, 1867.
63, 586	Walpole, William R., assignor to self, William G. Wood, and John G. Walker, Chicago, Ill. Plow	Apr. 2, 1867.
61, 778	Walrath, James, and R. C. Chittenango, N. Y. Artificial fuel	Feb. 5, 1867.
	Walser, Charles Joseph. (See Iske, Anthony, assignor.)	
	Walser, J. W., et al. (See Myers, Walser & Spangler.)	
	Walsh, E., and T. H. et al. (See Clay, Robert, J., assignor.)	
60, 971	Walsh, James, Valley Town, Ill. Granary	Jan. 1, 1867.
67, 387	Walsh, James, Stark county, Ill. Harrow	July 30, 1867.
72, 245	Walsh, James P., Helena, Montana Territory. Method of attaching picks to their handles	Dec. 17, 1867.
64, 726	Walsh, Thomas and John, and David Evans, Brownsville, Pa. Brick machine	May 14, 1867.
63, 587	Walsh, Zachariah, Newark, N. J. Traveling bag	Apr. 2, 1867.
72, 944	Same. same	Dec. 31, 1867.
71, 089	Walter, F., St. Louis, Mo. Confectionery	Nov. 19, 1867.
	Walter Heyward Chair Company. (See Fitts, Robert, jr., assignor.)	
65, 780	Walter, James C., New York, N. Y. Apparatus for hardening and tempering wire	June 11, 1867.
	Walter, John, and James T. Smith. (See Smith & Walter.)	
62, 169	Walter, Thomas C., San Francisco, Cal. Cooking range	Feb. 19, 1867.
68, 266	Walters, George, and Thomas Shaffer, Phoenixville, Pa. Pile for wrought-iron beams or girders	Aug. 27, 1867.
68, 267	Same. Pile for wrought-iron beams or girders	Aug. 27, 1867.
69, 597	Same. Fagot for a beam	Oct. 8, 1867.
69, 872	Same. Construction of fagot for a beam	Oct. 15, 1867.
72, 246	Same. Mode of preparing fagots for manufacturing wrought-iron beams or girders	Dec. 17, 1867.
64, 603	Walters, J. W., Tiffin, Ohio. Flour bolt	May 7, 1867.
69, 376	Walton, B. F., Philadelphia, Pa. Mattress	Oct. 1, 1867.
69, 598	Walton, Moses, Marlboro', Ohio. Churn, &c.	Oct. 8, 1867.
71, 556	Walton, Moses P., Marlboro', Ohio. Washing machine	Nov. 26, 1867.
68, 815	Walton, Samuel, Ballardvale, Mass. Machine for cutting files	Sept. 10, 1867.
66, 429	Walton, William H., Brooklyn, N. Y. Machine for making paper collars	July 2, 1867.
	Walton, William H., and Bernard Douglas. (See Douglas & Walton.)	
2, 630	Walton, William N., assignor through mesne assignments to Elmu E. Walton, Newark, N. J. Attaching labels to bottles. (Division A. Reissue)	May 23, 1867.
2, 631	Same. Bottle for druggists and chemists. (Division B. Reissue)	May 23, 1867.
	Walworth, James J., and Gustavus E. Buschick. (See Zwicky, Caspar, assignor.)	
68, 918	Wandel, Charles, Milton, Iowa. Hand loom. (Antedated September 4, 1867)	Sept. 17, 1867.
61, 899	Wands, J. C., Nashville, Tenn. Roofing	F. b. 3, 1867.
71, 826	Wanier, George, assignor to self and Franz Wanier, New York, N. Y. Plumbers' and painters' lamp	Dec. 3, 1867.
61, 289	Waut Edwin, New Haven, Conn. Eye-glass	Jan. 15, 1867.
66, 433	Wanzer, Hiram L., Clyde, Ohio. Pitman connection for harvesters	July 2, 1867.
2, 798	Wanzer, Hiram L., New York, N. Y. Pitman connection for harvesters. (Reissue)	Nov. 12, 1867.
	Wanzer, J. M. (See Hollingsworth, James, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 540	Wappich, Maximilian, Sacramento, Cal. Joint of metallic casks, &c. (Antedated June 29, 1867)	July 9, 1867.
67, 068	Ward, A. W., Fishkill, N. Y. Machine for washing and drying dishes.	July 23, 1867.
	Ward, Daniel, and John Freeland. (See Freeland & Ward.)	
	Ward, David P., and John W. Minor. (See Miur & Ward.)	
	Same..... same.	
71, 931	Ward, D. T., Cardington, Ohio. Washing machine.	Dec. 10, 1867.
	Ward, Henry D. (See Gifford, A. W., assignor.)	
	Same..... (See Sargent, Lucius M., assignor.)	
	Ward, Henry D., and Wm. A. Richardson. (See Gifford, A. W., assignor.) (Reissue.)	
	Same..... same.	
70, 138	Ward, Jerome C., Bergen, N. Y. Stove-pipe drum.	Oct. 22, 1867.
60, 972	Ward, Joseph, New York, N. Y. Hollow auger.	Jan. 1, 1867.
	Ward, J. W., and O. Hawley. (See Hawley & Ward.)	
61, 584	Ward, L. F., Elyria, Ohio. Mail-bag catcher for railroad cars.	Jan. 29, 1867.
	Ward, Richard, deceased, by Lauren Ward, administrator, Naugatuck, Conn. Machine for turning irregular forms. (Extension).	June 27, 1867.
62, 239	Ward, Samuel, Amsterdam, N. Y. Take-up mechanism for circular knitting machines.	Feb. 19, 1867.
62, 513	Ward, Seth, Gibson county, Ohio. Back-band hook.	Feb. 26, 1867.
69, 279	Ward, Silas, Richwood, Ill. Animal trap.	Sept. 24, 1867.
71, 557	Ward, Stephen B., Auburn, N. Y. Seeding machine.	Nov. 26, 1867.
62, 709	Ward, S. W. H., New York, N. Y. Envelope for spittoons.	Mar. 5, 1867.
2, 434	Ward, William E., Port Chester, N. Y. Machine for making nuts. (Reissue.)	Jan. 1, 1867.
	Same..... Method of heading screw blanks, rivets, &c. (Extension).	July 6, 1867.
62, 240	Ward, W. G., Savona, N. Y. Clothes pin.	Feb. 19, 1867.
68, 919	Ward, Wesley G., Steuben county, N. Y. Device for hitching horses.	Sept. 17, 1867.
71, 538	Ward, W. H., Auburn, N. Y. Railway car apron or duster, and bridge.	Nov. 26, 1867.
	Ward, William L., and William H. Bancroft. (See Bancroft & Ward.)	
62, 382	Wardwell, C. P. S., Lake Village, N. H. Knitting machine needles.	Feb. 26, 1867.
69, 250	Same..... Machine for making needles.	Sept. 24, 1867.
69, 281	Same..... Machinery for making needles.	Sept. 24, 1867.
	Same..... (See Plant, Fredric, assignor.) (Reissue.)	
	Wardwell, Charles W. (See Decker, John assignor.)	
	Same..... same.	
60, 282	Wardwell, George J., Rutland, Vt. Machine for quarrying stone.	Sept. 24, 1867.
69, 283	Same..... same.	Sept. 24, 1867.
65, 731	Wardwell, Jeremy B., Georgetown, D. C. Weatherstrip.	June 11, 1867.
65, 972	Same..... Bedstead fastening.	June 18, 1867.
61, 960	Ware, Adam P., Camden county, N. J. Metallic carriage wheel. (Antedated January 28, 1867.)	Feb. 12, 1867.
68, 015	Ware, Elijah, Bayoune, N. J. Machinery for propelling steam carriages.	Aug. 20, 1867.
	Ware, Justin C., and Albert Fickett. (See Fickett & Ware.)	
2, 482	Ware, William P., Cincinnati, Ohio. Ear, cheek, and chin muffs. (Reissue.)	Feb. 12, 1867.
67, 388	Wareham, Charles E., Sedalia, Mo. Mop-wringer.	July 30, 1867.
70, 139	Warfield, George W., Hudson, Mass. Machine for shaping boot heels.	Oct. 22, 1867.
69, 959	Waring, John T., Yonkers, N. Y. Machine for ironing hats.	Oct. 15, 1867.
	Warland, C. A., and J. M. Ryder. (See Potter, Elisha O., assignor.)	
67, 689	Warne, M., and W. H. Pearce, Philadelphia, Pa. Hitching device for horses.	Aug. 13, 1867.
63, 768	Warner, Alexander, Brooklyn, N. Y. Window-blind fastening.	Apr. 9, 1867.
61, 900	Warner, Almon, Hamden, Conn. Hub for carriage wheels.	Feb. 5, 1867.
61, 779	Warner, Augustus J., assignor to self and James E. Conor, Brooklyn, N. Y. Window-blind fastening.	Feb. 5, 1867.
61, 127	Warner, Benjamin J., Brooklyn, N. Y. Watch case.	Jan. 8, 1867.
65, 633	Warner, Chauncey E., Syracuse, N. Y. Churn.	June 11, 1867.
	Warner, C. H. (See Miller, Charles D., assignor.)	
67, 825	Warner, Daniel, Port Clinton, Ohio. Drill.	Aug. 13, 1867.
67, 826	Warner, Daniel, W. F. Pfeiffer, and A. F. Lepper, Port Clinton, Ohio. Drilling machine.	Aug. 13, 1867.
69, 284	Warner, Ezra J., Newark, N. J. Eyeletting machine for attaching buttons to garments.	Sept. 24, 1867.
	Warner, Francis. (See Murden & Cooper, assignors.)	
67, 389	Warner, George, West Liberty, Iowa. Grain binder.	July 30, 1867.
65, 518	Warner, George L., assignor to self and Cornelia Hawks, Rochester, N. Y. Railway switch and signal.	June 4, 1867.
71, 090	Warner, Horace, Lake City, Mo. Washing machine.	Nov. 19, 1867.
66, 431	Warner, H. W., Watertown, Conn. Holder for brooms.	July 2, 1867.
67, 690	Warner, Ira P., Marengo, Ill. Carpet stretcher.	Aug. 13, 1867.
69, 873	Warner, James L., New York, N. Y. Toy engine.	Oct. 15, 1867.
71, 033	Warner, Stanton D., assignor to self, Jonathan S. Roberson, John Black, and E. B. Brewster, Richmond, Ill. Threshing machine.	Nov. 19, 1867.
67, 468	Warner, William E., Newark, and M. J. Palmer, Syracuse, N. Y., assignors to selves and Arthur Holmes. Car coupling.	Aug. 6, 1867.
62, 984	Warner, W. Y., Wilmington, Del. Car coupling.	Mar. 19, 1867.
71, 559	Same..... same.	Nov. 26, 1867.
62, 124	Warr, Aaron, Lockport, N. Y. Instrument for drawing ellipses.	Mar. 19, 1867.
69, 053	Warren, Andrew, Waltham, Mass. Regulating device for watches.	Sept. 17, 1867.
61, 863	Warren, Benjamin O., Elkhart, Ind. Excavator and potato digger.	Feb. 12, 1867.
70, 925	Warren, Edmond A., Brooklyn, N. Y. Paper-ruling machine.	Nov. 12, 1867.
71, 034	Warren, Joseph B., assignor to George B. Melcher, South Danvers, Mass. Fountain brush.	Nov. 19, 1867.
63, 588	Warren, J. T., Stafford, N. Y. Sad-iron.	Apr. 2, 1867.
66, 917	Warren, Seth, Hollis, Me. Wagon brake.	July 16, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 432	Warren, Sylvanus, and William M. Blume, assignors to selves and A. V. Briesen, New York, N. Y. Elevated railway	Nov. 26, 1867.
63, 969	Warren, Thomas A., Gettysburg, Pa. Churn	Apr. 16, 1867.
65, 847	Warren, Thomas P., assignor to Warren & Woodhouse, Norfolk, Va. Combined cotton plow and scraper	June 18, 1867.
61, 694	Warriner, George, England. Furnace and fireplace grate	Feb. 12, 1867.
	Warwick, W., and P. Zern. (See Zern & Warwick)	
	Washam, Isham, and George W. Chambers. (See Chambers and Washam.)	
72, 766	Washbourne, F., New York, N. Y. Bolt for saw frames, &c.	Dec. 31, 1867.
65, 782	Washburn, A., and J. N. Van Sickle, Medina, Ohio. Machine for dressing feathers.	June 11, 1867.
68, 333	Washburn, A. W., Yazoo City, Miss. Vaginal syringe	Aug. 27, 1867.
70, 299	Washburn, B. D., Roxbury, Mass. Hinge	Oct. 29, 1867.
	Washburn, E., et al. (See Hawley, B. R., assignor.)	
62, 710	Washburn, George I., Worcester, Mass. Steam-engine	Mar. 5, 1867.
62, 711	Same.....same	Mar. 5, 1867.
62, 712	Same.....same	Mar. 5, 1867.
62, 713	Same.....same	Mar. 5, 1867.
	Washburn, Leonard, and Francis E. Howe. (See Howe & Washburn.)	
72, 705	Washburn, Oscar F., Bridgewater, Vt. Machine for making paper collars	Dec. 24, 1867.
61, 585	Washburn, William L., Brooklyn, N. Y. Ventilator for windows, &c	Jan. 29, 1867.
	Washer, George. (See Fillmore, Charles, assignor.)	
68, 135	Wassermann, Oscar, Prussia. Process of refining lead	Aug. 27, 1867.
71, 091	Wasson, J., Elyria, Ohio. Machine for cutting and forming wire.	Nov. 19, 1867.
	Waterbury Brass Company. (See French, Andrew J., assignor.)	
69, 517	Waterbury, C. G., New York, N. Y. Wooden pavement	Oct. 1, 1867.
62, 124	Waterman, C., New York, N. Y. Burglar alarm	Mar. 19, 1867.
62, 383	Waterman, Henry, Hudson, N. Y. Weather strip	Feb. 26, 1867.
2, 675	Same.....Safety valve (Reissue)	July 9, 1867.
64, 172	Waterman, Joseph S., Roxbury, Mass. Corpse-preserving case	Apr. 23, 1867.
64, 173	Waterman, N., Toledo, Ohio. Folding chair	Apr. 23, 1867.
2, 450	Waterman, N., assignor to the Russell & Erwin Manufacturing Company, New Britain, Conn. Pan, egg, and cake baker (Reissue)	Jan. 8, 1867.
72, 247	Waterman, William G., Middletown, Conn. Cork extractor	Dec. 17, 1867.
	Water-proof Sole Company. (See Coburn, John W., assignor) (Reissue)	
71, 345	Waters, Charles, and Harvey Brown, assignors to Henry H. Giles, Poughkeepsie, N. Y. Stove grate	Nov. 26, 1867.
63, 970	Waters, Gardner, Cincinnati, Ohio. Apparatus for purifying mash for the manufacture of vinegar	Apr. 16, 1867.
67, 469	Same.....Lubricator	Aug. 6, 1867.
60, 973	Waters, Hervey, Northbridge, Mass. Mechanism for operating dies	Jan. 1, 1867.
62, 456	Waters, Hervey, Boston, Mass. Blank for hoes	Feb. 26, 1867.
67, 0 5	Same.....Fagot for scythes	July 23, 1867.
2, 707	Waters, James S., assignor to the St. Louis Lead and Oil Company, St. Louis, Mo. Trade mark (Design)	July 16, 1867.
69, 518	Waters, William H., Springfield, Mass. Drop hammer	Oct. 1, 1867.
	Watkins, E., and N. S. Vance. (See Vance & Watkins.)	
69, 054	Watkins, George, Brooklyn, N. Y. Device for mixing liquids	Sept. 17, 1867.
64, 727	Watkins, G. A., Proctorsville, Vt. Seat frame for chairs	May 14, 1867.
67, 618	Watrous, jr., Joseph, assignor to the Mystic River Hardware Manufacturing Company, Mystic River, Conn. Coffee mill	Aug. 6, 1867.
61, 789	Watson, Alexander T., New York, N. Y. Artificial leg	Feb. 5, 1867.
62, 179	Watson, Benjamin R., New Bedford, Mass. Horseshoe	Feb. 19, 1867.
64, 174	Watson, David C., Manchester, N. H. Check-rein holder	Apr. 23, 1867.
69, 874	Watson, Franklin, Harrison, Ill. Plow	Oct. 15, 1867.
	Watson, Henry C. (See Carlos, Hector, assignor.)	
60, 808	Watson, James T., Richmond, Ind. Gate hinge	Jan. 1, 1867.
62, 790	Watson, John, Buffalo, N. Y. Brick machine	Mar. 12, 1867.
2, 533	Watson, John, assignor through mesne assignments to himself, Buffalo, N. Y. Brick machine (Reissue)	Mar. 26, 1867.
	Watson, John S., and Job S. Gray. (See Hunt, George W., assignor.)	
71, 433	Watson, Joseph, assignor to self and Solomon Drullard, jr., Buffalo, N. Y. Constructing furnace doors	Nov. 26, 1867.
	Watson, M. L., et al. (See Wortham, Notley W., assignor.)	
65, 848	Watson, Rufus, and Thomas Spencer, Central College, Ohio. Manufacture of sorghum sugar	June 18, 1867.
69, 875	Watson, T., and C. Perry, Brooklyn, N. Y. Extension ladder	Oct. 15, 1867.
69, 285	Watson, William C., Paterson, N. J. Clamp for school books	Sept. 24, 1867.
	Watt, Charles, England, and Hugh Burgess, Royer's Ford, Pa. Pulp from wood, &c., for the manufacture of paper. (Extension)	Aug. 17, 1867.
	Same.....Process for treating wood and other vegetable substances in the manufacture of paper pulp (Lxextension)	Aug. 17, 1867.
64, 464	Watt, George, Richmond, Va. Plow handle	May 7, 1867.
71, 560	Same.....Plow	Nov. 26, 1867.
72, 248	Same.....Whiffletree	Dec. 17, 1867.
	Watt, James, Charlestown, Mass. Valve arrangement for steam hammers. (Extension)	Nov. 21, 1867.
68, 673	Wattles, H. J., Rockford, Ill. Gang plow	Sept. 10, 1867.
65, 971	Wattles, Joseph W., Canton, Mass. Ring pinning frame	June 18, 1867.
	Watts, Alfred J., Brooklyn, N. Y. Process for preparing gold (Extension)	Apr. 22, 1867.
62, 714	Watts, John, deceased, by George Waite, administrator, New Orleans, La. Filter	Mar. 5, 1867.
62, 171	Wauchope, William J., Brookfield, Ill. Ditching and grading machine	Feb. 19, 1867.
71, 561	Way, Charles A., Charlestown, N. H. Velocipede	Nov. 26, 1867.
71, 562	Same.....same	Nov. 26, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Way, J. A., and J. Stever. (See Stever & Way.)	
	Same.....same.	
63, 677	Way, William, and Samuel B., and Samuel C. Pomeroy, South Butler, N. Y. Dish washer.....	Apr. 9, 1867.
71, 952	Waymoth, Thomas V., New York, N. Y. Envelope machine.....	Nov. 19, 1867.
2, 616	Waymoth, Thomas V., assignor to Henry C. Berlin and George H. Jones, New York, N. Y. Machine for gumming and printing envelopes..... (Reissue)	May 21, 1867.
2, 787	Same.....Envelope machine..... (Reissue)	Oct. 22, 1867.
70, 300	Wayne, Will H., Philadelphia, Pa. Sash fastener.....	Oct. 29, 1867.
	Weand, W. R., <i>et al.</i> (See Klabr, Joseph, assignor.)	
72, 433	Weatherhead, O. E., Winchendon, Mass. Divider.....	Dec. 17, 1867.
69, 730	Weaver, Clemens, Easton, Pa. Faucet.....	Oct. 8, 1867.
60, 974	Weaver, Horatio B., Hartford, Conn. Lock and key.....	Jan. 1, 1867.
68, 816	Weaver, J. H., Columbus, Ohio. Lock and alarm attachment for money drawers.....	Sept. 10, 1867.
72, 945	Weaver, Jacob H., assignor to self and George Webb, Mauricetown, N. J. Steering apparatus. (Antedated December 24, 1867)	Dec. 31, 1867.
69, 876	Weaver, Lewis, Canton, Ohio. Corn dropper.....	Oct. 15, 1867.
61, 490	Same.....Hand corn planter.....	Jan. 22, 1867.
61, 781	Weaver, Oliver N., assignor to self and G. W. Winter, Dover, Ky. Whiffletree.....	Feb. 5, 1867.
61, 782	Same.....Unhitching horses from vehicles.....	Feb. 5, 1867.
67, 237	Weaver, Theos, Harrisburg, Pa. Whip socket.....	July 30, 1867.
	Weaver, Theos, and Isaac Lloyd. (See Patton, William F., assignor.)	
61, 290	Weaver, William, Phoenixville, Pa. Vegetable cutter.....	Jan. 15, 1867.
61, 901	Same.....Bed bott m.....	Feb. 5, 1867.
63, 445	Same.....Machine for coiling wire.....	Apr. 2, 1867.
63, 539	Same.....Composition for destroying insects.....	Apr. 2, 1867.
66, 756	Same.....Rock drill.....	July 16, 1867.
71, 346	Same.....Insect trap.....	Nov. 26, 1867.
70, 656	Weaver, William, Nashua, N. H. Device for scouring marble.....	Nov. 5, 1867.
70, 657	Same.....Combination bench.....	Nov. 5, 1867.
64, 387	Weaver, Willis, Salem, Ohio. Carpet stretcher.....	Apr. 30, 1867.
2, 812	Webb, Albion, assignor through mesne assignments to R. B. Dunn and John C. Flint, Bangor, Me. Horse hoe cultivator..... (Reissue)	Dec. 17, 1867.
61, 491	Webb, George, Williamsport, Pa. Railroad chair.....	Jan. 23, 1867.
	Same. (See Weaver, Jacob H., assignor.)	
63, 678	Webb, James A., Madison, N. J., and Christopher Cory, Lima, Ind., assignors to Christopher Cory. Evaporating pan.....	Apr. 9, 1867.
65, 519	Webb, James B., Muscatine, Iowa. Farm gate.....	June 4, 1867.
68, 587	Webb, Milo, Cheyango Forks, N. Y. Hay raker and loader.....	Sept. 3, 1867.
72, 946	Webb, Rodolphus L., New Britain, Conn. Reversible latch.....	Dec. 31, 1867.
67, 889	Webb, R. M., and I. Hermann, New York, N. Y. Sealing padlock.....	July 23, 1867.
70, 301	Webb, Samuel, Joliet, Ill. Water wheel.....	Oct. 29, 1867.
	Webb, S. A. (See Palmiter, C. D., assignor.)	
65, 972	Webb, Wm., assignor to the Scoville Manufacturing Company, Waterbury, Conn. Hinge for lamp burners.....	June 18, 1867.
68, 817	Webber, Moses D., Woodbury, Vt. Washing machine.....	Sept. 10, 1867.
65, 457	Weber, Adam, New York, N. Y. Kiln for reburning and purifying bone black.....	June 4, 1867.
69, 286	Weber, Francis J., Carey, Ohio. Machine for making wagon wheels.....	Sept. 24, 1867.
62, 791	Weber, John R., Bourbon, Ind. Loom.....	Mar. 12, 1867.
71, 932	Same.....Corn planter.....	Dec. 10, 1867.
63, 530	Weber, Theodore A., New York, N. Y. Safety attachment for pocket books.....	Apr. 2, 1867.
66, 270	Same.....Bottle stopper.....	July 2, 1867.
65, 783	Webley, Thomas W., England. Breech-loading fire-arm.....	June 11, 1867.
70, 658	Webster, Alexander, Seneca Falls, N. Y. Steam cylinder for finishing cloth.....	Nov. 5, 1867.
71, 092	Webster, A. W., Ansonia, Conn. Fastenings for corsets. (Antedated Nov. 9, 1867)	Nov. 19, 1867.
64, 175	Webster, Dexter P., and Hermon W. Ladd, Philadelphia, Pa. Spring bed bottom.....	Apr. 23, 1867.
68, 818	Webster, Dexter P., Upper Gilmanton, N. H., and Hermon W. Ladd, Philadelphia, Pa. Spring bed bottom.....	Sept. 10, 1867.
72, 136	Webster, Dudley, Washington, D. C. Egg beater.....	Dec. 10, 1867.
70, 659	Webster, Eben, Holland, Mich. Stove-pipe drum.....	Nov. 5, 1867.
	Webster, Granville S., <i>et al.</i> (See Beal, Sawyer & Webster.)	
	Same. (See Miller, Wesley, assignor.)	
71, 827	Webster, J. B., and Robert Baxter, Stockton, Cal. Plow wheel.....	Dec. 3, 1867.
2, 705	Webster, John T., assignor to Deborah, Albert E., and Nathaniel L. Powers, New York, N. Y. Floor oil cloth..... (Design)	July 16, 1867.
66, 757	Webster, Joseph H., assignor to self and John Kupferle, St. Louis, Mo. Steam globe valve.....	July 16, 1867.
66, 758	Same.....Metallic packing for piston rods.....	July 16, 1867.
61, 586	Webster, Joshua, Malden, Mass. Manufacture of peat fuel.....	Jan. 29, 1867.
68, 616	Same.....Apparatus for preparing peat for fuel.....	Aug. 29, 1867.
67, 228	Webster, P. W., and William H. Prescott, Concord, N. H. Bed bottom.....	July 3, 1867.
64, 368	Webster, T. L., Brooklyn, N. Y. Holder for slotting tools.....	Apr. 30, 1867.
	Webster, T. L., and T. J. Jones. (See Jones & Webster.)	
2, 559	Webster, William, Rochester, N. Y. Flower garden..... (Design)	Jan. 15, 1867.
63, 971	Weck, Philip, Brooklyn, N. Y. Seaming tool.....	Apr. 16, 1867.
72, 343	Same.....Water elevator.....	Dec. 17, 1867.
67, 690	We dington, William, Winterset, Iowa. Churn.....	July 23, 1867.
70, 630	We dington, William, Alexandria, Ind. Safety stirrup.....	Oct. 22, 1867.
68, 581	Weed, Alfred, Boston, Mass. File.....	Sept. 3, 1867.
68, 585	Same.....File handle.....	Sept. 3, 1867.
	Weed, A. M., and Elisha Walker. (See Walker & Weed.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
65, 028	Weed, Charles, Boston, Mass. Bed bottom.....	May 21, 1867.
68, 268	Weed, Otis H., Charlestown, Mass. Spring bed bottom.....	Aug. 27, 1867.
69, 287	Weed, Walter S., Auburn, N. Y. Reversible butt hinge.....	Sept. 24, 1867.
2, 799	Weeden, William B., Providence, R. I. Woven fabric..... (Design)	Oct. 1, 1867.
69, 519	Weeks, Asa, Minneapolis, Minn. Breech-loading ordnance.....	Oct. 1, 1867.
72, 947	Wegmann, Leopold, and C. F. Diessel, Allegheny, Pa. Horse collar.....	Dec. 31, 1867.
70, 766	Wedeking, H., Edgerton, Ohio. Mangle.....	Nov. 12, 1867.
	Wehle, Alexander. (See Kinkel, Charles, assignor.)	
	Wehr, Michael. (See Buercky, John, assignor.)	
	Weible, H., and E. G. Ford. (See Ford & Weible.)	
72, 249	Weichert, John, San Francisco, Cal. Straw cutter.....	Dec. 17, 1867.
71, 095	Weidenman, J., Hartford, Conn. Rubber shoe.....	Nov. 19, 1867.
67, 239	Weidling, Carl, assignor to self, Alexander Lieder, and Charles Kinkel, New York, N. Y. Fire escape.....	July 30, 1867.
70, 302	Weimer, P. L., Lebanon, Pa. Door stop.....	Oct. 29, 1867.
67, 006	Weimer, P. L., assignor to self, J. A. and L. E. Weimer, Lebanon, Pa. Means for ringing bells.....	July 23, 1867.
62, 715	Weis, Wendelin, St. Paul, Minn. Apparatus for making vinegar.....	Mar. 5, 1867.
65, 458	Same..... Apparatus for the manufacture of vinegar.....	June 4, 1867.
61, 492	Weisiger, J. R., Danville, Ky. Pump.....	Jan. 22, 1867.
65, 973	Weissberger, Moritzuos, St. Paul, Minn. Printers' ink.....	June 18, 1867.
65, 141	Weissenborn, Anna, New York, N. Y. Tuck marker or creaser for sewing machines.....	May 28, 1867.
67, 240	Weissenborn, Edward, Hudson City, N. J. Machine for polishing wood.....	July 30, 1867.
68, 819	Weissenborn, Edward, assignor to American Lead Pencil Company, Hudson City, N. J. Machine for making lead pencils.....	Sept. 10, 1867.
72, 573	Weissenborn, Gustavus, New York, N. Y. Machine for making peat fuel. (Ante-dated Dec. 11, 1867).....	Dec. 24, 1867.
72, 574	Weitting, William, New York, N. Y. Sewing machine.....	Dec. 24, 1867.
71, 096	Weitman, Augustus, West Union, Iowa. Broadcast seeding machine.....	Nov. 19, 1867.
64, 604	Weitman, Christian, Hazleton, Iowa. Horse shoe.....	May 7, 1867.
62, 457	Weitz, J. V., Cleveland, Ohio. Steam-engine governor.....	Feb. 26, 1867.
68, 473	Same..... Low-water detector for steam generators.....	Sept. 3, 1867.
65, 849	Welbourne, William, Great Britain. Tea canister.....	June 18, 1867.
62, 716	Welch, Dan., assignor to H. A. Hildreth and W. J. Johnson, Lowell, Mass. Plate lifter.....	Mar. 5, 1867.
2, 699	Welch, H. H., Athens, Ohio. Fire-place heater..... (Reissue)	July 23, 1867.
68, 820	Welch, John F., Hingham, Mass. Wheel and axle connection.....	Sept. 10, 1867.
68, 920	Welch, John Q., Oswego, Oregon. Rotary steam engine.....	Sept. 17, 1867.
61, 370	Welch, Thomas, Churchville, N. Y. Hanger box for crank shafts.....	Jan. 22, 1867.
62, 985	Same..... Harvester cutter bar.....	Mar. 19, 1867.
72, 344	Same..... Pitman.....	Dec. 17, 1867.
63, 540	Welch, William, Bridgeport, Conn. Locking device for gates in presses.....	Sept. 3, 1867.
69, 877	Welch, William, assignor to self and Mathew Diamond, Bridgeport, Conn. Indicator for punching machines.....	Oct. 15, 1867.
	Weld, sr., S. M. (See Waite, Enoch, assignor.)	
68, 325	Welham, Thomas, Philadelphia, Pa. Water wheel.....	Oct. 27, 1867.
65, 317	Weller, F. M., Evanston, Ill. Carriage shackle. (Antedated May 16, 1867).....	May 28, 1867.
61, 291	Wells, William C., Parkersburg, West Va. Still for petroleum.....	Jan. 15, 1867.
	Wells, W. N., et al. (See Perry, Welles & Perry.)	
	Wellfare, John, and E. T. Prindle. (See Prindle & Wellfare.)	
61, 965	Wellington, Darius, assignor to Cornelius Wellington, Boston, Mass. Peat machine. Wellington, T. W., and Thomas H. Dodge. (See Rice, T. C., assignor.)	Feb. 12, 1867.
	Same..... same.	
2, 705	Wellman, George, deceased, by William B. Bates, administrator, Mansfield, Mass. Stripping top flat in carding machines..... (Reissue)	July 30, 1867.
2, 706	Same..... Stripping top flat for carding machines..... (Reissue)	July 30, 1867.
	Same..... Stripping top flat in carding machines..... (Extension)	Nov. 21, 1867.
	Same..... Stripping top flat for carding machines..... (Extension)	Nov. 21, 1867.
70, 054	Wellman, Hiram B., Indianapolis, Ind. Composition for treating burning fluid.....	Oct. 22, 1867.
64, 465	Wellman, Marshal D., Pittsburg, Pa. Fireplace.....	May 7, 1867.
71, 253	Same..... Allegheny, Pa. Grate.....	Nov. 19, 1867.
64, 815	Wellman, N. J., New York, N. Y. Shield for protecting water backs in ranges and stoves.....	May 14, 1867.
61, 966	Wellman, Samuel K., Nashua, N. H. Fire brick.....	Feb. 12, 1867.
64, 389	Same..... Manufacture of fire brick.....	Apr. 30, 1867.
	Wells, F. B. (See Elmer, George, assignor.)	
71, 828	Wells, George, Bethel, Conn. Door holder.....	Dec. 3, 1867.
61, 587	Wells, Geo. A., Oskaloosa, Iowa. Combined lantern, foot warmer, and water heater.....	Jan. 29, 1867.
63, 446	Wells, George H., assignor to self and Judson A. Cleveland, Logansport, Ind. Machine for cutting screws.....	Apr. 2, 1867.
72, 345	Wells, Isaac H., Pagetown, Ohio. Mode of protecting likenesses in monuments.....	Dec. 17, 1867.
65, 710	Wells, Isaac M., assignor to self and Wm. Wood, Jeffersonville, Ohio. Burglar alarm.....	June 11, 1867.
62, 941	Wells, James W., St. Joseph, Mo. Shingle band.....	Feb. 19, 1867.
64, 390	Wells, John D., Franklin county, Ohio. Corn planter.....	Apr. 30, 1867.
	Wells, John H. (See Wetherell, Lorin, assignor.)	
	Same..... same.	
64, 176	Wells, Morris, Williamsburg, N. Y. Machine for shaping metals.....	Apr. 23, 1867.
	Wells, Nelson, et al. (See Loomis, Wells, Hitchcock & Striker.)	
61, 371	Wells, Norman J., Huntington, Mass. Process for purifying and cleaning sizing for paper, &c.....	Jan. 22, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Wells, S. K., and J. P. Flanders. (See Flanders & Wells.)	
61, 493	Wells, Thomas J., St. Anthony, Minn. Peat car	Jan. 22, 1867.
63, 342	Same..... Peat machine	Mar. 26, 1867.
69, 288	Wells, W. H., and Joseph Hawse, Newport Center, Vt. Clothes pin	Sept. 24, 1867.
62, 102	Wells, W. T., Decatur, Ill. Latch for gate	Feb. 12, 1867.
63, 769	Same..... Gate latch	Apr. 9, 1867.
67, 007	Welsh, J. A., assignor to self, B. D. Anderson, R. S. Finley, Solomon K. Harner, Wm. H. Wilson, and Chancey W. Newton, Xenia, Ohio. Brick machine	July 23, 1867.
68, 017	Welton, S. B., Waterbury, Conn. Wagon wheel	Aug. 20, 1867.
61, 644	Wemple, Andrew, Chicago, Ill. Mowing machine	Jan. 29, 1867.
72, 948	Wemple, Andrew H., and Thomas D. Richardson, New York, N. Y. Combined sash and shutter fastener	Dec. 31, 1867.
68, 269	Wemple, John De Witt, Albany, N. Y. Refrigerator	Aug. 27, 1867.
69, 809	Wendell, Isaac P., Philadelphia, Pa. Mode of lubricating journals	Jan. 1, 1867.
69, 377	Same..... Car-brake shoe	Oct. 1, 1867.
	Wendell, R. (See Marshall, Moses S., assignor.)	
72, 346	Wendhiser, Peter, Rockville, Conn. Box for preserving corpses	Dec. 17, 1867.
	Wentworth, H. E. (See Trevitt, C. S., assignor.)	
62, 792	Wentworth, William P., Detroit, Mich. Clamp for clapboarding	Mar. 12, 1867.
66, 059	Same..... Door lock	June 25, 1867.
	Werden, W. B. (See Filkins, R. A., assignor.)	
	Same..... same.	
	Werden, William B. and Cyrus A. (See Graham, A. B., assignor.)	
60, 975	Werné, A., New York, N. Y. Rectifier for stills	Jan. 1, 1867.
62, 242	Werner, Cassius M., Rockford, Ill. Horseshoe	Feb. 19, 1867.
71, 097	Werni, Peleg, Chicago, Ill. Harvester	Nov. 19, 1867.
71, 098	Same..... Harvester rake	Nov. 19, 1867.
71, 669	Werni, P., and R. B. De Bare, assignors to Reuben B. De Bare, Chicago, Ill. Sawing machine	Dec. 3, 1867.
71, 563	Wertz, John, Bourbon, Ind. Spring seat for carriages	Nov. 26, 1867.
72, 347	Wertsbaugher, Jacob, La Grange, Ind. Locking knob-latch for doors	Dec. 17, 1867.
	Wesson, D. B. (See Farrar, Benjamin F., assignor.)	
72, 434	Wesson, D. B., assignor to The Wesson Fire-arms Company, Springfield, Mass. Breech-loading fire-arm	Dec. 17, 1867.
72, 949	Wesson, D. B., and J. H. Blaze, assignors to The Wesson Fire-arms Company, Springfield, Mass. Method of manufacturing ribs and bolsters for double-barrelled guns	Dec. 31, 1867.
	Wesson, Daniel B., and Horace Smith. (See Smith & Wesson.) (Reissue.)	
	Wesson, Edward M., et al. (See Farrar, Benjamin F., assignor.)	
70, 140	West, C., and B. K. Price, Pittsburg, Pa. Blower for forge	Oct. 22, 1867.
68, 400	West, David N., assignor to self and J. Mong Hughes, Smithsburg, Md. Milk bucket and strainer	Sept. 3, 1867.
70, 055	West, George E., and William R. Cunningham, Lafayette, Ind. Carpet fastener	Oct. 22, 1867.
63, 189	West, Joseph D., New York, N. Y. Sand trap for water pipes	Mar. 26, 1867.
62, 458	West, Joseph E., Georgetown, Ky. Corn planter	Feb. 26, 1867.
63, 190	West, Levi H., Cambridge, Mass. Car truck and spring	Mar. 26, 1867.
63, 417	West, P. L., Bath, Ill. Cultivator. (Antedated March 19, 1867)	Apr. 2, 1867.
69, 731	West, R., and H. F. Paul, Concord, N. H. Cultivator and harrow tooth	Oct. 8, 1867.
	West, Samuel. (See Smithson, Benjamin R., assignor.)	
66, 432	West, S. A., and Lewis Goodwin. (See Goodwin & West.)	
63, 821	Westbrook, Abram, and Justin Campbell, Leona, Pa. Composition for tanning	July 2, 1867.
	Westbrook, A. D., assignor to self, R. W. Daniels, and John Humphrey, Buffalo, N. Y. Protecting pad for interfering horses	Apr. 16, 1867.
61, 372	Westcott, Amos, Syracuse, N. Y. Cheese vat	Jan. 22, 1867.
63, 343	Same..... Fan wheel blower. (Antedated March 15, 1867)	Mar. 26, 1867.
63, 679	Westcott, Edwin, Hudson City, N. J. Sawing machine	Apr. 9, 1867.
69, 878	Westcott, John, Patchogue, N. Y. Animal trap	Oct. 15, 1867.
61, 783	Westerfield, Finley F., assignor to self and C. Westerfield, Fort Dodge, Iowa. Corn planter	Feb. 5, 1867.
61, 902	Westervelt, A. V. D., assignor to self, J. W. Westervelt, and H. Smith, jr., New Brunswick, N. J. Calipers	Feb. 5, 1867.
69, 530	Westfall, D. C., Miffin, Pa. Horse-collar fastening	Oct. 1, 1867.
72, 137	Westfall, Peter V., Kalamazoo, Mich. Brick machine	Dec. 10, 1867.
62, 172	Westgate, Joseph Davis, San Francisco, Cal. Sad-iron heating apparatus	Feb. 19, 1867.
61, 967	Westinghouse, jr., George, Schenectady, N. Y. Railroad switch	Feb. 12, 1867.
66, 636	Westlake, William, Brooklyn, N. Y. Method of manufacturing faucets	July 9, 1867.
66, 657	Same..... same	July 9, 1867.
60, 810	Westlake, William, assignor to Cross, Dane & Westlake, Brooklyn, N. Y. Lantern	Jan. 1, 1867.
	Westlake, Wm., and James F. Dane. (See Gersten, Conrad, assignor.)	
	Same..... same.	
65, 711	Westland, Charles S., Providence, R. I. Stop motion for steam engines	June 11, 1867.
62, 173	Westley, Thomas, and Thomas Richard Beaumont, England. Spinning flyer	Feb. 19, 1867.
66, 759	Westmacott, P. G. B., England. Device for cleaning grain. (Patented in England November 19, 1866)	July 16, 1867.
63, 770	Weston, D. M., Boston, Mass. Centrifugal machine for draining sugar and other substances	Apr. 9, 1867.
71, 099	Weston, Edward W., Providence Pa. Corrugated iron-revolving coal screen	Nov. 19, 1867.
64, 925	Weston, H., Towanda, Pa. Burner for lamps	May 21, 1867.
68, 136	Same..... Lamp	Aug. 27, 1867.
65, 712	Weston, Horace, Boston, Mass. Skylight	June 11, 1867.
	Weston, M. P., and H. B. Miller. (See Miller & Weston.)	
	Weston, Nathan. (See Phillips, Russell, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
68, 018	Weston, jr., Nathan, West Newton, Mass. Mosquito and fly net	Aug. 20, 1867.
66, 658	Weston, Nathan Foster, Boston, Mass. Uniting the ends of lead pipes	July 9, 1867.
66, 659	Same.....Coupling faucets to pipes	July 9, 1867.
67, 241	Same.....Construction of vessels	July 30, 1867.
72, 138	Weston, Nathaniel, San Francisco, Cal. Apparatus for enameling photographic pictures	Dec. 10, 1867.
67, 470	Weston, Thomas Aldridge, England. Pulley	Aug. 6, 1867.
	Same.....(See Eglin, John, assignor.)	
63, 191	Weston, T. F., Salem, Mass. Machine for shaving hides	Mar. 26, 1867.
61, 494	Westover, George C., Paducah, Ky. Churn and egg beater combined	Jan. 22, 1867.
62, 174	Wetherell, Lorin, assignor to self and John H. Wells, Boston, Mass. Die	Feb. 19, 1867.
62, 793	Same.....Forging hammer	Mar. 12, 1867.
68, 921	Wetmore, J. W., Erie, Pa. Washing machine. (Antedated September 7, 1867)	Sept. 17, 1867.
61, 588	Wettstein, Henry, Philadelphia, Pa. Coverlet	Jan. 29, 1867.
71, 100	Wetzel, Dennis, Springfield, Mo. Machine for bending tires	Nov. 19, 1867.
	Wetzel, George. (See Phillips, Milton E., assignor.)	
65, 624	Whait, James, Springfield, Mo. Foot scraper	June 11, 1867.
67, 008	Whait, William and James, Independence, Iowa. Seeder and cultivator	July 23, 1867.
67, 009	Same.....Sulky harrow and cultivator	July 23, 1867.
67, 933	Whaley, Stephen S., Tidionte, Pa. Fruit ladder	Aug. 20, 1867.
69, 599	Wharton, jr., William, Philadelphia, Pa. Railway switch	Oct. 8, 1867.
	Wharton, jr., W., et al. (See Wootten, J. E., assignor.)	
61, 784	Wheat, James E., assignor to self and Otis Cole, Rochester, N. Y. Snow shovel	Feb. 5, 1867.
65, 318	Wheat, Jesse S., South Wheeling, W. Va. Car seat	May 28, 1867.
62, 243	Wheatley, R. J., St. John's, Ill. Plow	Feb. 19, 1867.
71, 254	Wheaton, Lucius, Auburn, N. Y. Trunk hinge	Nov. 19, 1867.
64, 051	Wheaton, William, assignor to John F. Lee, jr., Brooklyn, N. Y. Spool holder for sewing machine	Apr. 23, 1867.
	Wheeler and Wilson Manufacturing Co. (See House, Jas. A. and Henry A., ass'ors.)	
	Same.....same	
	Wheeler, A., and William H. McCoy. (See McCoy & Wheeler.)	
2, 594	Wheeler, jr., C., Poplar Ridge, N. Y. Cutting device for harvester	May 7, 1867.
2, 610	Same.....Auburn, N. Y. Harvester	May 14, 1867.
2, 632	Same.....same	May 28, 1867.
69, 732	Same.....same	Oct. 8, 1867.
	Wheeler, jr., Cyrenus. (See Bronnich, A. C., assignor.)	(Reissue.)
	Same.....same	(Reissue.)
	Same.....(See Berrett, Jonathan F., assignor.)	(Reissue.)
	Same.....(See Anthony, James, assignor.)	(Reissue.)
	Wheeler, E. A. (See Frey & Heckert, assignors.)	
65, 713	Wheeler, E. F., Sag Harbor, N. Y. Washing machine	June 11, 1867.
72, 250	Wheeler, George W., New Fairfield, and Hiram I. Stevens, Bethel, Conn. Marble-cutting machine	Dec. 17, 1867.
66, 110	Wheeler, H. F., Boston, Mass. Magazine fire-arm	June 25, 1867.
72, 435	Same.....Penholder	Dec. 17, 1867.
70, 660	Wheeler, Jacob, Huntington, Ind. Horseshoe	Nov. 5, 1867.
72, 348	Wheeler, J. M., Oxford, Conn. Steam jet for cleaning boiler tubes	Dec. 17, 1867.
61, 589	Wheeler, Lorenzo D., Fitchburg, Mass. Oscillating steam rubber. (Antedated January 21, 1867)	Jan. 29, 1867.
68, 674	Wheeler, L. H., Beloit, Wis. Wind wheel	Sept. 10, 1867.
64, 816	Wheeler, Norman W., Brooklyn, N. Y. Ventilating skylight	May 14, 1867.
65, 625	Same.....Water anchor	June 11, 1867.
66, 193	Same.....Flexible coupling	June 25, 1867.
66, 194	Same.....Surface condenser	June 25, 1867.
66, 541	Same.....Condenser	July 9, 1867.
67, 471	Same.....Lighted ventilator for ships	Aug. 6, 1867.
72, 139	Same.....Valve gear for steam engine	Dec. 10, 1867.
2, 847	Wheeler, Russell, Utica, N. Y. Cook's stove	(Design)
64, 605	Wheeler, Seth, Albany, N. Y. Permutation lock	Sept. 10, 1867.
68, 922	Same.....same	May 7, 1867.
61, 968	Wheeler, Seth, and Edgar Jerome, Albany, N. Y. Manufacture of paper boxes	Sept. 17, 1867.
61, 969	Same.....Manufacture of boxes from paper pulp	Feb. 12, 1867.
66, 918	Same.....Drying boxes, &c., of pulp	Feb. 12, 1867.
66, 919	Same.....Finishing boxes, &c., of pulp	July 16, 1867.
66, 920	Same.....Making blanks for paper boxes	July 16, 1867.
65, 974	Wheeler, Shepherd H., Dowagiac, Mich. Gate	June 18, 1867.
61, 903	Wheeler, S. H., and W. Tuttle, jr., Dowagiac, Mich. Grain drill	Feb. 5, 1867.
64, 466	Wheeler, jr., Walter, assignor to self, Pardon Jenks, and E. O. Potter, North Providence, R. I. Machine for folding cloth	May 7, 1867.
62, 910	Wheeler, W. S., and S. E. Bickford, assignors to S. E. Bickford and F. Flanders, Franklin, N. H. Miter box	Mar. 12, 1867.
64, 052	Wheelock, Jerome, Worcester, Mass. Steam-engine piston	Apr. 23, 1867.
70, 141	Wheelock, Luke, New Haven, Conn. Breech-loading fire-arm	Oct. 22, 1867.
70, 056	Wheelock, Samuel, Conway, Mass. Portable vehicle	Oct. 22, 1867.
72, 950	Whelan, Richard P., Leavenworth, Kansas. Bridle bit	Dec. 31, 1867.
66, 060	Whelden, Charles M., Pittsfield, Mass. Soda and mineral-water stand	June 25, 1867.
71, 347	Same.....Base-burning stove	Nov. 26, 1867.
72, 951	Whelpley, J. Albert, Greenwich, N. B. Machine for grinding and polishing articles of metal	Dec. 31, 1867.
	Whetstone, E. G. (See Deen, Bolding & Perry, assignors.)	
65, 319	Whiddit, W. W., Richmond, Ind. Machine for cleaning flax	May 28, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 271	Whipple, A., and E. S. Young. (See Young & Whipple.)	
70, 303	Whipple, Carlyle, Detroit, Mich. Saw mill.....	July 2, 1867.
65, 142	Whipple, James T., Chicago, Ill. Hand truck.....	Oct. 29, 1867.
72, 952	Whipple, John A., Cambridge, Mass. Combined match box and taper holder.....	May 28, 1867.
	Whipple, John L., and Adolphus Bonzaus, Detroit, Mich. Steam engine lubricator.....	Dec. 31, 1867.
	Whipple, J. T., and J. P. Pope. (See Pope & Whipple.)	
2, 541	Whipple, Milton, assignor to B. B. Hotchkiss, New York, N. Y. Driving rein holder..... (Reissue)	Apr. 2, 1867.
64, 606	Whisemand, N. H., Independence, Iowa. Sorghum evaporator.....	May 7, 1867.
72, 953	Whisler, David, Union township, Ohio. Ditching machine.....	Dec. 31, 1867.
61, 945	Whisler, Moses, New Market, Ohio. Churn.....	Jan. 29, 1867.
72, 140	Whitacre, A. H. and T. S., Morrow, Ohio. Ditching machine.....	Dec. 10, 1867.
	Whitaker, Harry, Buffalo, N. Y. Application of high-pressure engine to screw propellers..... (Extension)	Oct. 4, 1867.
67, 619	Whitaker, Samuel, Macon, Ill. Burglar alarm.....	Aug. 6, 1867.
70, 486	Whitaker, Samuel H., Covington, Ky. Apparatus for casting car wheels. (Antedated October 16, 1867)	Nov. 5, 1867.
71, 348	Whitaker, Thomas, and Joseph Constantine, England. Hot air furnace.....	Nov. 26, 1867.
64, 817	Whitall, Henry, Woodbury, N. J. Machine for grinding the cutters of harvesters.....	May 14, 1867.
61, 904	Whitbeck, T. L., Kenosha, Wis. Combined seed sower and cultivator.....	Feb. 5, 1867.
68, 474	Whitby, Timothy, Great Britain. Armor for ships-of-war. (Patented in England August 29, 1866)	Sept. 3, 1867.
	Whitcomb, Byron, and George V. Sheffield. (See Sheffield & Whitcomb.)	
	Same..... same.	
	Whitcomb, P. S. (See St. Louis, Antoine, assignor.)	
68, 923	White, A. J., Ballston Spa, N. Y. Mode of lighting factories and other buildings....	Sept. 17, 1867.
65, 029	White, A. M., New York, N. Y. Brush.....	May 21, 1867.
63, 680	White, Albert M., New York, N. Y. Nozzle for hose pipes.....	Apr. 9, 1867.
62, 459	White, Cassius A., Fairfield, Vt. Washing and wringing machine.....	Feb. 26, 1867.
66, 660	White, Charles B., Candor, N. Y. Washing machine.....	July 9, 1867.
	Same..... (See McAllister, George, assignor.)	
65, 975	White, Charles W., Cincinnati, Ohio. Bed bottom.....	June 18, 1867.
70, 382	White, Francis W., Norwich, Conn. Machine for making blind slats.....	Oct. 29, 1867.
61, 292	White, George A., Boston, Mass. Paint and varnish brush.....	Jan. 15, 1867.
63, 771	White, George H., Huntington, N. Y. Road scraper.....	Apr. 9, 1867.
67, 691	White, George M., New Haven, Conn. Shirt stud.....	Aug. 13, 1867.
61, 495	White, George William, Greensburg, Ind. Lime kiln.....	Jan. 22, 1867.
	White, Henry. (See Stouffer, P. J., assignor.)	
66, 195	White, Hiram W., Albany, Ill. Washing machine.....	June 25, 1867.
	White, Hiram W., et al. (See Reef, jr., Jacob, assignor.)	
68, 019	White, James, Cleveland, Ohio. Fruit box.....	Aug. 20, 1867.
64, 266	White, John S., Boston, Mass. Window brush.....	Apr. 30, 1867.
64, 607	Same..... Paint brush.....	May 7, 1867.
	White, Jonathan, deceased, by Laura S. White, administratrix, Antrim N.H. Uniting shovel blades to handle straps..... (Extension)	Oct. 29, 1867.
72, 575	White, Joseph, Providence, R. I. Caster.....	Dec. 24, 1867.
67, 827	White, Joseph P., Savannah, Ga. Switch.....	Aug. 13, 1867.
69, 289	Same..... Marker, hemmer, &c., for sewing machine.....	Sept. 24, 1867.
2, 551	White, LeRoy S., Waterbury, Conn. Handle of a fork or spoon..... (Design)	Jan. 15, 1867.
72, 706	Same..... Spoon blank.....	Dec. 24, 1867.
60, 811	White, Martin V. B., Ballston, N. Y. Ice spur.....	Jan. 1, 1867.
67, 472	Same..... Sash fastening.....	Aug. 6, 1867.
71, 434	White, Napoleon Bonaparte, assignor to self and Frederick B. Hoffman, Cecil county, Md. Machine for scaling fish.....	Nov. 26, 1867.
62, 794	White, Otis C., Hopkinton, Mass. Dentist's chair.....	Mar. 12, 1867.
66, 542	White, Rollin, Lowell, Mass. Revolving fire-arm.....	July 9, 1867.
70, 057	White, R., Decatur, Ill. Cord stretcher.....	Oct. 22, 1867.
	White, Samuel S. (See Dibble, William H., assignor.)	
	Same..... (See Hodge & Noyes, assignor.)	
63, 681	White, T. R., assignor to self and W. G. Bedford, Philadelphia, Pa. Rock drill. (Antedated March 29, 1867)	Apr. 9, 1867.
63, 682	White, T. R., and W. G. Bedford, assignors to W. G. and Wimer Bedford, Philadelphia, Pa. Well boring apparatus. (Antedated March 29, 1867)	Apr. 9, 1867.
66, 111	White, T. R., and W. G. Bedford, Philadelphia, Pa. Driving belt. (Antedated June 15, 1867)	June 25, 1867.
65, 976	White, Thomas W., Milledgeville, Ga. Seed and guano planter.....	June 18, 1867.
66, 433	White, Timothy B., New Brighton, Pa. Iron bridge.....	July 2, 1867.
65, 626	White, William H., assignor to self and George W. White, Kent island, Md. Dish cover.....	June 11, 1867.
2, 788	White, William H., assignor to George Mallory, Bridgeport, Conn. Fan and parasol..... (Reissue)	Oct. 22, 1867.
71, 101	White, Willard P., Orland, Maine. Lubricator for carriage wheel bearing.....	Nov. 19, 1867.
70, 926	White, Windsor N., Winchendon, Mass. Wages indicator.....	Nov. 12, 1867.
	Whitehead, R. R. and J. H. (See Haines, M. J., assignor.)	
69, 879	Whitenead, William H., Chicago, Ill. Grate for cooking stoves.....	Oct. 15, 1867.
66, 921	Whitehill, James, Newburg, N. Y. Dust room in cleaning cotton.....	July 16, 1867.
62, 582	Whitehill, James C., St. Louis, Mo. Filter and cooler.....	Mar. 5, 1867.
70, 142	Whitehill, jr., Robert, New York, N. Y. Motor for operating sewing machines.....	Oct. 22, 1867.
	Whiteley, Fassler and Kelly. (See Harner, David S., assignor.)	
	Whiteley, William, et al. (See Franklin, McIntire & Whiteley.)	
67, 828	Whiteley, William N., Springfield, Ohio. Harvester.....	Aug. 13, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
70, 143	Whiteley, William N., Springfield, Ohio. Pitman head and wrist pin.....	Oct. 22, 1867.
70, 661	Same.....Pitman head and crank wrist connection.....	Nov. 5, 1867.
71, 255	Same.....Harvester.....	Nov. 19, 1867.
	Same.....(See Troxel, John S., assignor).....(Reissue.)	
	Same.....Cider mill.....(Division A. Reissue.)	
2, 499	Whiteley, William N., Jerome Fassler, and Oliver S. Kelly, Springfield, Ohio. Cider mill.....(Division B. Reissue.)	Feb. 26, 1867.
2, 704	Same.....same.....(Division B. Reissue.)	July 30, 1867.
72, 349	Whiteley, William N. and Andrew, Springfield, Ohio. Harvester.....	Dec. 17, 1867.
	Whiteley, William N., et al. (See Long, John, assignor.)	
	Same.....same.....	
63, 192	Whiteley, jr., William N., Springfield, Ohio. Harvester.....	Mar. 26, 1867.
64, 818	Same.....same.....	May 14, 1867.
64, 819	Same.....Harvester rake.....	May 14, 1867.
65, 030	Same.....same.....	May 21, 1867.
65, 977	Whiteley, jr., William N., Jerome Fassler, and O. S. Kelly, Springfield, Ohio. Manufacture of harvester guard fingers.....	June 18, 1867.
67, 829	Same.....Harvester cutter.....	Aug. 13, 1867.
2, 456	Whitenack, Thomas S., assignor to Lewis C. Reese, Phillipsburg, N. J. Rake for harvester.....(Reissue.)	Jan. 15, 1867.
64, 053	Whitfield, John William, New York, N. Y. Needle wrapper.....	Apr. 23, 1867.
	Whiting, Benjamin. (See Davis, H. V., assignor.)	
64, 391	Whiting, Horatio, New York, N. Y. Divider.....	Apr. 30, 1867.
64, 819	Whiting, James M., Providence, R. I. Carriage hub.....	Jan. 15, 1867.
63, 344	Same.....Device for holding horses.....	Mar. 26, 1867.
72, 251	Same.....Railroad switch.....	Dec. 17, 1867.
64, 177	Whiting, Nathaniel T., Lawrence, Mass. Sleigh.....	Apr. 23, 1867.
68, 137	Whiting, R. V., assignor to D. B. Gurney, Abington, Mass. Circular sawing machine.....	Aug. 27, 1867.
	Whiting, W. C., and H. F. Edwards. (See Edwards & Whiting.)	
70, 304	Whiting, W. W., Brooklyn, N. Y. Mode of fastening metal plates upon door hinges.....	Oct. 29, 1867.
65, 459	Whitlock, Abel, Danbury, Conn. Lamp burner.....	June 4, 1867.
64, 054	Whitlock, John, Birmingham, Conn. Self-oiling journal box.....	Apr. 23, 1867.
63, 591	Whitman, J. A., Auburn, Me. Oil can.....	Apr. 2, 1867.
	Whitman, Lorenzo F., et al. (See Rowe, Abel, assignor.)	
61, 590	Whitmarsh, Henry M., Abington, and Silas S. Putnam, Dorchester, Mass. Clothes hook.....	Jan. 29, 1867.
2, 744	Same.....same.....(Reissue.)	Aug. 20, 1867.
	Whitmore, Charles. (See Kendall, J. E., assignor.)	
65, 520	Whitmore, George E., Housatonic, Mass. Folding chair.....	June 4, 1867.
65, 521	Same.....Hub for wheels.....	June 4, 1867.
	Whitmore, Joseph M., and John N. Arvin. (See Arvin & Whitmore.)	
	Whitmore, Nathaniel, et al. (See Hodges, Charles M., assignor.)	
69, 055	Whitmore, Titus, Dubuque, Iowa. Head block for saw-mills.....	Sept. 17, 1867.
61, 373	Whitmore, William D., Boston, Mass. Piston for steam engines.....	Jan. 22, 1867.
64, 926	Whitner, Benjamin F., Madison, Fla. Planter and manure distributor.....	May 21, 1867.
68, 138	Whitney, Andrew H., Portland, Me. Lock-clasp for umbrellas.....	Aug. 27, 1867.
63, 772	Whitney, Anthony L., Brooklyn, N. Y. Steamcr for culinary purposes.....	Apr. 9, 1867.
	Whitney, Arthur, et al. (See Boynton, D., assignor.)	
60, 812	Whitney, Baxtor, D., Winchendon, Mass. Planing machine.....	Jan. 1, 1867.
63, 773	Same.....Machine for grinding saws.....	Apr. 9, 1867.
	Whitney, Edward P., and Edwin Hoyt. (See Hoyt & Whitney.)	
71, 349	Whitney, Eli, New Haven, Conn. Breech-loading fire-arm.....	Nov. 26, 1867.
	Whitney, Elijah. (See Page, Nathaniel F., assignor.)	
67, 091	Whitney, Hiram, Watertown, Mass. Paper neck-tie.....	July 23, 1867.
61, 496	Whitney, Isaac, Dayton, Ohio. Washing machine.....	Jan. 22, 1867.
68, 270	Whitney, James, Bristol, Vt. Washing and wringing machine.....	Aug. 27, 1867.
67, 242	Whitney, James A., Maryland, N. Y. Magazine fire-arm. (Antedated July 18, 1867.)	July 30, 1867.
69, 521	Same.....Jersey city, N. J. Spike. (Antedated Sept. 26, 1867.)	Oct. 1, 1867.
2, 676	Whitney, Joel, Winchester, Mass. Wood-planing machine.....(Reissue.)	July 9, 1867.
68, 401	Whitney, John F., and Oliver B., Milton, N. Y. Fruit-box.....	Sept. 3, 1867.
2, 752	Whitney, Levi H., Vallejo, Cal. Mode of training hops, &c.....(Reissue.)	Aug. 20, 1867.
68, 475	Same.....Vine trellis.....	Sept. 3, 1867.
	Whitney, M. L., and Andrew Leighton. (See Noyes, George, assignor.)	
61, 905	Whitney, N. L., Effingham, Ill. Coffee roaster.....	Feb. 5, 1867.
66, 922	Whitney, Oscar J., Clifton Springs, N. Y. Car coupling.....	July 16, 1867.
	Same.....(See Gates, William N., assignor.)	
67, 010	Whitney, R. W., and Joseph P. Davis, South Berwick, Me. Nutmeg grater.....	July 23, 1867.
67, 620	Whitney, R. W., South Berwick, Me., and Judson W. Shaw, Concord, N. H. Hat hook for pews.....	Aug. 6, 1867.
2, 652	Whitney, Samuel A., Glassboro', N. J. Bottle.....(Design.)	May 14, 1867.
61, 294	Whitney, Silas M., Galesburg, Ill. Cultivator.....	Jan. 15, 1867.
	Whitney, Washington, et al. (See Mellish, Henry, assignor.)	
	Same.....same.....	
	Same.....same.....	
	Same.....same.....	
	Whitney, Washington, and I. J. Dunn. (See Hunt, George W., assignor.)	
2, 784	Whittaker, Francis, St. Louis, Mo. Trade-mark.....(Design.)	Sept. 24, 1867.
70, 927	Whittemore, A. S., Williamantic, Conn. Chimney.....	Nov. 12, 1867.
68, 402	Whittemore, Charles Barton, Boston, Mass. Mode of recovering lost anchors.....	Sept. 3, 1867.
	Whittemore, Charles B. (See Johnson, S. P., assignor.)	
70, 662	Whittemore, David. Machine for pegging boots and shoes.....	Nov. 5, 1857.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Whittemore, David. (See Landfear, Wm. R., assignor.)	
	Same.....(See Reed, T. K., assignor.)	
63, 592	Whittemore, Jonathan R., Chicopee Falls, Mass. Sash fastening.....	Apr. 2, 1867.
72, 252	Whittemore, Joshua, South Reading, Mass. Soap rest.....	Dec. 17, 1867.
69, 733	Whittemore, Thomas, Cambridgeport, Mass. Railway.....	Oct. 8, 1867.
68, 326	Whittier, Alcibiades J., Roxbury, Mass. Mosquito bar and window screen.....	Aug. 27, 1867.
72, 707	Whittier, Charles, assignor to Union Steam Valve Co., Roxbury, Mass. Steam engine slide valve.....	Dec. 24, 1867.
70, 305	Whittle, George, New York, N. Y. Coal screen.....	Oct. 29, 1867.
	Whittlesey, C. B. (See Heaton, Edward, assignor.)	
66, 543	Whitwell, Thomas, England. Oven or furnace for heating the blast of blast furnaces. (Patented in England Nov. 10, 1865).....	July 9, 1867.
71, 670	Whitworth, John, assignor to self and W. H. Hawkins, Cleveland, Ohio. Cutter head for moldings.....	Dec. 3, 1867.
67, 390	Whitworth, William, Cleveland, Ohio. Table leaf support.....	July 30, 1867.
65, 320	Whyte, Edward, Philadelphia, Pa. Apparatus for cooling liquids on draft.....	May 28, 1867.
63, 593	Wiard, John, assignor to A. E. Taylor, New Britain, Conn. Sash fastener.....	Apr. 2, 1867.
71, 350	Wiard, John, assignor to self and Thomas A. Conklin, New Britain, Conn. Key guard for door locks.....	Nov. 26, 1867.
72, 576	Wiard Luman, and W. H. Nelson, Spring Township, Pa. Churn.....	Dec. 24, 1867.
69, 522	Wichelhaus, Fridrek, and Charles Rothe, Newark, N. J. Skate.....	Oct. 1, 1867.
63, 445	Wicke, A. F., and O. Evans, Alliance, Ohio. Horse hay fork.....	Mar. 26, 1867.
67, 373	Wicker, Abram C., and Lorson W. Williams, Fairhaven, Vt. Variety frame lathe.....	Aug. 6, 1867.
	Wickersham, H. N. (See Huston, William, assignor.)	
70, 058	Wickersham, J. B., assignor to E. D. B. Wickersham, Philadelphia, Pa. Lubricator.....	Oct. 22, 1867.
63, 774	Wickersham, William, Boston, Mass. Egg beater.....	Apr. 9, 1867.
	Same.....Sewing machine.....(Extension).....	Mar. 30, 1867.
69, 734	Same.....Machine for making nails for horse-shoes.....	Oct. 8, 1867.
69, 880	Same.....Electro-magnetic engine.....	Oct. 15, 1867.
61, 785	Wickham, Thomas B., Granville, Ohio. Farm gate.....	Feb. 5, 1867.
64, 178	Wicks, John, Greenland, Mich. Ore washer.....	Apr. 23, 1867.
70, 487	Wickwire, Chester F., Cortland, N. Y. Window sash fastener.....	Nov. 5, 1867.
72, 350	Widdicomb, George, Grand Rapids, Mich. Spring bed bottom.....	Dec. 17, 1867.
	Widney, James, and W. H. Dunham. (See Dunham & Widney.)	
63, 448	Wiedersheim, John A., Philadelphia, Pa. Barber's brush.....	Apr. 2, 1867.
62, 583	Wiegand, S. Lloyd, Philadelphia, Pa. Obtaining oil from paraffine, &c.....	Mar. 5, 1867.
67, 621	Same.....Steam generator.....	Aug. 6, 1867.
66, 923	Wieland, B., Orangeville, Ill. Corn-planter.....	July 16, 1867.
	Wieland, John, and H. A. and C. H. Engels. (See Engels & Wieland.)	
	Same.....same.	
61, 694	Wiesman, Joseph B., Cincinnati, Ohio. Express call sign.....	Jan. 29, 1867.
70, 928	Wigger, David, New York, N. Y. Axle and axle box.....	Nov. 12, 1867.
70, 930	Same.....Belt fastening.....	Nov. 12, 1867.
	Wiggin, G. B. and J. F. C. Rider. (See Rider & Wiggin.)	
63, 777	Wiggin, Isaac B., Washington, D. C. Burning fluid.....	Apr. 9, 1867.
62, 514	Wiggin, J. E., Stoneham, Mass. Boarding machine.....	Feb. 26, 1867.
63, 346	Wiggin, J. E., and Daniel G. Crosby, Stoneham, Mass. Heel shaving guard.....	Mar. 26, 1867.
69, 056	Wiggin, Lewis R., Farmington, N. H. Thread-waxing device for sewing machines.....	Sept. 17, 1867.
	Wiggins, Ambrose D., and James I. Gruver. (See Gruver & Wiggins.)	
61, 295	Wight, D., New London, Conn. Coal scuttle.....	Jan. 15, 1867.
	Wight, Edwin M. (See Cornell, Frederick F., jr., assignor.)	
	Wight, Edwin M., and Frederick F. Cornell, jr. (See Cornell & Wight.)	
72, 708	Wight, Josiah W., Chicago, Ill. Sled brake.....	Dec. 24, 1867.
60, 976	Wightman, Elias A., and William Williams, Livingstonville, N. Y. Cultivating hops.....	Jan. 1, 1867.
	Wightman, Joseph C. (See Smith, Henry Julius, assignor.)	
	Wikidal, L. P., and William and George Gibbs. (See Gibbs & Wikidal.)	
70, 059	Wilber, J. D., Poughkeepsie, N. Y. Harvester.....	Oct. 22, 1867.
	Wilber, Wm. B., et al. (See Bassett, Bearse & Wilber.).....(Reissue.)	
64, 927	Wilcox, Albert, Maquoketa, Iowa. Shovel plow.....	May 21, 1867.
63, 683	Wilcox, A. W., Boston, Mass. Melodeon.....	Apr. 9, 1867.
63, 193	Wilcox, B. B., New Haven, Conn. Fruit jar.....	Mar. 26, 1867.
68, 586	Wilcox, C. E., Milwaukee, Wis. Billiard table cushion.....	Sept. 3, 1867.
2, 741	Wilcox, Dennis C., assignor to Meriden Britannia Co., West Meriden, Conn. Handle of a fork or spoon.....(Design).....	Aug. 6, 1867.
	Wilcox, G. S. (See Turner, L. W., assignor.)	
68, 327	Wilcox, Henry S., West Meriden, Conn. Car platform.....	Aug. 27, 1867.
2, 654	Wilcox, Horace C., West Meriden, Conn. Spoon or fork handle.....(Design).....	May 14, 1867.
2, 540	Wilcox, Horace C., assignor to the Meriden Britannia Co., West Meriden, Conn. Handle of a caster.....	Jan. 1, 1867.
	Same.....Caster frame.....	Jan. 1, 1867.
2, 564	Same.....same.....	Jan. 22, 1867.
2, 565	Same.....same.....	Jan. 22, 1867.
63, 126	Wilcox, John, Thompsonville, Conn. Valve.....	Mar. 19, 1867.
63, 127	Same.....Faucet.....	Mar. 19, 1867.
67, 391	Wilcox, John, assignor to self and John Hooker, Springfield, Mass. Mode of putting up and preserving butter.....	July 30, 1867.
67, 148	Wilcox, John M., Albany, N. Y. Potato digger.....	July 23, 1867.
64, 608	Wilcox, John W., New York, N. Y. Slide for fastening envelopes, pocket books, &c.....	May 7, 1867.
67, 092	Same.....Document envelopes.....	July 23, 1867.
	Wilcox, Josiah. (See Burns, L., assignor.)	
66, 434	Wilcox, L. P. Mode of attaching tools to their handles.....	July 2, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 924	Wilcox, Luther T., and Wm. G. Caldwell, Three Rivers, Mich. Cotton-seed planter..	July 16, 1867.
	Wilcox, jr., S. and G. H. Babcock. (See Babcock & Wilcox.)	
	Wilcox, S. S. (See Church, S. O., assignor.)	
66, 925	Wilcox, Wm. R., assignor to self and Wm. W. Wilcox, St. Joseph, Mich. Fruit box ..	July 16, 1867.
68, 271	Wilcox, Wm. W., Middletown, Conn. Strawberry trellis	Aug. 27, 1867.
70, 488	Same.....Fastening eyelets	Nov. 5, 1867.
	Wilcox, Wm. W., and Joseph Hall, jr. (See Brown, Wm., assignor.)	
	Wild, Chas., and Alf. B. Ely, trustee. (See Hayward, Dan'le., assignor.)..(Reissue.)	
	Same.....same.....(Reissue.)	
71, 351	Wild, Jacob, assignor to J. S. Mason & Co., Philadelphia, Pa. Machine for making metal boxes	Nov. 26, 1867.
61, 128	Wildner, Amos, Calais, Me. Blacking-box holder	Jan. 8, 1867.
62, 303	Wildner, A. A., Detroit, Mich. Railroad car starter	Feb. 19, 1867.
64, 609	Same.....Planing machine. (Antedated March 5, 1867).....	May 7, 1867.
	Wildner, Artemus W., et al. (See Thoma, Alois, assignor.)	
	Same.....same.....	
	Same.....same.....	
	Same.....same.....	
65, 978	Wildner, C. H., and J. M., New York, N. Y. Nipple shield	June 18, 1867.
	Wildner, Edward Ward. (See Smith, Francis, assignor.)	
70, 663	Wildner, J. W., assignor to self and E. Butterick, New York, N. Y. Bed bottom	Nov. 5, 1867.
60, 813	Wildner, Mark, East Princeton, Mass. Threshing machine.....	Jan. 1, 1867.
63, 972	Wildner, Milo D., Laporte, Ind. Cattle pump	Apr. 16, 1867.
65, 143	Wildner, Moses G., West Meriden, Conn. Punching press	May 28, 1867.
62, 103	Wildhack, John, assignor to self and R. Popkess, Pekin, Ill. Oil cup for steam engines.	Feb. 12, 1867.
67, 474	Wiles, Moses, and Jasper C. Wock, Fort Plain, N. Y. Milk-can bottom	Aug. 6, 1867.
72, 577	Wiles, Thomas, Indianapolis, Ind. Jack	Dec. 24, 1867.
62, 911	Wiley, John, 2d, South Reading, Mass. Car starter and brake.....	Mar. 12, 1867.
71, 102	Same.....Car brake and starter	Nov. 19, 1867.
68, 675	Wiley, Wm. H., Fredonia, N. Y. Filter.....	Sept. 10, 1867.
70, 768	Same.....Horse power	Nov. 12, 1867.
2, 857	Wilhelm, August, Philadelphia, Pa. Reflector.....(Design).....	Dec. 31, 1867.
2, 623	Wilhelm, Charles, and Joseph Neumann, Philadelphia, Pa. Shade for a ceiling light.....(Design).....	Apr. 16, 1867.
2, 624	Same.....Lantern reflector	Apr. 16, 1867.
67, 830	Wilke, F. E., Brooklyn, N. Y. Photographic camera stand.....	Aug. 13, 1867.
63, 347	Wilkie, James W., Auburn, N. Y. Axletree.....	Mar. 26, 1867.
63, 348	Same.....same.....	Mar. 26, 1867.
70, 929	Wilkin, Alfred, McConnellsville, Ohio. Self-setting game trap.....	Nov. 12, 1867.
	Wilkins, Clarence L. and Erastus, et al. (See Sykes, Chester W., assignor.)	
	Wilkins, E. M., et al. (See Howell, R. L., assignor.)	
63, 973	Wilkins, E. S., and John Straw, Stowe, Vt. Mop-squeezer. Antedated March 14, 1867).....	Apr. 16, 1867.
	Wilkins, H., and J. N. Snowden. (See Snowden & Wilkins.)	
	Wilkins, Henry C. (See Davenport, David, assignor.)	
62, 460	Wilkins, M. P., and C. D. Rogers, Jersey City, N. J. Manufacture of brushes.....	Feb. 26, 1867.
	Same.....(See Rogers & Wilkins.)	
61, 970	Wilkinson, Albert S., Pawtucket, R. I. Horseshoe nail	Feb. 12, 1867.
61, 971	Same.....Horseshoe	Feb. 12, 1867.
61, 972	Same.....same.....	Feb. 12, 1867.
61, 973	Same.....same.....	Feb. 12, 1867.
61, 974	Same.....same.....	Feb. 12, 1866.
61, 975	Same.....same.....	Feb. 12, 1867.
65, 144	Same.....same.....(Design).....	May 28, 1867.
65, 145	Wilkinson, Albert S., Pawtucket, R. I. Horseshoe.....	May 28, 1867.
69, 146	Same.....same.....	Sept. 24, 1867.
	Wilkinson, David. (See Simpson, Robert, assignor.)	
	Wilkinson, J. T., et al. (See Numao, Wilkinson & Cook.)	
70, 664	Wilkinson, Levi, New Haven, Conn. Shrinking tires	Nov. 5, 1867.
68, 924	Wilkinson, Levi, assignor to Oliver F. Case, New Haven, Conn. Carriage shackle..	Sept. 17, 1867.
64, 820	Wilkinson, John G., Quincy, Ohio. Vehicle	May 14, 1867.
67, 149	Will, Reuben B., assignor to Wesley H. Colton, New Market, Va. Washing machine.	July 23, 1867.
62, 795	Willans, Jacob G., England. Puddling iron	Mar. 12, 1867.
61, 906	Willard, Charles, Newtown, Pa. Cultivator	Feb. 5, 1867.
66, 544	Willard, C. A., Belleview, Ohio. Carriage shaft coupling	July 9, 1867.
61, 591	Willard, Franklin W., New York, N. Y. Spoon. (Antedated Jan. 12, 1867).....	Jan. 29, 1867.
63, 349	Willard, George, New York, N. Y. Steam plow	Mar. 26, 1867.
65, 979	Willard, Hosea, Vergennes, Vt. Clothes dryer.....	June 18, 1867.
69, 881	Same.....Hay raker and loader	Oct. 15, 1867.
71, 829	Willard, H., Grand Rapids, Mich. Horse hay fork	Dec. 3, 1867.
71, 103	Willbur, J. M., Cleveland, Ohio. Printing apparatus.....	Nov. 19, 1867.
71, 104	Same.....Stereotype casting	Nov. 19, 1867.
71, 105	Same.....Hand lamp	Nov. 19, 1867.
	Willcox, F., and G. L. Jenks. (See Cox, George, assignor.)	
71, 435	Willcox, H. B., Troy Mills, Pa. Fruit box.....	Nov. 26, 1867.
70, 665	Willcox, John L., Preble, N. Y. Clothes line holder	Nov. 5, 1867.
64, 610	Willetts, E. P., assignor to Edw'd Richmond, North Hampstead, N. Y. Rack for whips.	May 7, 1867.
61, 695	Willetts, James R., and Livingston Brien, Nashville, Tenn. Rotary steam engine.....	Jan. 29, 1867.
65, 660	Willetts, John B., West Meriden, Conn. Plate lifter	June 4, 1867.
68, 821	Willey, Nathan, South Windsor, Conn. Evaporating pan	Sept. 10, 1867.
66, 196	Williams, Augustus, Sebec, Me. Planting hoe	June 25, 1867.
	Williams, A. A., and D. B. Raddall. (See Randall & Williams.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
64, 267	Williams, Charles, Manchester, N. H. Cooking stove.....	Apr. 30, 1867.
69, 882	Williams, Charles, assignor, through mesne assignments, to himself, Vineland, N. J. Oil cup.....	Oct. 15, 1867.
61, 033	Williams, jr., Charles. (See Humans, William, assignor.) Williams, C. M., assignor to Henri L. Stuart, New York, N. Y. Method of carbur- retting gas.....	Jan. 8, 1867. Oct. 22, 1867.
2, 785	Same..... Carburetting gas..... (Reissue)	Oct. 22, 1867.
71, 256	Williams, Charles P., assignor to self and George T. Lewis, Philadelphia, Pa. Man- ufacture of phosphates of soda and other products.....	Nov. 19, 1867.
69, 600	Williams, Charles W., Wyandotte, Mich. Corn harvester.....	Oct. 8, 1867.
68, 272	Williams, Daniel, Saginaw City, Mich. Corn husker.....	Aug. 27, 1867.
64, 268	Williams, Darius, Rock Co., Wis. Washing machine.....	Apr. 30, 1867.
63, 125	Williams, David N., Chicago, Ill. Apparatus for drawing iron from the fire.....	Mar. 19, 1867.
71, 933	Williams, David S., Coldwater, Mich. Bed bottom.....	Dec. 10, 1867.
71, 106	Williams, Edward, New York, N. Y. Safety attachment for pockets.....	Nov. 19, 1867.
64, 392	Williams, Elijah, Marianna, Fla. Propelling boats.....	Apr. 30, 1867.
69, 378	Williams, E. H., Grand Meadow, Iowa, and D. R. W. Williams, Werner, Wis. Exca- vating machine.....	Oct. 1, 1867.
66, 197	Williams, F. A., Cloverville, N. Y. Support for elevated railways.....	June 25, 1867.
	Williams, F. L., and R. Ficken. (See Ficken & Williams.)	
72, 709	Williams, George D., Chicopee, Mass. Bread cutter.....	Dec. 24, 1867.
	Williams, George L. (See Elrod, W. M., assignor.)	
61, 907	Williams, Giles B., assignor to Elisha M. Allen, New York, N. Y. Apparatus for stirring and cooling lard.....	Feb. 5, 1867.
	Williams, Harvey. (See Small, George, assignor.)	
68, 328	Williams, Henry A., assignor to self and Benjamin H. Chadbourne, St. Louis, Mo. Refining sugar and sirup.....	Aug. 27, 1867.
70, 489	Williams, H. W., Stowe, Vt. Bed bottom.....	Nov. 5, 1867.
70, 306	Williams, Isaac C., Philadelphia, Pa. Lay-away vat for tanning.....	Oct. 29, 1867.
62, 584	Williams, James, and Isaac Short, Amelia, Ohio. Swage.....	Mar. 5, 1867.
61, 592	Williams, James M., Connerville, Ind. Blower.....	Jan. 29, 1867.
69, 735	Williams, John A., Elizabeth, Ill. Thimble skein for axles.....	Oct. 8, 1867.
62, 912	Williams, John H., Somerville, N. J. Car brake.....	Mar. 12, 1867.
70, 060	Williams, jr., J. Newton, St. Paul, Minn. Grain separator.....	Oct. 22, 1867.
65, 321	Williams, John R., Taunton, Mass. Composition to be used as putty for stone work.....	May 28, 1867.
62, 717	Williams, John S., Warsaw, Ohio. Ointment for treating diseases in horses and other animals.....	Mar. 5, 1867.
	Williams, Lorson W., and Abram C. Wicker. (See Wicker & Williams.)	
64, 928	Williams, Marvin T., Milwaukee, Wis. Egg beater.....	May 21, 1867.
	Williams, Robert F., and Daniel Peters. (See Peters & Williams.)	
	Williams, Samuel. (See Carpenter, George W., assignor.)	
	Same..... (See Jenkins, Joshua, assignor.)	
65, 714	Williams, Samuel M., Pine Village, Ind. Evaporator.....	June 11, 1867.
63, 594	Williams, Samuel P., Sheridan, N. Y. Fence.....	Apr. 2, 1867.
72, 141	Same..... Farm fence.....	Dec. 10, 1867.
66, 661	Williams, Thomas, Boston, Mass. Dredging box.....	July 9, 1867.
2, 678	Williams, Thomas S., and P. S. Page, Boston, Mass. Lamp..... (Reissue)	July 9, 1867.
	Williams, William, and Elias A. Wightman. (See Wightman & Williams.)	
67, 831	Williams, William B., Warrenton, N. C. Plov.....	Aug. 13, 1867.
70, 666	Williams, William H., Little Falls, N. Y. Elevated railroad.....	Nov. 5, 1867.
71, 671	Williamson, A. L., Huntsville, Ala., and E. Y. Beggs, Nashville, Tenn., assignors to Algernon L. Wilkinson. Portable hose bridge.....	Dec. 3, 1867.
68, 676	Williamson, A. T., La Crosse, Wis. Washing machine.....	Sept. 10, 1867.
71, 672	Williamson, B. F., Franklin, Co., Ohio. Scroll saw mill.....	Dec. 3, 1867.
63, 350	Williamson, C. S., Covert, N. Y. Method of securing cutter to sickle bars.....	Mar. 26, 1867.
71, 830	Williamson, Hugh, New York, N. Y. Concentric celestial and terrestrial globes.....	Dec. 3, 1867.
61, 976	Williamson, Samuel, Cincinnati, Ohio. Molding sash weights.....	Feb. 12, 1867.
	Williamson, Samuel D., and Stephen Alley. (See Alley & Williamson.)	
	Williamson, T. P., and Don C. Matteson. (See Matteson & Williamson.)	
	Same..... same.....	
	Williamson, William H., et al. (See Reef, Jacob, jr., assignor.)	
66, 198	Willis, Cornelius L., Washington, D. C. Door stop and latch.....	June 25, 1867.
	Willis, Henry, et al. (See Farrar, Benjamin F., assignor.)	
64, 611	Willis, James A., Cherry Valley, N. Y. Medical compound.....	May 7, 1867.
61, 374	Willis, Newiel J., assignor to self and Ammi Brown, Waltham, Mass. Bed bottom.....	Jan. 22, 1867.
	Willison, George, and S. L. Myers. (See Myers & Willison.)	
72, 253	Willoughby, J. D., Shippensburg, Pa. Lamp chimney.....	Dec. 17, 1867.
71, 107	Wills, Charles, New York, N. Y. Means for securing and releasing horses.....	Nov. 19, 1867.
	Wills, John. (See Oakley, F., assignor.)	
	Wills, William et al. (See Crighton, Wills & Rastetter.)	
69, 290	Wilson, F. R., Columbus, Ohio. Harrow teeth.....	Sept. 24, 1867.
62, 986	Wilson, Henry F., assignor to W. G. Wilson, Fort Wayne, Ind. Sewing machine.....	Mar. 19, 1867.
67, 934	Wilson, H. F., assignor to self and George Esmoud, Fort Wayne, Ind. Breaststrap shield.....	Aug. 20, 1867.
72, 142	Wilson, Hugh B., New York, N. Y. Ventilating tunnel. (Antedated Nov. 28, 1867.)	Dec. 10, 1867.
71, 934	Wilson, Osborn, Aurora, Ill. Instrument for administration of anaesthetics.....	Dec. 10, 1867.
2, 594	Wilmot, Samuel R., Bridgeport, Conn. Oil can..... (Design)	Feb. 26, 1867.
63, 595	Same..... Steam blower.....	Apr. 2, 1867.
70, 383	Same..... Uniting sheet metal.....	Oct. 29, 1867.
68, 677	Wilmot, Samuel R., assignor to Colby Skirt Company, Bridgeport, Conn. Clasp for hoop skirts.....	Sept. 10, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
71, 108	Wilmout, Edwin, Laona, N. Y. Paper-making machine	Nov. 19, 1867.
68, 403	Wilson, Carman, assignor to William L. Smith, Stamford, Conn. Earth pulverizer and seeder combined	Sept. 3, 1867.
61, 786	Wilson, Charles, and J. H. McNall, Clinton, Pa. Car wheel	Feb. 5, 1867.
69, 857	Wilson, C. A., Cincinnati, Ohio. Steam-pressure gauge	Sept. 17, 1867.
	Wilson, Charles E., et al. (See Mason, J. M., assignor.)	
65, 850	Wilson, Charles V., Newark, N. J. Pot or lead bath for tempering steel, &c.	June 18, 1867.
69, 523	Wilson, D. C., Beaufort, S. C. School desk and seat	Oct. 1, 1867.
	Wilson, Erwin & Co. (See Newman, John J., assignor.)	
67, 392	Wilson, Furman R., New York, N. Y. Valve gear	July 30, 1867.
2, 812	Wilson, George, assignor to Otis Company, Ware, Mass. Trade mark. (Design)	Oct. 22, 1867.
63, 596	Wilson, George W., Freeport, Ill. Churn	Apr. 2, 1867.
65, 784	Wilson, George W., Chelsea, Mass. Air-heating furnace	June 11, 1867.
	Wilson, Horace. (See Swift, F., assignor.)	
	Wilson, J., and J. T. Greenwood. (See Greenwood & Wilson.)	
68, 020	Wilson, J., and R. Hughes, Boston, Mass. Wood-turning lathe	Aug. 20, 1867.
67, 093	Wilson, Jacob, Somerville, Ohio. Cultivator	July 23, 1867.
72, 143	Wilson, James T., Brooklyn, N. Y. Medical compound	Dec. 10, 1867.
66, 662	Wilson, John, Anderson Court-house, S. C. Burglar alarm gun	July 9, 1867.
64, 612	Wilson, John A., Spencer, Mass. Mop head	May 7, 1867.
62, 128	Wilson, John B., New York, N. Y. Veneer cutter	Mar. 19, 1867.
69, 147	Wilson, J. B., assignor to Eleanor and Allen T. Wilson, May's Landing, N. J. Axle for vehicles	Sept. 24, 1867.
	Wilson, J. F., and J. Nason. (See Nason & Wilson.)	
	Wilson, J. H., and H. H. Taylor. (See Taylor & Wilson.)	
61, 296	Wilson, J. T., East Liberty, and T. J. Louis, Port Perry, Pa. Car coupling	Jan. 15, 1867.
62, 585	Wilson, Levi, Springfield, Ohio. Cider mill	Mar. 5, 1867.
71, 352	Wilson, Lewis, assignor to self and Andrew Dunlap, Ovid, N. Y. Bed bottom	Nov. 26, 1867.
68, 678	Wilson, Marmaduke, Marquette, Wis. Corn cultivator	Sept. 10, 1867.
68, 273	Wilson, Samuel C., Olney, Ill. Churn	Aug. 27, 1867.
	Wilson, Samuel M., et al. (See Davidson, Bates, Wilson & Russell.)	
	Wilson, Theodore C., and John Blackwood. (See Blackwood & Wilson.)	
	Wilson, Thomas W., and Edward B. McDowell. (See McDowell & Wilson.)	
68, 139	Wilson, William A., and James Smith, England. Grate for furnaces	Aug. 27, 1867.
	Wilson, William Duane. (See Eagle & Goodwin, assignors.)	
2, 836	Wilson, W. G., Cleveland, Ohio. Sewing machine	Nov. 19, 1867.
	Same. (See Kelley, T. A., assignor.)	
	Same. (See Willson, Henry F., assignor.)	
	Wilson, William H., et al. (See Welsh, J. A., assignor.)	
66, 199	Wilson, William V. V., Savannah, Ga. Pill machine. (Antedated June 21, 1867.) ...	June 25, 1867.
72, 351	Wilt, F. S., Allentown, Pa. Boot tree	Dec. 17, 1867.
69, 873	Wilton, Nathaniel, Groton, N. H. Jaw for lathe dogs and bench vices	Oct. 15, 1867.
69, 736	Wiltse, jr., Thomas, Panama, N. Y. Horse power	Oct. 8, 1867.
63, 597	Winans, James, Plymouth, Mich. Land roller	Apr. 2, 1867.
72, 144	Winans, William H., Newark, N. J. Shoe lifter	Dec. 10, 1867.
	Winant, Daniel D. (See Jenkinson, James, assignor.)	
65, 147	Winants, J. E., and J. F. Griffen, New York, N. Y. Apparatus for distilling turpentine	May 28, 1867.
72, 254	Winants, J. E., assignor to self and John F. Griffen, Brooklyn, N. Y. Apparatus for melting and straining crude turpentine	Dec. 17, 1867.
60, 977	Winchell, James F., assignor to self and George C. Steele, Springfield, Ohio. Corn husker	Jan. 1, 1867.
61, 129	Same. Fruit step ladder	Jan. 8, 1867.
61, 130	Same. Fruit drying house	Jan. 8, 1867.
61, 297	Winchell, James F., assignor to self, George C. Steele, and L. A. Simons, Springfield, Ohio. Alarm for money drawers	Jan. 15, 1867.
70, 490	Winchester, Edward S., Boston, Mass. Tip for the feet of chair legs	Nov. 5, 1867.
60, 978	Winchester, G. C., and M. V. B. Howe, assignors to C. and G. C. Winchester, Asburnham, Mass. Chair	Jan. 1, 1867.
63, 194	Winchester, Gilman K., Providence, R. I. Take-up for braiding machine	Mar. 26, 1867.
60, 814	Winchester, O. F., New Haven, Conn. Metallic cartridge	Jan. 1, 1867.
64, 613	Windle, Thomas H., Westchester, Pa. Metal socket ferrule	May 7, 1867.
	Windsor, David, and James Stewart. (See Stewart & Windsor.)	
	Windsor Manufacturing Company. (See Ball, Albert, assignor.)	
	Same. (See Smott, William, assignor.)	
67, 935	Winegar, Charles O., Drytown, Cal. Steam generator	Aug. 20, 1867.
62, 129	Wineman, Parker, Chicago, Ill. Steam engine slide valve	Mar. 19, 1867.
66, 435	Same. Minooka, Ill. Mode of preventing corrosion at the joints of steam-boiler flues	July 2, 1867.
	Winnemiller, Joseph V. (See Smith, Levi S., assignor)	
	Winer, Daniel, et al. (See Mott, Winer & Brink.)	
62, 384	Wing, Albert E., Battle Creek, Mich. Machine for shrinking tires	Feb. 12, 1867.
66, 200	Wing, Israel, Earlville, Iowa. Sulky plow	June 25, 1867.
61, 497	Wing, L. C., Concord, Mass., and A. R. Bradean, Waterboro', Me. Window fastener	Jan. 22, 1867.
71, 935	Winger, Martin, Ephrata, Pa. Cider mill and press	Dec. 10, 1867.
	Wingfield, G., and J. Houghton. (See Houghton & Wingfield.)	
	Winlock, Joseph, and David Greene Haskins. (See Haskins & Winlock.)	
65, 623	Winner, Aaron S., Clark county, Ill. Quilting frame	June 11, 1867.
65, 031	Winsler, Michael, William Campbell, and Lyman Hardman, Tuscarawas county, Ohio. Horse hay fork	May 21, 1867.
	Winslow, E. (See Gomersall, John, assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery	Date.
69, 058	Winslow, E. B., Chatham, Ill. Trace and pad buckle	Sept. 17, 1867.
65, 146	Winslow, J. D., Wilmington, Del. Sash tightener	May 28, 1867.
67, 832	Winslow, John M., Rochester, N. Y. Eye cup	Aug. 13, 1867.
66, 926	Winsor, Daniel L., Cambridge, Mass. Snow plow	July 16, 1867.
	Winsor, J. H., et al. (See Foote, Henry R., assignor.)	
	Wintor, G. W. (See Weaver, Oliver N., assignor.)	
	Same	
	Wintor, Nicholas. (See Pottmeyer, Joseph B., assignor.)	
65, 032	Wintor, Peter, Horicon, Wis. Manufacture of brown metallic paint	May 21, 1867.
	Wintor, William W., et al. (See Darby, Joseph, assignor.)	
68, 476	Winterbottom, J. H., and J. Lord, Philadelphia, Pa. Spinning jack	Sept. 3, 1867.
70, 144	Winterhalter, Wildrich, assignor to self and John McArthur, jr., Philadelphia, Pa. Flooring and paving tile and building blocks	Oct. 22, 1867.
71, 937	Winters, James, and Charles C. Gapen, Lacon, Ill. Harvester	Dec. 10, 1867.
71, 936	Winton, Albert, Chambersburg, Pa. Curb for water wheels	Dec. 10, 1867.
72, 436	Wippo, Albert, Chicago, Ill. Boring tool	Dec. 17, 1867.
67, 622	Wirts, Stephen M., and F. Swift, Hudson, Mich. Combined lantern and foot warmer	Aug. 6, 1867.
69, 379	Wirz, A. H., Philadelphia, Pa. Pill machine	Oct. 1, 1867.
	Wisdom, William, Brooklyn, N. Y. Cleansing hair and feathers from insects, &c. (Extension)	Dec. 10, 1867.
64, 614	Wise, C., and B. Loeffler, New York, N. Y. Beer and mash cooler	May 7, 1867.
61, 677	Wise, Joseph, assignor to Thomas Kennedy, Branford, Conn. Die for molding knobs	Feb. 12, 1867.
	Wise, Joseph, and W. Kramer. (See Kramer & Wise.)	
65, 033	Wiseman, Gains B., Sycamore, Ill. Valve for stove pipe damper	May 21, 1867.
72, 437	Wiseman, G. B., Sycamore, Ill. Stove pipe damper	Dec. 17, 1867.
69, 884	Wisner, J., Aurora, and T. Rose, Cortlandville, N. Y. Broom head	Oct. 15, 1867.
72, 145	Wisner, T. W., Howell, Mich. Stove	Dec. 10, 1867.
65, 980	Wiswall, Alvah, New York, N. Y. Spring hinge	June 18, 1867.
66, 927	Same	July 16, 1867.
71, 109	Wiswell, Greg W., Pilot Knob, Mo. Boiler cleaner	Nov. 19, 1867.
61, 978	Witbeck, Harry P., Rochester, N. Y. Manufacture of vinegar	Feb. 12, 1867.
	Witbeck, John P. (See Fryer, William J., assignor.)	
71, 831	Witherell, Benjamin, Charlestown, Mass. Corn cake mold	Dec. 3, 1867.
62, 104	Witherell, L. K., Galesburg, Ill. Elastic marking roller	Feb. 12, 1867.
62, 913	Witherell, Orion O., assignor to self and J. B. Brackett, Plaistow, N. H. Pen holder	Mar. 12, 1867.
72, 578	Withers, J. E., Toronto, Canada West. Machine for making plug tobacco	Dec. 24, 1867.
64, 179	Withington, James C., Brookline, Mass. Illusory decapitation	Apr. 23, 1867.
	Witman, D. S., et al. (See Dickinson, Witman & Robold.)	
	Witman, F. R. (See Wright, Abraham, assignor.)	
64, 393	Witsil, George L., assignor to Eliza Sibbet and John C. Crompton, Philadelphia, Pa. Churn	Apr. 30, 1867.
65, 148	Witsil, George L., assignor to self, William Darmon, and George W. Griffin, Philadelphia, Pa. Clothes wringer	May 28, 1867.
70, 667	Witsil, George L., assignor to Thomas E. Hauberger, Philadelphia, Pa. Washing machine	Nov. 5, 1867.
69, 524	Witt, Adolph, Cincinnati, Ohio. Watchman's register	Oct. 1, 1867.
68, 475	Witt, Conrad, and Andrus Sina, Davenport, Iowa. Hemp break	Sept. 3, 1867.
68, 021	Witt, Daniel, Hubbardston, Mass. Rocking chair	Aug. 20, 1867.
	Witte, Hermann. (See Wagner, Michael, assignor.)	
70, 061	Wixted, James, assignor to self and H. K. Nichols, Port Carbon, Pa. Railway frog	Oct. 22, 1867.
72, 767	Wochoer, Herman, and Benedikt Geiger, Philadelphia, Pa. Curtain fixture	Dec. 31, 1867.
72, 768	Same	Dec. 31, 1867.
	Wock, Jasper C., and Moses Wiles. (See Wiles & Wock.)	
68, 925	Woerber, Amandus, Davenport, Iowa. Carriage curtain fastener	Sept. 17, 1867.
69, 885	Woerber, G. and A., Davenport, Iowa. Carriage and buggy top bow irons	Oct. 15, 1867.
65, 034	Woerd, Charles V., Waltham, Mass. Watch	May 21, 1867.
67, 692	Same	Aug. 13, 1867.
65, 985	Woerd, Charles V., assignor to the American Watch Company, Waltham, Mass. Winding watches	June 18, 1867.
64, 615	Wolf, David, Lebanon, Pa. Harvester	May 7, 1867.
	Wolf, D., et al. (See Hillebrand, L., assignor.)	
64, 728	Wolf, Herman, Avon, Pa. Adjusting screw for the legs of fanning mills	May 14, 1867.
63, 974	Wolf, Horace S., Rolling Prairie, Ind. Gate	Apr. 16, 1867.
66, 928	Wolf, Leopold, assignor to self, K. S. Hathaway, and James Hamilton, West Meriden, Conn. Composition finger key for piano-fortes	July 16, 1867.
66, 436	Wolf, Lorenz, St. Jacob, Ill. Punch	July 2, 1867.
67, 094	Wolfe, E. R., Plymouth, Pa. Gate	July 23, 1867.
64, 616	Wolfe, Gurdon G., Troy, N. Y. Wood-burning stove	May 7, 1867.
72, 146	Wolfe, John, Washington, D. C. Paper file	Dec. 10, 1867.
	Wolfe, Nicholas A., et al. (See Corlett, Sherman, Wolfe & Huston.)	
	Wolff, L. H., and William Rheiner. (See Rheiner & Wolff.)	
61, 298	Wolff, Robert, assignor to self and John H. Thieling, New York, N. Y. Brick machine	Jan. 15, 1867.
	Wolff, William, et al. (See Schaefer, Charles A., assignor.)	
	Same	
70, 668	Wolfinger, F. R., Chicago, Ill. Extension table	Nov. 5, 1867.
	Woliston, P. N., et al. (See Cavileer, McCuddy & Woliston.)	
	Wondra, A. J. (See Postavka, Louis, assignor.)	
	Wonson, Augustus H., and James G. Tarr. (See Tarr & Wonson).....(Reissue.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 299	Wood, Albert A., Manlius, N. Y. Water wheel	Jan. 15, 1867.
61, 300	Wood, Alonzo, East Henrietta, N. Y. Fastening for shirt collars	Jan. 15, 1867.
65, 981,	Wood, A. B., assignor to self, W. W. and W. H. Wood, Hamburg, Ark. Mechanical power	June 18, 1867.
61, 593	Wood, Alonzo H., Boston, Mass. Gas regulator	Jan. 29, 1867.
72, 147	Wood, Amos L., and Josiah G. Abbott. (See Remick, Jacob, assignor.)	
72, 148	Wood, Aurin, Worcester, Mass. Lathe box and journal	Dec. 10, 1867.
	Same.....Lathe for turning shafting	Dec. 10, 1867.
	Wood, De Volson, and Stillman W. Robinson. (See Robinson & Wood.)	
2, 763	Wood, D. H. (See Pelton, James B., assignor.)	
	Wood, David S., Delaware, Wis. Pump piston	Sept. 10, 1867.
	Wood, D. S., et al. (See Goodnow, W. D., assignor)	(Reissue.)
69, 737	Wood, Edwin A., Utica, N. Y. Electric steam gauge	Oct. 8, 1867.
	Wood, Eli, and Morgan Barnett. (See Barnett & Wood.)	
61, 696	Wood, E. K., and R. W. Henry, De Witt, Iowa. Compound oil for mixing paints	Jan. 29, 1867.
69, 291	Wood, Frederick, Bridgeport, Conn. Securing whip sockets to carriages	Sept. 24, 1867.
63, 975	Wood, George W., Richmond, Ind. Inking apparatus	Apr. 16, 1867.
65, 984	Same.....Inking apparatus for printing presses	June 18, 1867.
	Wood, George W., and Thomas L. Baylis. (See Baylies & Wood.)	
67, 150	Wood, Granville, Detroit, Mich. Melodeon	July 23, 1867.
67, 693	Wood, Henry, assignor to George W. Norris, Montreal, Canada East. Apparatus for treating vegetable, mineral, and animal matter with steam	Aug. 13, 1867.
68, 022	Wood, James B., Lansingburg, N. Y. Sash brush	Aug. 20, 1867.
62, 796	Wood, 2d, James F., Cohocton, N. Y. Wagon brake. (Antedated March 1, 1867)	Mar. 12, 1867.
68, 926	Same.....Self-acting wagon brake	Sept. 17, 1867.
70, 145	Same.....Car brake	Oct. 22, 1867.
2, 708	Wood, Jarvis R., Fitchburg, Mass. Button hole for cuffs, &c	(Design). July 16, 1867.
63, 976	Wood, John, Brooklyn, N. Y. Steam engine governor	Apr. 16, 1867.
69, 148	Wood, John, Lowell, Mass. Ladies' work table	Sept. 24, 1867.
	Same.....(See Olendorf, Garret J., assignor.)	
66, 545	Wood, Joseph S., Philadelphia, Pa. Apparatus for carburetting air and regulating its flow	July 9, 1867.
67, 694	Same.....Gas regulator	Aug. 13, 1867.
64, 792	Wood, Julius, Smyrna, N. Y. Hay unloader	May 14, 1867.
71, 564	Wood, Merritt L., assignor to self, Samuel Porter, and L. M. Monroe, Ithaca, N. Y. Telegraph indicator	Nov. 26, 1867.
66, 929	Wood, M. L., and Henry B. Horton. (See Horton & Wood.)	
	Wood, Oramel N., assignor to D. M. Smith, H. H. and A. C. Mason, Windsor, Vt. Vent plug	July 16, 1867.
65, 149	Wood, S. W., Cornwall, N. Y. Grain conveying machine	May 28, 1867.
62, 586	Wood, Thomas H., Monroeville, Ohio. Attaching carriage thills	Mar. 5, 1867.
68, 274	Same.....Carriage shaft coupling	Aug. 27, 1867.
71, 832	Wood, Walter A., Hoosick Falls, N. Y. Harvester	Dec. 3, 1867.
72, 149	Same.....Finger bar for harvesters	Dec. 10, 1867.
	Wood, William. (See Wells, Isaac M., assignor.)	
71, 257	Wood, William Anson, Hoosick Falls, N. Y. Harvester guard finger	Nov. 19, 1867.
	Wood, William A., et al. (See Cushing, Wallace & Wood.)	
61, 034	Wood, W. Dewees, McKeesport, Pa. Process of treating cleaned or scaled iron	Jan. 8, 1867.
66, 546	Same.....Annealing sheet iron	July 9, 1867.
	Wood, William G., et al. (See Walpole, William R., assignor.)	
	Wood, W. W. W., and R. H. Lamsen. (See Parker, James, assignor.)	
69, 856	Woodard, L. E., Owasso, Mich. Wagon brake	Oct. 15, 1867.
69, 979	Woodbridge, W. E., Little Falls, N. Y. Construction of ordnance	Jan. 1, 1867.
68, 541	Woodbury, A. B., Ashuelot, N. H. Spinning jack	Sept. 3, 1867.
69, 149	Same.....Jack spinning machine	Sept. 24, 1867.
70, 669	Woodbury, Daniel, Minneapolis, Minn. Machine for baking brick	Nov. 5, 1867.
67, 623	Woodbury, George, East Cambridge, Mass. Planing machine	Aug. 6, 1867.
63, 351	Woodbury, James A., Boston, Mass. Valve for steam engines	Mar. 26, 1867.
63, 352	Same.....same	Mar. 26, 1867.
	Same.....(See Reynolds, Edwin, assignor.)	
64, 821	Woodbury, Joseph P., Boston, Mass. Locomotive truck and engine	May 14, 1867.
71, 938	Woodbury, O. E., Madison, Wis. Sash stop	Dec. 10, 1867.
66, 930	Woodcock, L. M., Auburn, N. Y. Railway chair	July 16, 1867.
62, 914	Woodcock, Richard, Joliet, Ill. Tile and pipe machine	Mar. 12, 1867.
	Woodham, Alfred. (See Lee, Benjamin, jr., assignor.)	
	Woodman, Edwin E. (See Smith, Samuel A., assignor.)	
61, 646	Woodman, M. F., Farmington, Me., and L. Atwood, Norwich, Conn. Horse rake	Jan. 29, 1867.
	Woodman, Sewall, and Ivory Lord. (See Lord & Woodman.)	
69, 980	Woodmansee, L. D., Mad River Township, Ohio. Bridle bit	Jan. 1, 1867.
	Woodrough, J., and A. C. Martin. (See Martin & Woodrough.)	
	Woodrow, Mears & Co. (See Olhaber & Vedder, assignors.)	
	Same.....(Design.)	
	Woodruff, Charles. (See Olhaber, Clement, assignor.)	
	Woodruff, C. W., et al. (See Lemon, Samuel, jr., assignor.)	
61, 697	Woodruff, E. B., Morristown, N. J. Horse hay fork	Jan. 29, 1867.
68, 822	Woodruff, Edmund W., assignor to self and B. H. Camp, Washington, D. C. Oversole for boots and shoes	Sept. 10, 1867.
61, 979	Woodruff, Henry S., Janesville, Wis. Buckle	Feb. 12, 1867.
71, 258	Woodruff, Jonah, Pittsburg, Pa. Sleeping car	Nov. 19, 1867.
64, 929	Woodruff, Joseph, Rahway, N. J. Steam generator	May 21, 1867.
69, 059	Woodruff, J. W., Watson, Ill. Washing machine	Sept. 17, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
61, 594	Woodruff, Lum, Ann Arbor, Mich. Gate latch.....	Jan. 29, 1867.
68, 404	Woodruff, M. W., Bellisle, N. Y. Wind wheel.....	Sept. 3, 1867.
64, 822	Woodruff, S. Sayre, Brooklyn, N. Y. Baby carriage.....	May 14, 1867.
68, 927	Woods, Arthur, England. Hammock.....	Sept. 17, 1867.
67, 475	Woods, B. O., and W. S. Tuttle, Boston, Mass. Printing press.....	Aug. 6, 1867.
72, 255	Woods, E. L., assignor to self, Joshua H., Benjamin F., and James L. Woods, Alliance, Ohio. Buckle.....	Dec. 17, 1867.
70, 769	Woods, E. P., and D. Sherwood, assignors to Woods, Sherwood & Company, Lowell, Mass. Egg stand and boiler.....	Nov. 12, 1867.
70, 770	Same.....Machine for making wire dish stands, &c.....	Nov. 12, 1867.
72, 770	Same.....Wire dish stand.....	Dec. 31, 1867.
63, 598	Woods, Sherwood & Company. (See Dudley, George D., assignor.) Woods, Walter D., assignor to self and Ebenezer F. Woods, Bennington, N. H. Table cutlery.....	Apr. 2, 1867. Apr. 9, 1867.
63, 684	Woods, William Henry, San Francisco, Cal. Bit brace.....	Apr. 9, 1867.
72, 150	Woods, W. H., Philadelphia, Pa. Curtain fixture.....	Dec. 10, 1867.
	Woods, W. L., and George W. Francis. (See Francis & Woods.)	
68, 023	Woodside, B. F., Atlanta, Ga. Bedstead.....	Aug. 20, 1867.
70, 670	Woodside, E. G., San Francisco, Cal. Wheel-hub box.....	Nov. 5, 1867.
	Woodward, Amos P. (See Pond, Henry E., assignor.)	
	Woodward, Benjamin, (See Brooks, S. P., assignor.)	
	Woodward, Benjamin, et al. (See Symonds, Dexter, assignor.)	
	Same.....same	
65, 461	Woodward, Edward F., Brooklyn, N. Y. Coffee pot.....	June 4, 1867.
	Woodward, George M. (See King, John C., assignor.)	
69, 601	Woodward, H., England. Knife cleaner.....	Oct. 8, 1867.
64, 730	Woodward, Isaac F., Philadelphia, Pa. Water indicator for boilers.....	May 14, 1867.
69, 525	Woodward, James C., Franklin, Conn. Saw set.....	Oct. 1, 1867.
69, 060	Woodward, J. N., Aurora, Ill. Bending machine.....	Sept. 17, 1867.
64, 731	Woodward, John N., assignor to self and Thomas Arenser, Aurora, Ill. Paint brush.....	May 14, 1867.
68, 823	Woodward, John N., assignor to self and Walter Scott, Aurora, Ill. Stand for supporting wagon and other wheels when being painted.....	Sept. 10, 1867.
70, 307	Woodward, Moses S., Marshalton, Pa. Device for measuring horses' feet.....	Oct. 29, 1867.
71, 565	Woodworth, D. B., Cincinnati, Ohio. Manufacture of teapots.....	Nov. 26, 1867.
61, 787	Woodworth, James R., Nunda, N. Y. Roofing.....	Feb. 5, 1867.
67, 695	Same.....Tuyere.....	Aug. 13, 1867.
61, 498	Woodworth, Leonard, Morrison, Ill. Clothes dryer.....	Jan. 22, 1867.
	Woodredge, John, et al. (See Rogers, Ichabod R., assignor.)	
	Woolley, Lucius L., and Charles B. Moseley. (See Moseley & Woolley.)	
70, 146	Woolsey, Asa T., Sandusky, Ohio. Ironing table.....	Oct. 22, 1867.
70, 491	Woolsey, A. T., and A. F. Hubbell, Sandusky, Ohio. Sled.....	Nov. 5, 1867.
60, 981	Woolson, Charles J., Cleveland, Ohio. Grate.....	Jan. 1, 1867.
2, 625	Same.....Stove door.....(Design)	Apr. 16, 1867.
	Same.....Stove plate.....(Extension of design)	Nov. 21, 1867.
63, 449	Woolworth, Leonard, Albion, Wis. Cement.....	Apr. 2, 1867.
	Wooster, E., & Co., et al. (See Lattin, John R., assignor.)	
67, 936	Wooster, J. H., assignor to self and Robert Dunbar, Strykesville, N. Y. Steam-engine governor.....	Aug. 20, 1867.
	Wooster, L. L., and H. W. Parsons. (See Parsons & Wooster.)	
63, 599	Wootten, John E., Cressona, Pa. Sash supporter.....	Apr. 2, 1867.
67, 624	Same.....Rivet.....	Aug. 6, 1867.
63, 600	Wootten, John E., and Henry Hazel, Cressona, Pa. Locomotive attachment.....	Apr. 2, 1867.
66, 437	Wootten, J. E., assignor to self, E. C. Byers, and W. Wharton, jr., Reading, Pa. Railway chair.....	July 2, 1867.
65, 922	Worcester, Edward J., assignor to self and William S. Porter, Worcester, Mass. Brush.....	June 18, 1867.
	Worcester, Horatio D., et al. (See Brown, Worcester & Griswold.)	
65, 462	Worch, Charles F., New York, N. Y. Apparatus for destroying moths.....	June 4, 1867.
	Worden, A., and H. W. Curtis. (See Curtis & Worden.)	
69, 150	Worden, Carey, Binghamton, N. Y. Nutmeg grater.....	Sept. 24, 1867.
68, 275	Worden, John, Normal, Ill. Washing machine.....	Aug. 27, 1867.
72, 954	Worden, W. V., assignor to self and Daniel Howell, Waukesha, Wis. Bolt cutter.....	Dec. 31, 1867.
61, 131	Works, A. J., Fairhaven, Conn. Mode of burning hydro-carbon liquids as fuel.....	Jan. 8, 1867.
61, 908	Worley, William S., Tuscola, Ill. Ditching and grading machine.....	Feb. 5, 1867.
72, 438	Same.....Land roller.....	Dec. 17, 1867.
64, 823	Worsham, Joseph B., Hibernia, Mo. Tobacco belting knife.....	May 14, 1867.
63, 685	Worth, Andrew R., Nantucket, Mass. Seed planter.....	Apr. 9, 1867.
65, 628	Worth, Lewis W., Sonoma, Cal. Paper reel for telegraph registers.....	June 11, 1867.
	Worth, T., and C. Rosenberry. (See Rosenberry & Worth.)	
65, 322	Wortham, John B., Huntsville, Ala. Lamp turner.....	May 28, 1867.
72, 256	Wortham, Notley W., assignor to self, T. C. Hendry, M. L. Watson, and P. W. Printup, Union Point, Ga. Mill-stone dress.....	Dec. 17, 1867.
	Worthington, A. F., and J. R. Haynes. (See Haynes & Worthington.)	
66, 061	Wotring, Jehu F., Willey, W. Va. Car coupling.....	June 25, 1867.
60, 982	Wray, Samuel A., Greenfield, Ind. Cultivator plow.....	Jan. 1, 1867.
60, 983	Wrealsch, Anthony, and William Burns, Springfield, Ohio. Water wheel.....	Jan. 1, 1867.
	Wright & Smith. (See Olmsted, Leveritt H., assignor.)	
	Wright, A. D., and W. L. Ainsworth. (See Ainsworth & Wright.)	
67, 393	Wright, Abraham M., assignor to self and F. R. Witmer, Safe Harbor, Pa. Bag fastener.....	July 30, 1867.
	Wright, Alexander D. (See Thornton, Walter T., assignor.)	

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
2, 540	Wright, A. F., New Vienna, Ohio. Beehive	Apr. 2, 1867.
65, 522	Same	June 4, 1867.
62, 515	Wright, Charles, New York, N. Y. Storehouse	Feb. 26, 1867.
71, 533	Wright, Chatham B., Belmont, Ohio. Portable derrick	Dec. 3, 1867.
62, 915	Wright, D., and W. A. Kirby, Auburn, N. Y. Coal scuttle	Mar. 12, 1867.
66, 547	Wright, D. W., New York, N. Y. Combination of paper weight and pen wiper	July 9, 1867.
67, 151	Wright, David W., assignor to Thomas L. Wright, New York, N. Y. Rule for calculating time and measures	July 23, 1867.
69, 292	Wright, Edward, Worcester, Mass. Calipers and dividers	Sept. 24, 1867.
69, 380	Same.....Picker for looms. (Antedated September 16, 1867)	Oct. 1, 1867.
70, 308	Same.....Operating picker staff for looms	Oct. 29, 1867.
72, 769	Wright, Edward, assignor to L. J. Knowles & Brother, Worcester, Mass. Let-off mechanism for looms	Dec. 31, 1867.
66, 272	Wright, E. D. (See Partridge, James A., assignor.)	July 2, 1867.
65, 323	Wright, F. D., Jordan, N. Y. Fly and mosquito bar for windows	Oct. 1, 1867.
	Wright, Francis H., assignor to self, William C. Slade, and B. M. Pratt, Richmond, Ind. Tanning	May 28, 1867.
70, 062	Wright, Francis H., et al. (See Hickman, G. G., assignor.)	Oct. 22, 1867.
	Wright, George F., and William Orr, jr. (See Orr & Wright.)	Sept. 24, 1867.
69, 151	Wright, Homer, Pittsburg, Pa. Jng top	Sept. 24, 1867.
65, 715	Wright, H. H. W., et al. (See Sykes, Chester W., assignor.)	June 11, 1867.
65, 324	Wright, James, assignor to self and William Blessing, New York, N. Y. Device for cleaning the traps of water closets	May 28, 1867.
63, 775	Wright, John, and J. J. Johnson, Coldwater, Mich. Corn harvester	Apr. 9, 1867.
	Wright, John P., Canton, Minn. Scaffold	Jan. 29, 1867.
61, 647	Wright, John Q. (See Brown, John E., assignor.)	Feb. 5, 1867.
61, 909	Wright, Joseph. (See McMichael, John, assignor.)	June 18, 1867.
65, 251	Wright, L. C., Lockport, N. Y. Washing machine	Nov. 12, 1867.
70, 931	Wright, Michael H., Chicago, Ill. Grain dryer. (Antedated January 25, 1867)	Jan. 22, 1867.
61, 499	Wright, Moses B., Meriden, Conn. Lamp burner	Apr. 9, 1867.
63, 776	Same.....Lantern	Dec. 17, 1867.
72, 352	Wright, Nathan, Jersey City, N. J. Tool for cutting boiler tubes	Feb. 26, 1867.
62, 461	Wright, N. A., Prairie du Chien, Wis. Book-holder for pews	Apr. 16, 1867.
63, 977	Wright, Robert, Philadelphia, Pa. Brick for pavements, &c.	Apr. 30, 1867.
64, 394	Wright, Robert B., Vermillion, Ill. Planting machine	Sept. 24, 1867.
69, 293	Wright, S., and A. M. Burke. (See Burke & Wright.)	Feb. 26, 1867.
62, 462	Wright, Sylvester C., Fitchburg, Mass. Friction clutch	Apr. 16, 1867.
2, 598	Wright, Sylvester J., Ellsworth, N. Y. Automatic gate	Apr. 30, 1867.
62, 797	Same.....Stretcher for hosiery	Sept. 24, 1867.
	Wright, S. W., assignor to self and S. J. Wright, Ellsworth, N. Y. Bolt-cutting shears	Feb. 26, 1867.
65, 523	Wright, Thomas, assignor, through mesne assignments, to William H. Cory, New York, N. Y. Broom	May 14, 1867.
67, 243	Wright, Walter, Danvers Center, Mass. Cut-off valve gear for steam engines	Mar. 12, 1867.
68, 824	Wright, William, New York, N. Y. Operating cut-off valve of steam engines. (Extension)	Dec. 16, 1867.
71, 939	Wright, William W., and John Boody, Ellsworth, N. Y. Bolt cutter	June 4, 1867.
69, 526	Wright, Young F., Green Hill, Ga. Cotton press	July 30, 1867.
69, 527	Wrightington, C. D., Fairhaven, Mass., and B. P. Rider, Chelsea, Mass. Horseshoe-nail machine	Sept. 10, 1867.
60, 984	Wrightington, C. D., Fairhaven, Mass., and B. P. Rider, Boston, Mass. Peat and brick machine	Dec. 10, 1867.
67, 696	Wright, John N., and George Smith, assignors to John N. Wrigley, Newark, N. J. Cut-off valve gear	Oct. 1, 1867.
67, 697	Same.....Steam safety valve	Oct. 1, 1867.
66, 273	Wurtz, Henry, New York, N. Y. Composition of glue, or gelatine, and other materials, called durogel.	Jan. 1, 1867.
61, 910	Same.....Manufacture of cements, mastics, and japans from grahamite	Aug. 13, 1867.
2, 735	Same.....Composition from grahamite for varnishing, coating, and protecting the surface of metal, wood, and fibrous materials.	Aug. 13, 1867.
65, 852	Wurzbach, A. C., Memphis, Tenn., and William Wurzbach, New York, N. Y. Spring clasp. (Antedated June 22, 1867)	July 2, 1867.
64, 732	Wuterich, W. F., and John Prentice. (See Prentice & Wuterich.)	Feb. 5, 1867.
61, 500	Wyatt, Robert, Brooklyn, N. Y. Scrubbing brush	Aug. 29, 1867.
68, 928	Wyatt, Robert, assignor to the American Fire Escape and Fireman's Ladder Company, New York, N. Y. Fire escape	June 18, 1867.
70, 309	Wyatt, William, New Bedford, Mass. Mode for furling and reefing sails	May 14, 1867.
61, 911	Wykoff, Peter. (See Adair, Isaac V., assignor.)	Jan. 22, 1867.
69, 204	Wykel, M. C. (See Stafford, H. P., assignor.)	Sept. 10, 1867.
63, 601	Wylie, W. T., New Castle, Pa. Shaving brush	Oct. 29, 1837.
71, 110	Wyllly, William H., Savannah, Ga. Life boat	Feb. 5, 1867.
61, 912	Wynan, B. F., Lancaster, Mass., and B. H. Hartshorn, Ashland, Mass. Knitting machine register. (Antedated September 4, 1867)	Sept. 24, 1867.
	Wyman, Horace, Worcester, Mass. Loom	Sept. 10, 1867.
	Wynkoop, F. G., Corning, N. Y. Sad-iron heater	Oct. 29, 1837.
	Wynkoop, Legrand, Owasso, Mich. Water wheel	Feb. 5, 1867.
	Wynne, H. W., and M. Klein. (See Klein & Wynne.)	Sept. 24, 1867.
	Yager, John H., Trenton, Ohio. Carriage step	Apr. 2, 1867.
	Yale, jr., Linus, Shelburne Falls, Mass. Burglar-proof safe	Nov. 19, 1867.
	Yaman, William, Connersville, Ind. Saw mill	Feb. 5, 1867.

List of patentees of inventions, designs, and reissues, 1867—Continued.

No.	Name, residence, and invention or discovery.	Date.
66, 760	Yancey, Edwin L., Utica, N. Y. Carriage-curtain button holes.....	July 16, 1867.
66, 761	Same.....same.....	July 16, 1867.
63, 405	Yancy, Edwin, Utica, N. Y. Horse hay fork.....	Sept. 3, 1867.
	Yates, H. C., and P. Killin. (See Killin & Yates.)	
63, 024	Yates, John H., Batavia, N. Y. Sad-iron heater.....	Aug. 20, 1867.
65, 524	Yates, Thomas, Dubuque, Iowa. Heating stove.....	June 4, 1867.
61, 132	Yeager, Josiah, Berrysburg, Pa. Machine for rounding leather.....	Jan. 8, 1867.
71, 259	Same.....Machine for cutting and punching fly-net straps.....	Nov. 19, 1867.
63, 825	Yeakel, Benjamin, Allentown, Pa. Threshing machine.....	Sept. 10, 1867.
	Yeakell, I. W., and C. O. Kline. (See Lemley, Jacob, jr., assignor.)	
61, 301	Yeatman, A. A., and J. M. Mason, Washington, D. C. Coal hod.....	Jan. 15, 1867.
61, 302	Yeiser, Edmund, and J. S. Sheetz, Sheridan, Pa. Horse hay fork. (Antedated January 5, 1867).....	Jan. 15, 1867.
	Yellott, David, and Benjamin Moser. (See Moser & Yellott.)	
71, 353	Yengst, Peter, Union Deposit, Pa. Manure fork.....	Nov. 26, 1867.
67, 698	Yeoman, Edward, Waukegan, Ill. Bed bottom.....	Aug. 13, 1867.
	Yerk, Charles M., and William D. Prindle. (See Prindle & Yerk.)	
62, 105	Yerkes, J., Fox Chase, Pa. Making hammers.....	Feb. 12, 1867.
63, 276	Yerty, Henry, Covington, Ohio. Milk house.....	Aug. 27, 1867.
64, 824	Yingling, George S., and Samuel F. Poorman, Tiffin, Ohio. Apparatus for mashing and cooling in breweries.....	May 14, 1867.
	Yingling, George S., and Henry Gross. (See Gross & Yingling.)	
61, 303	Yocum, jr., James, Philadelphia, Pa. Molding flask. (Antedated Jan. 7, 1867).....	Jan. 15, 1867.
63, 826	Same.....Hanger for shafting.....	Sept. 10, 1867.
62, 718	York, Eli, Windsor, Ill. Portable fence.....	Mar. 5, 1867.
72, 579	York, Henry Kinnaird, Great Britain. Manufacture of iron and steel.....	Dec. 24, 1867.
63, 602	York, E. L. and W. R., Honeoye Falls, N. Y. Water elevator.....	Apr. 2, 1867.
70, 492	Younmans, Walter, Lansburg, N. Y. Car truck.....	Nov. 5, 1867.
	Younce, Joseph, and James C. Jay. (See Jay & Younce.)	
66, 762	Young, Albert A., assignor to self and George T. Dalton, Boston, Mass. Brush.....	July 16, 1867.
72, 955	Young, Alfred, Philadelphia, Pa. Lacing device.....	Dec. 31, 1867.
69, 528	Young, B. C., Boston, Mass. Boot and shoe.....	Oct. 1, 1867.
66, 763	Young, Calvin, Auburn, N. Y. Machine for cutting dovetail.....	July 16, 1867.
	Young, Charles F. (See McLea, William J., assignor.)	
61, 788	Young, C. M. and E. M. Benster, Detroit, Mich. Gas stove.....	Feb. 5, 1867.
66, 663	Young, Ebenezer, Camden Center, Mich. Gate.....	July 9, 1867.
69, 529	Young, Elijah, Fayetteville, Mo. Harvester.....	Oct. 1, 1867.
69, 985	Young, Emanuel, Amanda, Ohio. Hollow auger.....	Jan. 1, 1867.
63, 822	Young, Emanuel, deceased, by Peter Meyers, administrator. Stoutsville, Ohio. Wood reamer.....	Apr. 16, 1867.
63, 827	Young, E. S., Worcester, and A. Whipple, Whitingville, Mass., assignors to Edward S. Young. Drill.....	Sept. 10, 1867.
69, 152	Young, George W., assignor to George W. Smith, San Francisco, Cal. Carpet cleaner.....	Sept. 24, 1867.
	Young, Haines & Dyer. (See Brigham, Owen B., assignor.)	
71, 354	Young, Henry, Cincinnati, Ohio. Lamp.....	Nov. 26, 1867.
63, 929	Young, Hiram, Carey, Ohio. File.....	Sept. 17, 1867.
	Young, Howard. (See Conarroe, Robert, assignor.)	
61, 980	Young, Isaac, assignor to self and Isham H. Hays, Byhalia, Miss. Combined cultivator and plow.....	Feb. 12, 1867.
66, 764	Young, Isaac N., Swann, Ind. Farm gate.....	July 16, 1867.
66, 765	Same.....Clover thresher, huller, and cleaner.....	July 16, 1867.
73, 957	Same.....Gate.....	Dec. 31, 1867.
61, 789	Young, John, Brooklyn, N. Y. Piston-rod packing.....	Feb. 5, 1867.
64, 180	Young, John, Amsterdam, N. Y. Clothes wringer.....	Apr. 23, 1867.
	Young, John, and J. W. Latcher. (See Latcher & Young.)	
67, 011	Young, McClintock, Frederick, Md. Knife sharpener.....	July 23, 1867.
2, 454	Young, jr., McClintock, assignor, through mesne assignments, to Andrew J. Holman, Philadelphia, Pa. Harvester.....	Jan. 15, 1867.
63, 025	Young, R. W., Richmond, Va. Liquid meter.....	Aug. 20, 1867.
	Same.....(See Dean, Otis, assignor.)	
	Same.....same.....	
64, 467	Young, Samuel H., St. Louis, Mo. Mode of disinfecting coffins.....	May 7, 1867.
63, 035	Young, Solomon W., assignor to self, J. W. Hoard, and R. A. Denison, Providence, R. I. Machine for making eyelets.....	May 21, 1867.
65, 036	Same.....Machine for making eyelet stock.....	May 21, 1867.
66, 766	Young, Solomon W., assignor to self and J. W. Hoard, Providence, R. I. Wood screw.....	July 16, 1867.
66, 931	Young, S. W., and J. W. Hoard, Providence, R. I. Tool for threading screws.....	July 16, 1867.
	Young, Solomon W., et al. (See Brayton, George B., assignor.)	
66, 438	Young, William, Easton, Pa. Steam generator.....	July 2, 1867.
66, 932	Same.....Steam and water joints.....	July 16, 1867.
71, 260	Young, William, England. Grate, fireplace, and furnace. (Patented in England April 11, 1866).....	Nov. 19, 1867.
63, 679	Young, William B., Chicago, Ill. Cultivator.....	Sept. 10, 1867.
62, 798	Young, W. H., Athens, Ohio. Preparing petroleum for lubricating.....	Mar. 12, 1867.
72, 956	Young, W. H. and L., Boston, Mass. Caster for trunks.....	Dec. 31, 1867.
72, 710	Young, William M., Trempealeau county, Wis. Abdominal supporter.....	Dec. 24, 1867.
63, 930	Youngblood, William, New York, N. Y. Wagon step.....	Sept. 17, 1867.
67, 699	Yount, Henry, Dayton, Ohio. Harness motion for looms.....	Aug. 13, 1867.
67, 012	Yount, Israel, Gettysburg, Pa. Medical compound.....	July 23, 1867.

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No.	Name, residence, and invention or discovery.	Date.
62, 463	Zabriskie, Albert M., Bergen Point, N. J. Joint groover for brick work.....	Feb. 26, 1867.
67, 833	Zacharias, J. F., Leesburg, Va. Machine for attaching labels.....	Aug. 13, 1867.
69, 381	Zahn, Henry L. and Edward J., Lancaster, Pa. Watch regulator.....	Oct. 1, 1867.
62, 719	Zahn, Joseph, Fredonia, N. Y. Shifting rail for carriage seats.....	Mar. 5, 1867.
71, 111	Zane, James S., Pleasant Plains, Ill. Snow plow.....	Nov. 19, 1867.
	Zane, Joseph. (See Roach, Francis, assignor.)	
65, 853	Zeidler, Charles L., Cincinnati, Ohio. Machine for making match splints.....	June 18, 1867.
70, 771	Same.....Mortising machine.....	Nov. 12, 1867.
61, 375	Zeller, John P., Bourbon, Ind. Combined seed drill and cultivator.....	Jan. 22, 1867.
63, 838	Zeller, William, Lebanon county, and Richard Lechner, Berks county, Pa., assignors to James Wallace. Plow.....	Apr. 16, 1867.
69, 295	Zeller, William, Lebanon county, and R. Lechner, Berks county Pa. Bag fastener (Antedated September 18, 1867).....	Sept. 24, 1867.
66, 274	Zellers, Theodore A., East Birmingham, Pa. Manufacture of glass.....	July 2, 1867.
66, 767	Zellner, Henry, Columbia, Tenn. Breaking and cleaning hemp.....	July 16, 1867.
66, 768	Same.....Combined seed sower and roller.....	July 16, 1867.
69, 887	Same.....Cotton press and feeder.....	Oct. 15, 1867.
70, 932	Zender, Justus E., New York, N. Y. Dice box.....	Nov. 12, 1867.
65, 325	Zern, P., and W. Warwick, Pittsburg, Pa. Machine for cutting off cigars.....	May 28, 1867.
2, 602	Zeuner, Chas., ass'or to Crane, Breed & Co., Cincinnati, Ohio. Burial case..... (Design)	Mar. 19, 1867.
2, 603	Same.....same..... (Design)	Mar. 19, 1867.
2, 604	Same.....same..... (Design)	Mar. 19, 1867.
2, 605	Same.....same..... (Design)	Mar. 19, 1867.
65, 983	Ziegenfues, George S., Doylestown, Pa. Wagon brake.....	June 18, 1867.
60, 986	Ziegler, Martin, France. Imponderable fluid, and mode of generating the same.....	Jan. 1, 1867.
62, 175	Zimmerman, Eli, Pamela Four Corners, N. Y. Lifting jack.....	Feb. 19, 1867.
	Zimmer, W. N., and W. W. Coggshall. (See Russ. J. Scott, assignor.)	
67, 244	Zimmerman, John, Royalton Center, N. Y. Lamp for destroying insects.....	July 30, 1867.
72, 354	Same.....Culinary boiler.....	Dec. 17, 1867.
72, 353	Same.....Coffee pot.....	Dec. 17, 1867.
68, 140	Zimmerman, John, Powhatan, Md. Horse rake.....	Aug. 27, 1867.
69, 602	Zimmerman, John T., and Henry Baker, Lancaster, Pa. Plumb level.....	Oct. 8, 1867.
61, 698	Zimmerman, C. F., Philadelphia, Pa. Strap for accordions.....	Jan. 29, 1867.
	Zink, C. H., et al. (See Klahr, Joseph, assignor.)	
62, 720	Zinn, John Hartzell, assignor to self and Peter D. Johns, Edaville, Pa. Hinge.....	Mar. 5, 1867.
66, 439	Zinn, J. J., Albion, Pa. Machine for furrowing millstones.....	July 2, 1867.
2, 774	Zioek, William, St. Louis, Mo. Trade mark..... (Design)	Aug. 27, 1867.
72, 257	Zitkov, Louis B. F., Portland, Me. Stall for cattle and horses.....	Dec. 17, 1867.
62, 516	Zoeger, H., New York, N. Y. Medical compound.....	Feb. 26, 1867.
	Zoiner, P. W., and C. Harris. (See Harris & Zoiner)..... (Design)	
	Same.....same..... (Design)	
	Same.....same.....	
	Same.....same.....	
	Same.....same.....	
60, 815	Zorger, Emanuel, Greensburg, Ind. Car coupling.....	Jan. 1, 1867.
61, 376	Zschille, Anton, assignor to L. T. Downes, Saxony. Machine for raising the nap on cloth.....	Jan. 22, 1867.
	Zug, Henry A., and Henry Schlichter. (See Schlichter & Zug)..... (Design)	
62, 721	Zundorff, John, New York, N. Y. Steam valve.....	Mar. 5, 1867.
62, 722	Same.....Safety valve.....	Mar. 5, 1867.
67, 152	Zurbrick, Henry, Elizabethtown, Ohio. Cultivator and seed sower.....	July 23, 1867.
63, 353	Zwiefel, Caspar, assignor to James J. Walworth and Gustavus Buschick, Chicago, Ill. Loom.....	Mar. 26, 1867.
68, 542	Zwiebel, Anton, Burlington, Wis. Universal joint.....	Sept. 3, 1867.

REPORT OF THE BOARD OF INVESTIGATION

CHIEF OF BUREAU

MEMORANDUM FOR THE CHIEF OF BUREAU

Subject: [Illegible]

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ALPHABETICAL LIST OF INVENTIONS.

Invention or Discovery.	Name of Patentee.	No.
A.		
Abdominal supporter	W. M. Young	72, 710
Abdominal supporter	W. Henderson and J. Greenawalt	66, 022
Abdominal supporter	J. Thompson	71, 246
Accordeons, Strap for	C. F. Zimmerman	61, 698
Acid, carbonic, Condensing and drawing off, and applying the same for cooling and freezing.	T. S. C. Lowe	63, 405
Acid, carbonic, Producing and manufacture of, and in the application of the same for various useful purposes.	S. Stevens	68, 321
Acid, Compound, for use in baking and cooking	J. E. Lauer	62, 277
Acid, sulphuric, and other liquids, Concentrating	J. Hughes	65, 277
Acid, sulphuric, Concentrating	D. Ashworth and R. B. Eaton	62, 919
Acid, sulphuric, Concentrating	J. D. Loftus	60, 759
Acupuncture, Instrument for	A. R. Brown	60, 917
Adding machine	V. Parks	62, 677
Addressing machine	R. Dick	64, 502
Advertising apparatus	J. A. Royce	66, 637
Advertising, Device for	A. Davis	69, 637
Advertising machine	I. W. Sylvester	66, 055
Aerial carriage and way	D. Towse	71, 921
Aerial carriage and way	D. Towse	71, 922
Aerial carriage and way	D. Towse	71, 923
Aerial machine	J. A. Elston	67, 739
Air and gas, Carburetting	J. F. Boynton	61, 309
Air and gas, Carburetting	J. Kidd	62, 855
Air and gas, Carburetting	J. S. Stephenson	63, 326
Air and gas, Carburetting	D. Hall	63, 511
Air and gas, Carburetting	G. W. Porter	64, 361
Air and gas, Carburetting	J. F. Barker and C. N. Gilbert	66, 777
Air and gas, Carburetting	J. F. Boynton	70, 512
Air and hydrocarbon vapors, Explosive mixture of	J. Kidd	62, 856
Air and other substances, Cooling	D. E. Sones	70, 909
Air and steam jets, Combination of, to promote combustion	G. M. Copeland	62, 397
Air, Carburetting	W. H. Clarke	63, 215
Air, Carburetting	W. F. Cozzens and J. H. Jones	70, 809
Air, Carburetting	C. N. Gilbert, J. F. Barker, and E. N. Ives	61, 004
Air, Carburetting	B. Douglas and W. H. Walton	61, 656
Air, Carburetting	E. S. Hutchinson and H. L. McAvoy	61, 739
Air, Carburetting	A. C. Rand	62, 364
Air, Carburetting	J. H. Irwin	66, 153
Air, Carburetting	L. Stevens	63, 667
Air, Carburetting	L. Stevens	65, 296
Air, Carburetting	J. C. Pedrick	66, 622
Air, Carburetting	J. H. Springer and J. C. McDonald	66, 749
Air, Carburetting	F. S. Pease	67, 576
Air, Carburetting, and regulating its flow	J. S. Wood	66, 545
Air, carburetting, Combination apparatus for	L. Stevens	68, 666
Air, Compressing	J. E. J. Mignon and S. H. Rouart	63, 075
Air, Condensing	O. Abruzzo	70, 934
Air conductor, Portable hot	J. B. Oldershaw	72, 074
Air, Drying and purifying, for preserving animal and vegetable substances.	E. D. Brainard	66, 786
Air-heating apparatus for steam boiler furnaces, &c	A. C. Fletcher	64, 090
Air, Moistening, cooling and warming	D. E. Sones	61, 886
Air to life boats, Supplying	P. F. Schenck	65, 953
Alarm and lighter	T. N. Howell	72, 854
Alarm and lock attachment for money drawers	J. H. Weaver	68, 816
Alarm, Burglar	I. M. Wells	65, 710
Alarm, Burglar	H. B. Robbins	65, 949
Alarm, Burglar	C. E. Pierce	66, 040
Alarm, Burglar	O. M. Brooks and R. W. Soper	66, 457
Alarm, Burglar	S. Whitaker	67, 619
Alarm, Burglar	E. F. Mallory	68, 520
Alarm, Burglar	T. Royer	71, 537
Alarm, Burglar	G. S. Acker	69, 888
Alarm, Burglar	D. D. Skelly	71, 073
Alarm, Burglar	E. C. C. Kellogg	71, 180
Alarm, Burglar	R. Bunker	69, 604
Alarm, Burglar	H. Behn	62, 998
Alarm, Burglar	B. F. and J. F. Cunningham	72, 459
Alarm, Burglar	C. Waterman	63, 124
Alarm, Burglar	C. J. Crum and W. Irwin	72, 723
Alarm, Burglar	L. W. Blakeslee and A. D. Smith	72, 786
Alarm, Burglar	G. A. Colton	60, 695
Alarm, Burglar	R. G. Fowler	60, 711
Alarm, Burglar	J. G. Trout	63, 582

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Alarm, Burglar	C. A. Eaton	68, 857
Alarm, Burglar	T. Royer	71, 537
Alarm, Burglar and fire	J. Holmes and C. W. Nickerson	62, 033
Alarm, Burglar, and lock apparatus	C. E. Pierce	71, 637
Alarm, Burglar, for safes	B. G. Fitzhugh	61, 061
Alarm, Clock	J. Decker	62, 531
Alarm, Fire	W. W. Andrews, J. Cummer, J. F. Ganwieler, and J. Stengel	65, 526
Alarm, Fire	I. T. Pease	72, 672
Alarm, fire, Annunciating	A. and E. Fontaine	69, 648
Alarm, Fog	J. C. Lyons	68, 763
Alarm, Leakage, for vessels	G. B. Massey	62, 144
Alarm, Low-water, for steam generators	R. T. Crane	67, 506
Alarm, Low-water, for steam generators	S. B. Palmer	62, 150
Alarm, Low-water, for steam generators	J. H. Springer and W. M. Bartram	62, 230
Alarm, Money drawer	J. F. Winchell	61, 297
Alarm, Money drawer	I. Robbins	63, 531
Alarm, Railroad-switch	T. S. Hall	62, 414
Album	A. Hathaway	67, 540
Albumen	J. M. Fuchs	72, 625
Alcohol and other liquids, Compound vacuum rectifier for	T. Simmons	61, 770
Alcohol and other pure distillates, Manufacture of	J. F. Collins	60, 835
Alcohol and other spirits, Rectifying	J. G. Bequet	61, 388
Alcoholic spirits, Manufacturing	J. W. Richardson	62, 070
Ale, beer, &c., "Hopping"	W. S. Haight	66, 833
Ale, Brewing	C. Clifford	63, 994
Ale, eider, &c., Compound for refining	W. M. Davis	65, 063
Alloy for dentist's use	M. M. Johnston	71, 307
Alloy for journal boxes and other purposes	G. W. Disman	69, 783
Alloy for making plates and sheets	J. D. Grüneberg	71, 479
Alloy for mold boards and other parts of plows	O. F. Burton	61, 997
Alloy for sabots of projectiles	T. Taylor	61, 117
Alloy for the manufacture of metal sheets, &c.	L. Brandeis	70, 513
Alloy, Metallic compound for	J. Hackert	65, 563
Alloy of metals used in forming water pipes and other articles, Manufacture and uniting	W. A. Shaw	72, 919
Alloy to imitate silver	A. Schmitte and H. A. Levallois	71, 072
Allumettes, Paper	B. B. Lehman	63, 265
Alum, sulphate of alumina, and other aluminous compounds, Manufacture of	H. Pemberton	60, 780
Alumina, sulphate of, Treatment of	A. A. Croll	65, 175
Aluminium, Casting	J. B. Bean	68, 548
Amalgamator	D. E. Rose	61, 262
Amalgamator	A. J. Senatz and G. W. Knowlton	64, 258
Amalgamator	W. L. Strong	64, 458
Amalgamator	R. W. Howard	65, 912
Amalgamator	J. B. Forrisier	66, 142
Amalgamator	G. B. Field	68, 175
Amalgamator	H. A. Gaston	68, 359
Amalgamator	F. G. Hesse	69, 564
Amalgamator	W. W. Hubbell	69, 672
Amalgamator	A. Swazey	70, 646
Amalgamator	S. Standish	61, 274
Amalgamator	J. A. Robinson, jr	61, 465
Amalgamator	F. W. Crosby	63, 221
Amalgamator	A. Hunter	64, 534
Amalgamator	T. G. Chubb	67, 498
Amalgamator	A. Horn	71, 011
Amalgamator	F. G. Hesse	70, 839
Amalgamator and concentrator	G. Johnston and E. G. Smith	66, 499
Amalgamator, Cylindrical	T. M. Fell	60, 709
Amalgamator for ores of gold and silver	W. M. Fuller	72, 626
Ammonia, Manufacture of	A. Paraf	67, 447
Ammunition in chests and boxes, Packing	F. L. Hagadorn	71, 298
Anesthetics, Administration of	O. Wilson	71, 934
Anchor	G. A. Lloyd and C. A. Stewart	66, 665
Anchor	C. T. Julius	60, 963
Anchor	W. J. Armstrong and C. Browne	70, 498
Anchor, Floating	G. L. Baker	61, 983
Anchoring stationary machinery	C. B. Whittemore	68, 402
Anchor, Revolving	J. Luke Hauly	64, 762
Anchors, Casting	J. Evans, jr	67, 741
Anchor stock	N. W. Wheeler	65, 625
Anchor, Water	S. Boone	67, 943
Animal and vegetable substances	J. and A. Gamgee	71, 377
Animal and vegetable subst. nces, Preserving	L. H. Spear	67, 921
Animal intestines, Composition for preserving	T. L. Reed	71, 787
Animal matter, Cutting and grinding	A. Smith	71, 544
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Animals, Apparatus for taming wild	P. R. Sanderson	71, 914
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Animals, Tethering.....	J. P. Thorp.....	66, 417
Animals, Tethering.....	W. Johnson.....	67, 057
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Annunciator.....	H. Gross and G. S. Yingling.....	70, 552
Annunciator, Hotel.....	H. B. Porter.....	71, 214
Anti-rheumatic compound.....	J. Schmoll.....	62, 692
Anvil.....	L. Kirkup.....	60, 745
Apple corer and slicer.....	G. Custer.....	66, 951
Apple corer and slicer.....	G. C. Wright.....	70, 062
Apple parer, corer, and cutter.....	W. A. Coc.....	62, 184
Apple paring, coring, and slicing machine.....	A. McR. Blain.....	65, 534
Apples, Device for gathering.....	H. F. Wadhams.....	63, 584
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Armor, sub-marine, Attaching weights to.....	D. Hale.....	67, 874
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Articles, Suspending and detaching.....	W. C. Lane.....	71, 186
Ashes, pearl, Manufacture of.....	J. W. Brown.....	62, 312
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Auger.....	T. C. Keith.....	62, 754
Auger.....	T. Hofstetter, jr.....	62, 849
Auger.....	J. Swan.....	68, 012
Auger.....	J. A. McGee.....	72, 665
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Auger handle.....	D. Y. Smith.....	72, 099
Auger, Hollow.....	J. Ward.....	60, 972
Auger, Hollow.....	E. Young.....	60, 985
Auger, Hollow.....	M. Isbell.....	64, 423
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Auger, Post.....	H. W. Caswell.....	63, 016
Auger, Post-hole.....	J. Killgore, G. D. Clapsaddle, and E. Smart.....	65, 577
Auger, Post-hole.....	T. Leeson.....	65, 400
Auger, Post-hole.....	S. McCray.....	68, 638
Augers, Machine for cutting down.....	E. O. and E. Carrington.....	66, 297
Augers, Machine for twisting.....	W. L. Aldrich and W. Evans.....	67, 395
Auger, Well-boring.....	P. Ollom.....	62, 216
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Axe.....	D. W. Colburn.....	66, 563
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Axes, Machine for shaving.....	H. C. Reynolds.....	67, 584
Axes to their handles, Attaching.....	J. Stewart.....	70, 284
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Axle and axle box.....	D. Wigger.....	70, 928
Axle and box, Wagon.....	J. N. & T. Wallis.....	65, 622
Axle and journal box, Antifriction.....	H. H. Carkeet.....	72, 796
Axle and wheel connection.....	H. S. Cook.....	61, 402
Axle blanks, Making.....	J. W. Ells.....	68, 423
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Axle box.....	G. Brill.....	62, 931
Axle box.....	N. Campbell.....	63, 783
Axle box.....	W. H. Pollard.....	65, 428
Axle box.....	H. Brady.....	67, 946
Axle box.....	D. H. Dotterer.....	65, 797
Axle box.....	L. A. Dochez.....	72, 821
Axle box.....	S. Barker.....	69, 160
Axle box.....	E. P. Lamason.....	69, 225
Axle box.....	H. B. Pitner.....	72, 079
Axle box.....	W. A. Boyden.....	71, 125
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Axle box and journal, Lining for.....	P. S. Devlan.....	66, 472
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Axle box, Car.....	C. Pinder and D. C. Robinson.....	70, 356
Axle box, Car.....	W. Stone.....	71, 422
Axle box cover, Car.....	R. McDonald.....	63, 070

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Axle box for vehicles	J. Reilly	62, 068
Axle box for vehicles	C. F. Gillette	62, 126
Axle box, Journal and	P. S. Devlan	66, 471
Axle box, Railway	C. B. Boynton	70, 793
Axle, Car	W. A. Brickill	66, 556
Axle, Car	J. Anthony	72, 584
Axle, Car	S. S. Burt	70, 799
Axle, car, Railroad	A. E. Elmer	61, 180
Axle, Carriage	T. Falvey	61, 821
Axle, carriage, Lubricating	E. Thomas	70, 650
Axle for vehicles	A. W. Gillet	60, 876
Axle for vehicles	J. B. Wilson	69, 147
Axle for wagons, &c	F. M. McManus	65, 411
Axle of vehicles, Lubricating	J. F. Morris	62, 054
Axle, rail, &c., Effecting the cementation of	T. M. Dodds	66, 310
Axle, Thimble skein for	J. A. Williams	69, 735
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Axletree	J. W. Wilkts	63, 348
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Axle, Wagon	A. E. Smith	72, 555
Axle, wagon, Forming	J. E. Cromwell	66, 569
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Babbetting and drilling jig	J. Underwood	70, 294
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Baby jumper and cradle	R. Ashe	67, 153
Baby tender	L. Limerick	64, 432
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Battery, Floating or light-house	J. Moody	62, 870
Battery, Galvanic	C. Boulay	70, 791
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Bean puller	S. W. Moore	66, 034
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Belt shipper for mules	J. Haseltine	67, 760
Belts, leather, Composition for stuffing	W. Hayes	62, 746
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Belt tightener	J. M. Hawley	68, 625
Belt tightener	M. Peatt	71, 052
Belt tightener	A. B. Marshall	63, 645
Bench, Carpenter's	W. Weaver	70, 657
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Blackboard for schools	W. Arronquier	71, 946
Blacking, Boot	A. Boudrou	65, 535
Blacking case	C. E. Brown	63, 700
Blacking case, Portable	A. W. Overbaugh	64, 899
Blacking for leather, Preservative	W. B. Moore	70, 737
Blacksmiths' striker	G. Bell	66, 118
Blanket fastener	L. C. Chase	69, 768
Bleaching	J. B. Fuller	66, 013
Bleaching and drying yarns, cloths, and other textile fabrics	I. C. Colton and A. M. Hastings	62, 612
Bleaching and hardening articles made of soapstone, talc, &c	H. J. Smith	71, 919
Bleaching and scouring hemp, flax, and other fibres	L. Jarosson	72, 500
Bleaching cane juice	W. A. Jordan	63, 527
Bleaching powder, glass, soluble silicates, and hydro-chloric acid, Process to be used in the manufacture of	W. R. Stace and H. M. Baker	68, 254
Bleaching powder, Manufacture of	T. Gray	63, 036
Blind	R. Hutton	60, 736
Blind and door fastening	D. Bull	68, 947
Blind and sash fastener	M. Adler and L. Knell	61, 035
Blind and sash fastener	L. Pollock	63, 938
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Blind fastener	A. Bingham	65, 993
Blind fastener	W. Hunniston	62, 337
Blind fastening	E. B. Beecher, J. G. Davis, H. S. Frost, and A. G. Davis	63, 835
Blind fastening	G. Lightfoot	70, 726
Blind fastening	E. A. Chavantre	71, 135
Blind fastening	W. C. Marshall	62, 636
Blind fastening	S. W. Huntingdon	65, 086
Blind fastening, Window	C. P. Bell	64, 740
Blind fastening, Window	J. R. Baker	67, 015
Blind fastening, Window	B. Mayo	71, 031
Blind, Metallic	J. M. Jomain	66, 967
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Blind slat fastening.....	F. R. Smith	64, 588
Blind slats, Tenoning.....	J. J. and T. Clark	66, 678
Blind slats, Tenoning, and boring the stiles of.....	Hiram Smith and T. J. Loomis	60, 800
Blind slats, Wiring.....	E. F. Dunaway	60, 839
Blind slats, Wiring.....	P. Barry	64, 935
Blind staple.....	F. Douglas	70, 702
Blind supporter and hinge.....	W. W. S. Orbeton	67, 999
Blind, Venetian.....	G. F. Smith	66, 995
Blind, Window.....	C. G. Matchett	62, 765
Blind, Window.....	W. P. Hoffman	68, 076
Blind, Window.....	H. Smith and T. Lumis	67, 363
Blind, Window.....	C. K. Marshall	69, 231
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Blinds, window, Fastener for.....	C. B. Francis	60, 872
Blinds, window, Fastening for.....	A. J. Warner	61, 779
Blinds, window, Fastening for.....	T. J. Sloan	63, 317
Blinds, window, Fastening for.....	A. Warner	63, 768
Blinds, window, Fastening for.....	L. M. Townsley	64, 264
Blinds, window, Fastening for.....	N. F. Mathewson	66, 510
Blinds, window, Fastening for.....	T. Stoner	67, 146
Blinds, window, Inside.....	S. W. Shorey	72, 332
Blinds, window, Slat for.....	F. Little	62, 348
Block, Elevating.....	W. H. Hawley	68, 193
Blotter.....	C. C. Moore	63, 417
Blotter, Automatic.....	J. E. Billings	69, 616
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Blotting pad.....	R. Boeklen	64, 623
Blower.....	J. M. Williams	61, 592
Blower.....	G. W. Bigelow	61, 919
Blower.....	F. Engel	62, 620
Blower.....	W. A. Parmele	67, 345
Blower, Fan wheel.....	A. Westcott	63, 343
Blower for forges.....	C. West and B. K. Price	70, 140
Blower, Steam.....	G. W. Bright	61, 391
Blower, Steam.....	S. R. Wilmot	63, 595
Blower, Steam.....	M. Foreman and J. R. Mathewson	64, 414
Blue for use in laundries and in bleaching, Lump.....	J. H. Dilks	72, 818
Bluing and other dyes, Putting up.....	E. L. Molineux	72, 524
Bluing for use in laundries and bleaching, Soluble.....	J. H. Dilks	72, 817
Boat and coffer dam.....	W. H. Applegate	64, 933
Boat and davit tackle.....	E. Wakeman	63, 585
Boat and trunk.....	J. A. Olmstead	67, 342
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Boat-detaching apparatus.....	W. A. Devon	66, 006
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Boat-detaching tackle.....	S. Brown	61, 312
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Boat-detaching tackle.....	M. V. Nobles	63, 082
Boat-detaching tackle.....	J. A. Libbertz	63, 268
Boat-detaching tackle.....	G. B. Massey	63, 544
Boat-detaching tackle.....	W. C. Dodge	63, 620
Boat-detaching tackle.....	P. H. Jackson	64, 110
Boat-detaching tackle.....	R. H. Griffith	65, 213
Boat-detaching tackle.....	M. V. Nobles	65, 825
Boat-detaching tackle.....	C. H. Ramsten	66, 105
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Boat, Life-preserving automatic.....	A. Carson	66, 933
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Boats, Propelling.....	E. Williams.....	64, 392
Boat, Self-bailing surf and life.....	N. Penrose.....	66, 624
Boats, ships', Raising and lowering.....	W. A. Devon.....	67, 419
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Bobbin, Boring.....	V. D. Beach.....	71, 683
Bobbin, Metallic.....	W. E. Rice.....	68, 813
Bobbin, Metallic.....	C. T. Smith.....	64, 152
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Bodies, Embalming.....	G. W. Scollay.....	61, 472
Bodies, tubular, Manufacture of.....	J. Montgomery.....	71, 508
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Boiler.....	J. Baumeister.....	67, 939
Boiler.....	H. Adler.....	69, 890
Boiler and furnace, Portable roofing to.....	P. Feulason.....	64, 853
Boiler, Bath.....	E. H. Chapman and T. M. Hammett.....	72, 798
Boiler cleaner.....	G. W. Wiswell.....	71, 109
Boiler cleaner.....	W. P. Slensby.....	67, 361
Boiler, Combined coffee-pot and lamp.....	L. A. Plumb.....	61, 454
Boiler, Corrugated sheet metal.....	G. R. Moore.....	71, 632
Boiler, Culinary.....	J. Zimmerman.....	72, 354
Boiler, Cullender.....	B. F. Porter.....	64, 905
Boiler feeder.....	J. W. Doughty and B. F. Olmsted.....	62, 258
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Boiler feeder, Automatic.....	S. J. Parker.....	64, 356
Boiler feed regulator.....	W. McCormick.....	72, 413
Boiler feed-water regulator.....	C. H. Gould.....	66, 018
Boiler-flue cleaner.....	B. Schaefer.....	60, 795
Boiler flues, steam, Preventing corrosion at the joints of.....	P. Wineman.....	66, 435
Boilers for cooking stove, Water.....	C. Olhaber.....	71, 207
Boiler for culinary purposes.....	W. H. Henderson.....	68, 564
Boiler for heating buildings.....	C. F. H tchings.....	67, 053
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Boiler for pitch, &c., Portable.....	L. S. Mills.....	63, 286
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Boiler gauge cock.....	J. French.....	67, 866
Boiler gauge-cock handle.....	E. H. Ashcroft.....	60, 817
Boiler, Hot-water.....	H. Steeger.....	72, 760
Boiler journal box.....	E. Wadhams.....	72, 942
Boilers and other vessels, Sheet metal.....	J. Carroll.....	63, 701
Boilers, Cover for cooking-stove.....	T. F. Hall and G. Eckel.....	68, 300
Boilers for evaporating pans, Feeding liquid to.....	S. A. Mitchell.....	63, 925
Boilers, Forming.....	W. W. Hornberger.....	61, 068
Boilers, Forming.....	E. S. Sackett.....	64, 577
Boilers, ice houses, &c., to impede the passage of heat, Non-conducting composition for covering.....	J. A. Jones.....	63, 255
Boilers, paper-pulp, Filling and packing rotary.....	A. Fickett.....	71, 728
Boilers, Smoke extinguisher for.....	W. H. Nobles.....	72, 886
Boiler, Steam.....	R. Needham.....	67, 340
Boilers, steam, Compound for stopping leaks in.....	H. Lefevre and J. McGuire.....	70, 352
Boilers, steam, pipes, &c., Cement felt for covering.....	W. S. Kosinski.....	61, 648
Boilers, steam, Preventing incrustation in.....	P. H. Vanderweyde.....	62, 093
Boilers, steam, Preventing incrustation in.....	G. T. Parry.....	62, 878
Boilers, steam, Preventing incrustation in.....	J. J. Allen.....	63, 453
Boilers, steam, Preventing incrustation in.....	D. Matthew.....	64, 992
Boilers, steam, Preventing incrustation in.....	H. F. and L. F. Knoderer.....	65, 092
Boilers, steam, Preventing incrustation in.....	C. J. Eames.....	65, 657
Boilers, steam, Preventing incrustation in.....	S. G. Cabell.....	68, 041
Boilers, steam, Preventing incrustation in.....	J. L. Husband.....	69, 096
Boilers, steam, Preventing incrustation in.....	S. G. Cabell.....	71, 455
Boilers, steam, Preventing incrustation in.....	S. G. Cabell.....	72, 794
Boilers, steam, Protecting, from corrosion.....	D. Matthew.....	72, 309
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Boilers, steam, Washer for socket bolts in	J. G. Collins	63, 021
Boiler-tube cleaner	J. B. Christoffel	62, 816
Boiler-tube cleaner	W. P. Heffron	67, 112
Boiler-tube cutter	W. B. Smith	72, 927
Boiler-tube scraper	E. L. Pratt	66, 387
Boiler tubes, cutting off, Tool for	N. Wright	61, 499
Boiler tubes, cutting off, Tool for	R. Lavery	62, 859
Boiler tubes, cutting off, Tool for	P. Hoffman	63, 250
Boiler tubes, cutting, Tool for	R. H. Burke	61, 392
Boiler tubes, Expanding and fastening	R. Dudgeon	61, 815
Boiler tubes, Fastening	J. Bowden	60, 853
Boiler tubes, Steam jet for cleaning	J. M. Wheeler	72, 348
Boiler tubes, Tool for cutting off	W. P. Slenzby	64, 454
Boiler, Wash	M. W. Staples	62, 084
Boilers, Water gauge for	N. H. Bundy	72, 793
Boilers, Water indicator for	A. Yang	73, 130
Boilers, Water indicator for	I. F. Woodward	64, 730
Boilers, Water indicator for	W. R. England	66, 694
Boilers, Water indicator for	A. and G. Guthrie and T. L. Humes	61, 826
Boilers, Water regulator for	R. J. Jordan	69, 218
Bolsters to knives, Attaching	H. Barber	70, 778
Bolt	O. D. Hunter	67, 549
Bolt and bolt head	J. Crompton	63, 706
Bolt and rivet machine	J. C. Reed	62, 565
Bolt and rivet machine	J. Morgan, jr.	63, 927
Bolt and rivet machine	J. Morgan, jr.	64, 896
Bolt and rivet machine	J. Wakefield	72, 135
Bolt and rivet trimmer	M. D. Budd	65, 338
Bolt attachment to lock	W. H. Andrews	71, 944
Bolt blanks, Automatic feeder for	W. F. Parker	65, 423
Bolt, Carriage	W. Koplín	62, 963
Bolt, Carriage	S. Frisbie and A. S. Upson	69, 333
Bolt cutter	W. W. Worden	72, 954
Bolt, Door	A. H. Sherwood	69, 033
Bolt, Door	G. A. Pridham	70, 895
Bolt, Door	C. C. Jones	72, 303
Bolt fastening	V. Lapham	70, 866
Bolt feeder, Silent	J. Cornwell	70, 806
Bolt, Flour	J. W. Walters	64, 603
Bolt for doors, Spring	G. F. Atkinson	70, 149
Bolt for saw frames	F. Washburn	72, 766
Bolt, Flush	C. E. Lattin	70, 340
Bolt, Heading	O. C. Burdick	68, 555
Bolt, Heading	J. Root	70, 363
Bolt, Heading	W. Swatbel	71, 243
Bolt, Heading	F. B. Prindle	72, 899
Bolt heading machine	P. P. Trayser	61, 896
Bolt heading machine	S. W. Goodyear and W. F. Parker	65, 561
Bolt heading machine	R. Gracey	72, 288
Bolt holder	B. Perry and A. Cornish	64, 904
Bolt, Joint	S. E. Jewett	70, 223
Bolt, King	E. A. Keasey	69, 446
Bolt, Latch	S. Oppenheimer	61, 090
Bolt machine	A. R. Bailey and W. W. Knowles	70, 939
Bolt machine	W. W. Hubbard	71, 012
Bolt-making machine	A. Alexander	72, 152
Bolt-making machine	A. Alexander	72, 153
Bolt, Patch	J. Kaylor	69, 816
Bolt, Safe-door	J. R. Pierson	71, 410
Bolts, cutting, Tool for	J. E. Heath	70, 563
Bolt shifter and roving machine	J. Edwards	71, 369
Bolt, Shutter	P. Burke	72, 600
Bolt, Shutter	B. K. Dorwart	62, 617
Bolt, Shutter bowing	W. H. Fitzgerald	70, 428
Bolt, Shuttle bowing	J. M. and M. L. Cummings	70, 173
Bolts, spring, Metal case for	E. J. Manville	63, 275
Bolt, Tapping	E. M. Mayo	71, 512
Bolts, threads on, Cutting	F. Schweizer	62, 693
Bolts, turning, Tool for	L. Burns	63, 390
Bolt trimmer	H. Howe	65, 913
Bolt trimmer	J. Blackinton	69, 962
Bonds, &c., Filing and recording	F. Munson	63, 419
Bone black	T. H. Quick	71, 536
Bone black, Cleaning and purifying	R. Ficken and F. L. Williams	62, 537
Bone black for filtering sugar, Treating	C. B. Orvis	69, 118
Bones, Steam digester for treating	W. Perry	62, 439
Bonnets, Pressing	S. S. and H. Squier	70, 912
Books, back for, Spring	L. Francis	63, 626
Bookbinders' beveling machine	H. L. Tunny	72, 243
Books, Binding	W. Daniels	72, 373

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Book, Copy.....	B. G. Howes	71, 882
Book cover protector.....	C. L. Alexander and V. A. Osborn	69, 062
Book cover.....	M. and R. H. Rumrell	64, 038
Book for bookkeeping.....	J. H. Gleim	72, 629
Book holder.....	T. E. Platt	62, 774
Book holder for pews.....	N. A. Wright	63, 776
Book, Hymn and tune.....	E. Curtice	61, 927
Books, Molding the back of.....	J. K. Max	62, 767
Book, Pocket, Envelope, &c., Slide for fastening.....	J. W. Wilcox	64, 608
Book, Pocket, Safety attachment for.....	T. Weber	63, 590
Book, Pocket, Safety attachment for.....	W. H. Ferguson.....	70, 982
Book, Turning the leaves of.....	C. C. Clapp.....	69, 770
Boom, Gudgeon for.....	N. Robbins, jr.....	66, 633
Boot and gaiter strap.....	W. J. Turner.....	65, 027
Boot and shoe.....	M. Evans.....	69, 707
Boot and shoe.....	D. M. Ayer.....	60, 987
Boot and shoe.....	E. Thayer.....	61, 119
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Boot and shoe.....	R. Vollschwitz.....	61, 487
Boot and shoe.....	C. W. Bailey.....	61, 502
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Boot and shoe.....	T. B. Smith.....	63, 569
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Boot and shoe.....	B. C. Young.....	69, 528
Boot and shoe.....	C. Mole.....	71, 898
Boot and shoe.....	W. and J. Keats.....	72, 048
Boot and shoe.....	A. B. Ely.....	72, 727
Boots and shoes, Attaching metal soles to.....	H. Riggs.....	65, 766
Boots and shoes, Attaching over soles to.....	B. H. Camp.....	72, 164
Boot and shoe blacking machine.....	M. A. Myer.....	61, 755
Boots and shoes, Burnishing the edges of.....	E. B. Cushing.....	68, 611
Boots and shoes, Crimping.....	J. W. Maxfield.....	66, 864
Boots and shoes, Cutting soles of.....	E. M. Stevens.....	70, 481
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Boot and shoe, Insole for.....	M. A. Johnson.....	61, 742
Boot and shoe, Oversole for.....	E. W. Woodruff.....	68, 822
Boots and shoes, Pegging.....	W. R. Landfear.....	70, 581
Boots and shoes, Pegging.....	D. Whittemore.....	70, 662
Boots and shoes, Pegging.....	D. D. Palmer.....	72, 753
Boots and shoes, Shaver for.....	A. E. Johnson.....	67, 313
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Boot and shoe shield.....	J. P. Bradley.....	70, 157
Boot and shoe sole.....	S. W. Huntington.....	67, 432
Boot and shoe sole.....	F. Ashley.....	66, 548
Boots and shoes, Soles and heels of, Wear plates for.....	J. Gray.....	60, 719
Boots and shoes, Stay or brace for.....	T. K. Reed.....	65, 829
Boot and shoe tips.....	A. B. Ely.....	69, 082
Boots and shoes, Ventilating device for.....	A. Stocker.....	70, 915
Boot blacking and polishing machine.....	S. W. Huntington.....	70, 571
Boot, Bristle, for horses.....	J. J. Davy.....	61, 655
Boot crimp.....	F. Kali and S. Andrews.....	70, 440
Boot crimper.....	De W. C. Mowry.....	66, 035
Boot-crimping machine.....	H. Faus.....	62, 621
Boot-crimping machine.....	S. W. Jamison.....	64, 538
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Boot heel.....	H. S. Snow.....	62, 783
Boot heel.....	L. and A. A. Hoffman.....	65, 487
Boot heel.....	J. Hubbell.....	68, 364
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Boot tree.....	R. L. Lewis.....	62, 649
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Boring machine	J. Isenberg.....	62, 491
Boring machine	C. B. Knapp.....	63, 532
Boring machine	G. C. Taft.....	72, 114
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Boring tool	N. Thompson.....	61, 121
Boring tool	J. Miller.....	61, 629
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Bottle, Mucilage	A. M. Olds	66, 036
Bottle, Mucilage	W. W. Beach	66, 447
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Bottle, mucilage, Brush and top of.....	W. Burnett.....	68, 163
Bottle, Nursing	M. S. Burr	68, 285
Bottle or caster, Salt	G. B. Richardson.....	71, 643
Bottle, Steam pipe, &c., Covering for.....	J. B. Crane	62, 318
Bottle stopper.....	H. Holl	62, 333
Bottle stopper.....	R. Robinson	63, 942
Bottle stopper.....	H. S. Carley	64, 838
Bottle stopper.....	J. Nathan	65, 259
Bottle stopper.....	T. A. Weber	66, 270
Bottle stopper.....	R. F. Bocemsdes.....	66, 290
Bottle stopper.....	J. H. Gould	67, 292
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Bottle stopper.....	H. S. Carley	68, 485
Bottle stopper.....	W. Van Hofe.....	70, 654
Bottle stopper.....	H. B. Fox and J. T. Hall	70, 986
Bottle stopper and coupling	W. D. Brown	65, 537
Bottle stopper, Fastening for	R. S. Stubbs	72, 761
Bottle, Stopper for	L. Bishop	65, 533
Bottles, stopper to, Attaching	J. J. Eshleman	62, 536
Bottle, Tooth-powder	J. B. Da Canara, jr	71, 142
Bottles, Uncorking	A. Manuel	61, 624
Bottle washer	H. B. Davison	70, 973
Bottling machine.....	J. Mathews, jr.....	61, 627
Bottling mineral water	C. H. Thomas	65, 842
Bottom for culinary steamer	W. S. Potwiu	64, 142
Box and can for paint	F. W. Devoe	65, 476
Box and can, Metal, for paint and other material.....	F. W. Devoe	65, 181
Box and journal, Railroad	G. F. Lynch	62, 143
Box, berry, Cutting	C. Colby	68, 171
Box, blacking, Handle attachment for	T. S. Robinson.....	66, 173
Box, blacking, Holder for	T. K. Payson	70, 892
Box, Butter.....	W. B. Guernsey	62, 410
Box, Can, or vessel for putting up caustic alkalies, &c.....	H. Pemberton and B. Heinemann	64, 251
Box, Cartridge	C. Howlett	65, 225
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Bucket, Sheet-metal.....	J. Fallows.....	70, 427
Buckets, Tubs, &c., Foot for.....	J. W. Kendall.....	71, 311
Buckle.....	J. B. Hawley.....	61, 192
Buckle.....	E. A. Smith.....	61, 477
Buckle.....	H. S. Woodruff.....	61, 979
Buckle.....	H. Neumann.....	62, 059
Buckle.....	S. E. Booth.....	62, 485
Buckle.....	L. De Forest.....	62, 533
Buckle.....	M. Fowler.....	62, 832
Buckle.....	E. Hamburjer.....	63, 040
Buckle.....	J. Barrow.....	64, 273
Buckle.....	T. L. Ogier.....	64, 693
Buckle.....	G. B. McDonald.....	64, 782
Buckle.....	G. C. Huntress.....	65, 749
Buckle.....	H. C. Griggs.....	66, 324
Buckle.....	G. L. Gerard.....	67, 428
Buckle.....	I. Roraback.....	67, 808
Buckle.....	W. B. Johnson.....	68, 204
Buckle.....	W. McK. Thornton.....	68, 468
Buckle.....	E. Cole.....	69, 181
Buckle.....	E. Cole.....	69, 182
Buckle.....	A. H. Hopkins.....	69, 669
Buckle.....	J. N. Gaston.....	69, 793
Buckle.....	L. Rhoades.....	70, 019
Buckle.....	E. C. Blakeslee.....	70, 944
Buckle.....	J. K. Andrews.....	71, 116
Buckle.....	E. L. Woods.....	72, 255
Buckle attachment.....	R. T. Moss.....	70, 105
Buckle fastening.....	R. Meyer.....	61, 628
Buckle, Harness.....	G. S. Caldwell.....	63, 782
Buckle, Harness.....	W. H. Cocks.....	68, 846
Buckle, Harness.....	A. E. Bailey and H. Nichols.....	70, 940
Buckle, Making.....	M. Fowler.....	67, 865
Buckle, Spring.....	J. F. Morsell.....	71, 041
Buckle, Trace.....	C. B. Payne.....	67, 448
Buckle, Trace.....	R. J. Baker.....	68, 147
Buckle, Trace.....	E. F. Lacey.....	68, 756
Buckle, Trace.....	C. Schwaner.....	68, 796
Buckle, Trace.....	O. Finch.....	68, 864
Buckle, Trace.....	W. B. Hayden.....	69, 562
Buckle, Trace and pad.....	C. Fillmore.....	72, 832
Buggy and Carriage-top bow irons.....	E. B. Winston.....	69, 058
Buggy, Fastening top to.....	G. and A. Woeber.....	69, 885
Buggy, Hanging top to.....	H. F. Holt.....	71, 304
Buggy seats, Rail for.....	C. Smith.....	70, 128
Buggy top, Detachable.....	J. Carlisle.....	68, 486
Buggy-top joints and fastenings.....	A. M. Plimpton.....	68, 455
Buggy top, Shifting rail for.....	H. M. Curtis.....	67, 418
Building.....	C. Dissier.....	68, 717
Building.....	J. Johnson and E. D. Davis.....	68, 684
Building.....	B. J. La Mothe.....	71, 185
Building.....	W. Damerel.....	71, 587
Buildings, bents in, Raising.....	J. Van Gaasbeck.....	63, 583
Building block.....	J. S. Stewart.....	72, 557
Building-block machinery.....	A. L. Finch.....	65, 365
Building blocks and tiles, Flooring and paving.....	W. Winterhalter.....	70, 144
Building blocks, Children's.....	C. M. Randall.....	61, 721
Buildings, factories and other, Lighting.....	A. J. White.....	68, 923
Building material, Composition for.....	S. Bissell.....	62, 521
Buildings, Moving.....	J. H. Moore.....	64, 439
Buildings, Moving.....	J. H. Moore.....	70, 596
Buildings, Removing.....	T. W. Prather.....	64, 032
Buildings, walls of, Construction and ventilation of the.....	B. F. Farrar.....	64, 512
Building, Wooden.....	J. Busser.....	71, 130
Bullet machine.....	C. H. Remington.....	69, 481
Bullet machine.....	W. Spillman.....	71, 075
Bungs and bushes.....	J. Ruegg.....	70, 024
Bung, Barrel.....	M. S. Drake.....	61, 328
Bung, Barrel, Beer.....	J. E. McBeth.....	61, 348
Bung cutter.....	J. Kirby.....	72, 505
Bung, Cutting.....	J. G. Schmidt.....	64, 581
Bung, Cutting.....	W. L. Standish.....	67, 079
Bung extractor.....	F. Miller and H. Pernot.....	71, 402
Bungs for casks and barrels.....	M. C. Cronk.....	68, 417
Bungs for casks, &c., Ventilating.....	J. B. Melvin.....	63, 920
Bungs for casks, barrels, &c.....	J. Miller.....	63, 076
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Bunk for logging sleigh.....	J. P. Davis.....	70, 174
Buoy safe.....	F. C. Buieason.....	68, 349
Bureau and bedstead.....	J. Stock.....	67, 816

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Burial case	R. F. Hill	72, 296
Burial case, Metallic	M. H. Crane	64, 496
Burial casket, Fastening	E. S. Early	71, 408
Burner and generator for heating purposes, Vapor	H. R. Foote	63, 130
Burner, Argand	E. P. Gleason	72, 187
Burner, Argand	E. R. Walker	72, 244
Burners, Drawing wick through	F. A. Blaetterlein	72, 785
Burner, for heater, Vapor	C. S. Duncan	67, 277
Burner for heating gas	E. P. Gleason	72, 188
Burner for hot air, steam, and hydrocarbon fluids, Annular petroleum	G. L. Moody	61, 632
Burner for hydrocarbon fluids	R. S. Merrill	72, 414
Burner for locomotive head light	A. C. Vaughan	71, 430
Burner for petroleum stoves	W. E. Jervey	62, 338
Burner for petroleum stoves	W. E. Jervey	62, 339
Burner for vapor stoves	R. L. Howell	61, 432
Burner, Gas	R. B. Locke and W. B. Ulrich	63, 802
Burner, Gas	J. S. Ford	69, 556
Burner, Gas	G. Mooney	72, 415
Burner, Gas	J. Scholl	72, 545
Burners, Gas, and reflectors	H. Berg and A. Blessing	60, 674
Burner, Gas, for heating purposes	H. Y. Lazear	64, 544
Burner, Gas, for heating purposes	D. L. Holden	66, 025
Burner, gas, lamp, &c., Lighting	P. B. Tyler, W. M. Chandler, and L. F. Standish	61, 294
Burner, gas, Lighting street	E. P. Russell	70, 272
Burner, gas, Petroleum	G. A. Hyver	71, 883
Burner, gas, Porcelain	T. G. Arnold and B. Irving	62, 725
Burner, gas, Tip for	R. Lanstrom	72, 741
Burner, Hydrocarbon	A. J. Griffin	63, 681
Burner, Lamp	T. Rowatt, Jr.	61, 634
Burner, Lamp	N. L. Archer and C. Deavs	62, 244
Burner, Lamp	A. Parsons	62, 438
Burner, Lamp	J. B. Alexander	64, 056
Burner, Lamp	G. Smith	64, 804
Burner, Lamp	J. A. Frey	64, 965
Burner, Lamp	J. B. Wortham	65, 322
Burner, Lamp	A. Whitlock	65, 459
Burner, Lamp	M. B. Wright	65, 851
Burner, Lamp	G. Neilson	65, 933
Burner, Lamp	P. Baker	66, 203
Burner, Lamp	W. Robinson	66, 635
Burner, Lamp	J. C. Love	68, 889
Burner, Lamp	G. K. Osborn	70, 252
Burner, Lamp	H. Read	71, 013
Burner, Lamp	G. E. Baldwin	71, 949
Burner, Lamp	J. C. Love	72, 209
Burner, Lamp	W. McCaine	72, 659
Burner, Lamp	G. Smith	72, 925
Burner, lamp, Attaching	H. Weston	64, 925
Burner, lamp, Chimney holder for	T. Ryder	64, 039
Burner, lamp, Vapor	W. W. Jacobs	70, 573
Burner, Naphtha	L. A. Gouch	72, 191
Burner, Paint	W. W. Wakeman, jr., and R. Ross	61, 288
Burner, Vapor	A. W. Porter and J. H. Brown	65, 005
Burner, Vapor	H. M. Richmond	65, 011
Burner, Vapor	D. Symonds	70, 043
Burner, Vapor, for heating	S. Child, jr., and R. A. Copeland	68, 045
Burnishing plated ware	S. A. Chapman	62, 251
Bushes and bungs	J. Ruegg	70, 024
Business card and pin cushion	De Witt C. Beamer	68, 319
Butter	D. H. Gregory	68, 639
Butter	J. Sigler	70, 417
Butter, Churning	J. Strobeck	71, 082
Butter, Churning and working	W. D. Baughn	66, 445
Butter cutter	A. N. Merritt	69, 690
Butter dish	N. Lawrence	71, 889
Butter, meat, &c., Preserving	W. Ross	60, 948
Butter, Packing and preserving	W. B. Guernsey	62, 411
Butter, Putting up and preserving	J. Wilcox	67, 391
Butter, Stamp	N. L. Janney	70, 095
Butter tryer	W. H. Sloan	69, 498
Butter worker	E. Farnum	61, 822
Butter worker	W. E. Skinner	64, 803
Butter worker	S. H. Wade	65, 315
Butter worker	W. C. Moser	71, 318
Butter worker and churn, Combined	S. H. Scribner	67, 594
Butter-working and printing machine	A. S. and S. B. McDowell	69, 923
Butt machine	T. Tracy	62, 981
Button	H. Carlos	60, 997

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Button.....	F. Loos.....	61, 547
Button.....	W. H. Reed.....	62, 153
Button.....	J. Jenks.....	63, 643
Button.....	J. M. Prugger.....	65, 503
Button.....	A. W. Browne.....	64, 742
Button.....	G. W. McGill.....	65, 250
Button.....	J. R. Spooner.....	66, 053
Button.....	V. Charlet.....	67, 267
Button.....	R. H. Guilford.....	68, 562
Button.....	D. M. Somers.....	70, 039
Button.....	H. Prouhet.....	71, 641
Button.....	G. Cooke.....	71, 988
Button.....	D. M. Somers.....	72, 929
Button and stud hole fastening.....	V. Charlet.....	67, 023
Button, Carriage.....	W. P. Bateman.....	69, 306
Button, Carriage-curtain.....	E. Howell.....	68, 199
Button, Elastic, for carriages.....	T. E. King.....	65, 091
Button fastener.....	R. B. Griffin, jr.....	71, 382
Button fastening.....	G. J. Capewell.....	62, 001
Buttons, Fastening for.....	H. Humphrey.....	70, 218
Button for fastening carriage curtains.....	S. Bidwell.....	63, 837
Button-hole cutter.....	C. N. Cutter.....	60, 700
Button-hole cutter.....	W. Fitzgerald.....	64, 300
Button-hole cutter.....	H. Hempel.....	65, 671
Button hole, Carriage-curtain.....	E. L. Yancey.....	66, 760
Button hole, Carriage-curtain.....	E. L. Yancey.....	66, 761
Button-hole fastening.....	J. K. Underhill.....	65, 708
Button-hole, Ornamenting.....	J. Tunnicliff and P. Cahill.....	71, 429
Buttons, Riveting, to fabrics.....	W. J. Gordon.....	61, 334
Button ring.....	S. B. Lane.....	68, 516
Button, Sleeve and stud.....	B. Clayton.....	62, 008
Buttons to garments, Attaching.....	C. F. Spencer.....	62, 784
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Cable and pulley, Combined.....	R. Heneage, G. Milsom, and H. Spindelw.....	61, 554
Cable, chain, Manufacture of.....	W. D. Grimshaw.....	67, 751
Cable for railroad guides, Propelling.....	C. T. Harvey.....	66, 330
Cable links, Bending.....	R. M. Green.....	62, 839
Cable, Submarine.....	S. E. and G. L. Morse.....	66, 613
Cable, submarine, Insulating.....	G. B. Simpson.....	65, 019
Cable, Telegraphic.....	A. J. B. De Morat.....	61, 325
Cabs, Improvement in.....	J. Pol.....	61, 685
Calculating machine.....	A. C. Pierson.....	62, 882
Calculating machine.....	A. Mendenhall.....	67, 786
Calendar.....	C. W. Bryan.....	62, 313
Calendar attachment to inkstands.....	S. R. Dummer.....	71, 861
Calendar for watch cases.....	J. D. Moore.....	70, 104
Caliper.....	H. A. Boardman.....	61, 799
Caliper.....	A. V. D. Westervelt.....	61, 902
Caliper.....	J. H. Culver.....	64, 203
Caliper.....	G. L. McKnight.....	65, 253
Calipers and dividers.....	E. Wright.....	69, 292
Calipers and dividers.....	S. Sawyer.....	63, 656
Calipers and dividers.....	G. L. McKnight.....	64, 240
Calipers and dividers.....	L. Shelters.....	67, 360
Calipers and dividers.....	M. G. Imbach.....	71, 178
Calipers and index gauge.....	D. F. Elmer.....	69, 418
Calipers and T-square.....	J. Bendor.....	71, 843
Calk for horse shoes, Adjustable.....	W. J. Berne.....	70, 507
Camera, Photographic.....	F. B. Gage.....	72, 697
Camera, Photographic.....	T. Barbour.....	61, 139
Camera, Photographic.....	G. W. Venner.....	65, 314
Camera, Solar.....	L. G. Bigelow.....	70, 509
Can.....	A. D. Armstrong.....	69, 154
Can and box for paints.....	F. W. Devoe.....	65, 476
Can and box, Metal, for paints and other materials.....	F. W. Devoe.....	65, 181
Can and pail for holding paint.....	F. W. Devoe.....	66, 077
Can, Automatic measuring.....	T. D. Arkle and H. C. Greer.....	68, 480
Can, box, or vessel for putting up caustic, alkali, &c.....	H. Pemberton and B. Heinemann.....	64, 251
Can, Dairy.....	L. A. Sunderland.....	67, 607
Can for holding white lead and other materials.....	A. Randol.....	64, 705
Can, Fruit.....	J. Haines.....	67, 754
Can, fruit, Exhausting air from, by steam.....	D. Beardsley.....	61, 506
Can, fruit, Sealing.....	C. F. Spencer.....	71, 239
Can, fruit, Tool for opening.....	H. Holt.....	72, 042
Can, Measuring.....	D. H. Sumner.....	68, 913
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Can, Metal, Securing cap to.....	D. W. Pepper.....	1, 5636

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Cans, Metal, Sheet, Opening	F. Seymour	65, 957
Cans, Metal, Sheet, Seaming	R. J. Hollingsworth	63, 892
Cans, Metal, Sheet, Soldering	P. Rees	72, 904
Cans, Metal, Soldering	E. T. Covell	63, 220
Cans, Metal, Sheet, Tool for opening	C. Messinger	70, 010
Can, Milk	J. H. Farley	62, 949
Can, Milk	J. L. Finch	63, 029
Can, Milk	W. Ralph	65, 828
Can, Milk	S. O. Avery	70, 150
Can, Milk	H. L. McAvoy and E. Mills	70, 450
Can, Milk	N. C. Burnap	70, 516
Can, Milk	A. P. Curry	65, 548
Can, Milk and oyster	J. Buckley	68, 696
Can, Milk, Bottom for	M. Wiles and J. C. Wock	67, 474
Can, Oil	A. H. Phillippi	62, 065
Can, Oil	J. A. Whitman	63, 591
Can, Oil	J. S. McIntire	64, 436
Can, Oil	G. Hatch	68, 503
Can, Oil	M. Robbins	60, 485
Can, Oil	G. A. Knowlton	71, 887
Can, Oil	J. B. Gayle	72, 384
Can, Oil, Boxing	D. Saunderson	65, 836
Can, Oil, Cover for	E. A. More	62, 357
Can, Oil, Ventilating and extension nozzle for	W. Bonner	69, 067
Can opener	S. O. Church	61, 161
Can opener	S. E. Totten	61, 484
Can opener	T. A. McFarland	64, 891
Can opener	W. L. Hubbell	69, 996
Can, Opening	W. H. Forker	70, 188
Can, Paint	H. Miller	63, 283
Can, Paint	W. A. Hopkins	61, 337
Can, Paint	C. Burnham	67, 718
Can, Paint	H. Everett	67, 268
Can, Paint	G. W. Bennett	68, 158
Can, Preserve	J. L. Gray	63, 505
Can, Self-acting vent for	E. M. Crandal	69, 078
Can, Soldering	J. C. Underwood and P. Johnson	67, 931
Can, Tin	W. S. Buck	60, 994
Can, Tin	C. Barry	71, 680
Can, Tool for opening	G. A. Dickson	72, 464
Canal and navigation thereof	H. H. Day	62, 736
Candle, Dipped	P. R. Gottstein	72, 019
Candle holder	M. Sehall	69, 254
Candle holder	C. Kirehof	72, 506
Candles, Manufacture of	H. Grambo	60, 718
Candlestick	H. Oghorn	71, 782
Candlestick and watch box combined	C. R. Stickney	65, 445
Candlestick, Portable	C. P. Gorely	71, 161
Cane and lamp, Combined	T. Crossley	71, 460
Cane and thermometer, Combined	J. L. Reber	72, 539
Cane and sorghum stripper	C. P. Hale	62, 413
Cane and sorghum stripper	J. A. Campbell	64, 836
Cane and umbrella, Combined	H. Beebe	70, 506
Cane, bamboo, and other fibrous plants, Treating	C. Heaton	66, 338
Cane, Bone handle for	J. Harvey	66, 586
Cane juice and other liquids, Evaporating and concentrating	A. Fryer	65, 205
Cane juice, Bleaching	W. A. Jordan	63, 527
Cane juice, with sulphurous acid gas, Treating	T. Morillon and U. Naquin	66, 377
Cane stripper	I. E. and J. A. Overpeck	62, 876
Cane stripper	J. H. Barley	69, 161
Cane stripper	J. C. Brown	69, 310
Cane stripper	M. Mellinger	60, 768
Cane, umbrella, pistol, dagger, and camp stool combined	D. Morrison	63, 552
Cannon	T. N. Hornsby	68, 509
Canvas, &c., Cutting	H. H. Pember	61, 683
Caoutchouc, gutta-percha, and similar gums	J. B. Newbrough and E. Fagan	70, 250
Caps, Percussion, Lining	D. N. Goff	67, 189
Caps, Percussion, Lining	A. S. Bake	67, 253
Caps, Percussion, Trimming	D. N. Goff	67, 190
Capstan	D. N. B. Coffin, jr.	66, 299
Capstan	J. Edson	70, 820
Capstan, or winch	J. L. Heald	65, 486
Capsules for bottles, Metallic	W. Betts	71, 124
Cars and other vehicles, Heating	C. C. Converse	62, 254
Car apron, or duster, and bridge, Railway	W. H. Ward	71, 558
Car axle-box cover	R. McDowell	63, 070
Car body frames	S. Merrick	63, 548
Car-brake shoe	E. L. Countiss	62, 940
Car, Brick	J. K. Caldwell	67, 632
Car, Cattle	J. H. Aldrich	63, 686
Car, Cattle	M. T. Kehoo	60, 906

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Car, Dumping.....	E. Thompson.....	71, 552
Car, Dumping.....	J. W. Bancroft.....	61, 038
Car, Freight, Railroad.....	R. Eaton.....	60, 865
Car, Grain, Door for.....	S. E. Bright.....	68, 694
Car, Pent.....	T. J. Weils.....	61, 493
Car platform.....	H. S. Wilcox.....	68, 327
Car platform, Safety.....	C. R. Abbott.....	68, 543
Car, Pneumatic.....	L. Ranson.....	72, 082
Car, Propelling.....	C. T. Harvey.....	63, 888
Car, Propelling.....	C. T. Harvey.....	64, 862
Cars, Propelling apparatus for.....	C. T. Harvey.....	63, 887
Car and car-window protector.....	H. G. Carr.....	65, 342
Car, Railroad.....	J. S. Fairfax.....	60, 868
Car, Railroad.....	L. B. Crittenden.....	66, 467
Cars, Railroad, Bolster for.....	J. Christy.....	61, 713
Cars, Railroad, Bolster for.....	J. Marquis and J. W. Kimmell.....	65, 698
Cars, Railroad, Brake block and shoe for.....	B. P. Lamason and S. W. Murray.....	69, 226
Cars, Railroad, Buffer and draw bar for.....	E. L. Caum.....	71, 580
Cars, Railroad, Bumper carrier for.....	W. C. Allison.....	65, 987
Car, Railroad, Draw head for.....	W. S. Shotwell.....	67, 368
Car, Railroad, for preserving and transporting meats, fish, and vegetables.....	C. F. Pike.....	72, 895
Car, Railroad freight.....	J. H. Aldrich.....	70, 384
Cars, Railroad, Heating and ventilating apparatus for.....	C. F. Allen and L. W. Campbell.....	70, 495
Cars, Railroad, Mail-bag catcher for.....	L. F. Ward.....	61, 584
Cars, Railroad, Metallic safety seat for.....	H. Martin.....	61, 222
Cars, Railroad, Safety guard for.....	W. Siefert.....	61, 637
Cars, Railroad, Stake holder for.....	T. A. Slack.....	72, 097
Cars, Railroad, Steam pipe for connecting heating pipes in.....	C. R. Abbot.....	72, 258
Cars, Railroad, Unloading.....	F. Haase and W. Rost.....	65, 743
Cars, Railroad, Ventilating apparatus for.....	J. H. Moore.....	61, 555
Cars, Railroad, Ventilating apparatus for.....	R. C. Graves.....	63, 890
Cars, Railroad, Ventilating attachment for.....	J. Shaw.....	69, 847
Car, Railroad, Ventilator for.....	J. H. Moore.....	69, 357
Car, Railway.....	J. Foreman.....	68, 619
Car, Railway.....	A. Gregg.....	62, 127
Car, Railway.....	S. Pennock.....	72, 891
Car, Railway.....	D. T. Robinson.....	70, 269
Cars, Railway, Guard for.....	F. M. Daunoy.....	64, 639
Cars, Railway, Head rest for.....	R. Hamilton.....	62, 484
Car, Railway, Horse.....	D. T. Robinson.....	61, 021
Cars, Railway, Safety guard for.....	S. Males.....	65, 582
Car, Railway sleeping.....	G. W. Hunt.....	72, 045
Car, Refrigerator.....	Le Grand Kniffen.....	69, 223
Car, Refrigerator.....	J. B. Sutherland.....	71, 423
Car replacer.....	N. H. Edgerton.....	65, 799
Car replacer.....	C. King.....	66, 359
Car replacer.....	A. G. Black.....	70, 669
Car replacer.....	L. Strans.....	70, 375
Car replacer.....	B. W. Felton.....	71, 596
Car, Self-track-laying.....	J. S. Lake.....	61, 344
Car, Sleeping.....	J. W. Reid.....	65, 272
Car, Sleeping.....	J. Swan.....	65, 963
Car, Sleeping.....	J. Woodruff.....	71, 258
Cars, Stake holder for.....	O. R. Parmele.....	72, 226
Cars, Starting and stopping.....	J. Phillips, D. W. Southwick, and D. A. Arnold.....	70, 114
Cars, Starting and stopping.....	A. G. Crossman.....	70, 814
Cars, Starting and stopping.....	E. T. Colburn.....	70, 528
Car, Street.....	J. Stephenson.....	61, 481
Cars, Street, Propelling.....	G. S. Petry.....	63, 652
Cars, Street, Starting.....	J. Adams.....	61, 699
Cars, Street, Starting.....	A. S. Armstrong.....	62, 304
Cars, Street, Starting and stopping.....	E. M. Scott.....	64, 373
Cars, Street, Starting apparatus for.....	T. B. Jordan.....	63, 726
Cars, Street, Tongue support for.....	J. M. Tiernan.....	72, 430
Car starter and brake.....	J. Wiley.....	62, 911
Car starter, Railroad.....	A. A. Wilder.....	62, 303
Car starter, Electrical.....	J. and W. H. Clark.....	71, 458
Car-starting apparatus.....	J. W. Houghtelin.....	64, 224
Car-starting apparatus.....	J. Steger.....	66, 648
Cars through tunnels, Transporting.....	J. H. Crane.....	64, 636
Cars, Transferring, from one track to another.....	J. Denhard.....	66, 132
Car truck and spring.....	L. H. West.....	63, 190
Cars, Ventilating and warming.....	A. J. Marshall.....	67, 894
Cars, Ventilating device for.....	W. G. Creamer.....	70, 812
Carburetter and gas apparatus, Portable.....	J. MacDougall.....	71, 514
Carburetters, Air and gas, Capillary material for filling.....	J. A. Bassett.....	60, 670
Carburetter, Blast apparatus for.....	F. S. Pease.....	65, 594
Carburetter, Blast apparatus for.....	F. S. Pease.....	65, 595
Carburetter for locomotive head lights.....	F. S. Pease.....	70, 014

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Carburetter, Gas, and other apparatus, Producing blast in....	E. A. Pond and M. S. Richardson....	65, 939
Carburetting apparatus	F. Ranson	67, 216
Carburetting apparatus	E. J. Fraser	67, 971
Carburetting apparatus	G. H. Peacock	68, 231
Carburetting apparatus	W. Thompson and J. E. Hall	71, 665
Cardboard drier	E. F. Bailey	68, 146
Cardboard, Playing	R. S. Jennings	68, 302
Card for hooks and eyes	M. Fowler	70, 190
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Compound for purifying spirits and other liquids.....	P. J. Badoux.....	68, 028
Compound for saline medicated baths.....	C. Lennig.....	60, 753
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Corn husking	D. A. Dickinson	64, 206
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Fertilizer	W. C. Grimes	72, 026
Fertilizer and corn planter, Combined	B. F. Grimes	65, 073
Fertilizer and corn planter, Combined	S. H. Wallize	71, 930
Fertilizer and seeder, Combined	H. Bourn	66, 123
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Handle for shovel, fork, &c., Adjustable	J. N. Pease	61, 859
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Hook for hold-back straps	W. A. Bagley	70, 933
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Hook, Snap	B. B. Hotchkiss	61, 737
Hook, Snap	C. E. Mitchell	65, 107
Hook, Snap	C. B. Bristol	67, 020
Hook, Snap	W. S. Furlon	67, 746
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Horse power.....	S. Cohn.....	68, 957
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Insulator for telegraphs	J. F. Boynton	66, 453
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Latch, Gate	E. Nicholson	66, 515
Latch, Gate	A. K. Davis	70, 537
Latch, Gate	M. J. Brier	70, 794
Latch, knob and lock, Combined	B. Seegmüller	67, 140
Latch, knob and lock, Combined	E. G. F. Arndt and C. E. L. Moebius	67, 938
Latch, knob and lock, Combined	M. B. Foote	70, 081
Latch Knob, for doors	A. W. Upton	62, 908
Latch, knob, Mortise	G. H. Palmer	67, 795
Latch, knob, Reversible	H. M. Ritter	64, 570
Latch, knob, Reversible	H. M. Ritter	64, 571
Latch, Lock	N. Petre	67, 213
Latch lock for doors	H. Bosch	69, 619
Latch, Night	E. W. Brettell	66, 940
Latch, night, Adjustable escutcheon for	W. T. Munger	62, 968
Latch, Reversible	R. L. Webb	72, 946
Latch, Window	E. F. Hoffman	60, 727
Latch, Window	A. Bingham	63, 988
Lathe	W. B. Bement	64, 938
Lathe	B. M. Levy	69, 685
Lathe arbors, Grinding	C. Coes er, and A. B. Lawther	68, 698
Lathe box and journal	A. Wood	72, 147
Lathe chuck	J. O'Connor	69, 577
Lathe dog	C. W. Le Count	60, 751
Lathe dogs and bench vises, Jaw for	N. Wilson	69, 883
Lathe engine, Rose	T. Lippiatt	65, 245
Lathe for chasing and backing down taps	W. X. Stevens	62, 977
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Lathe for turning shafting	A. Wood	72, 148
Lathe for turning wood	H. R. Hawkins	65, 568
Lathe rest	K. K. Smith	60, 950
Lathes, Adjustable rest for	J. E. Burdge	67, 630
Lathes, Slide rest for	J. G. Rominger	68, 654
Lathes, Tool holder for turning	S. Gissing er	68, 870
Lathes, Tool rest for	T. J. Currier and A. M. Black	61, 166
Lathes, watchmaker's, Chuck for	S. S. Lavey	68, 998
Lathe tool	J. C. Shackleton	66, 641
Lathe tool holder	J. Edson	72, 468
Lathe, Turning	F. A. Armbruster	61, 135
Lathe, Turning	A. R. Stewart	63, 574
Lathe, Turning	H. L. Morse	63, 928
Lathe, Turning	W. Johnson	65, 069
Lathe, Turning	J. Richards	67, 676
Lathe, Turning	F. Shaller	67, 810
Lathe, Turning	F. W. Coy	69, 544
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Lathe way smoother	A. Thomas	70, 483
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Lathe, Wood, for turning knobs	J. Stever and J. A. Way	61, 111
Lathe, Wood-turning	J. Phillips, jr	63, 067
Lathe, Wood-turning	J. Chase	63, 213
Lathe, Wood-turning	M. Spenli	63, 571
Lathe, Wood-turning	H. C. Berry	63, 807
Lathe, Wood-turning	J. McMichael	67, 877
Lathe, Wood-turning	L. H. Dudgey	68, 020
Lathe, Wood-turning	F. Baldwin	72, 273
Lathe, Wood-turning	A. Goodyear	65, 153
Lathe, Wood-turning	J. Richards	67, 073
Lathe, Wood-turning	S. L. Bert	65, 048
Lathe, Wood-turning	J. Wipod and	62, 130
Lathe, Wood-turning	D. Dek	64, 763
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Lath frame	R. Seardsley	67, 528
Lathing apparatus	H. H. Hennen	67, 721
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Lead foil coated with tin, Manufacture of	E. Gabriel	
Lead holder or lead pencil	S. E. Chubbuck	
Lead, Molding plates of	O. Wassermann	
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Lead, to destroy its crystalline character, Treating precipitated	G. T. Lewis	67, 992
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Lead, white, Manufacture of	T. M. and A. G. Fell	66, 138
Lead, white, Manufacture of	T. M. and A. G. Fell	66, 139
Lead, white, Manufacture of	T. M. and A. G. Fell	66, 140
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Leather, Artificial	C. Saffray	62, 503
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Leather belts, Composition for stuffing	J. Hazeltine	67, 760
Leather, coating, Composition for	E. Brown	63, 847
Leather, Cutting out	A. B. Keith	64, 228
Leather, Dressing	E. Fitzhenry	62, 324
Leather, Dressing	C. Korn	65, 919
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Leather, Finishing	E. Fitzhenry and I. Ball	61, 182
Leather, Folding	J. Lombard	69, 454
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Leather, Frame for stretching wet	J. W. Dawson	66, 131
Leather, hides, &c., Drying	A. W. Roberts	65, 767
Leather, Manufacturing and preserving	R. Andrews	61, 379
Leather or skins, Softening or dressing	F. J. Burcham	66, 125
Leather, peg, Condensed	C. and J. G. Rowland	68, 005
Leather, peg, Condensed	C. and J. G. Rowland	68, 006
Leather, Prepared	S. Dyar	62, 120
Leather pinching machine	J. H. Haskell	69, 991
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Leather, Reducing, to uniform thickness	W. C. Joslin	69, 219
Leather, Rolling	J. H. Walker	71, 929
Leather, Rounding	J. Yeager	61, 132
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Leather-scouring machine	I. W. Pray and E. Fitzhenry	61, 250
Leather seams, Pressing	W. May	62, 659
Leather, sole, Preparing for boots and shoes	D. M. Ayer	60, 819
Leather-splitting machine	A. Daws	70, 175
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Leather, Stretching	J. F. Connelly and W. B. Hughes	69, 633
Leather, Stuffing and currying	F. Carl	63, 856
Leather, tapering	W. Mannheim	69, 229
Leather, Washing	A. and G. F. Howard	65, 224
Leather, Water-proof	K. Sprouse	64, 589
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Leg, Artificial	E. Carleton and E. Goss	62, 731
Leg, Artificial	J. Emery	65, 187
Leg, Artificial	F. Schmitt	66, 744
Leg, Artificial	L. Legran	68, 758
Leg, Artificial	H. L. Mills	69, 829
Leg, Artificial	A. McOmber	71, 197
Leg, Artificial	C. Swett	71, 424
Legging	W. G. Rule	61, 265
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Lemon squeezer	A. J. T. Reuter	63, 304
Lemon squeezer	O. Hesslbacher and H. Moester	65, 809
Lemon squeezer	A. Baroarín	69, 531
Lens, Lantern	E. Barrett	71, 441
Lens for photographic purposes	J. L. Dallmeyer	61, 812
Letter box and door plate combined	J. T. Green	69, 800
Letter file	J. Ashley	69, 385
Letter opener and eraser	G. C. Barney	69, 388
Letter slide and name plate combined	J. M. Coombs	63, 141
Levee and dike to rivers	S. D. Driggs	69, 416
Levees and dikes, Construction of	L. S. Robbins	62, 889
Levees, dikes, and embankments, Construction of	J. C. Schooley	72, 913
Levees, Making	E. Comeaux	71, 854
Level	W. L. Richardson	60, 788
Level and plumb, Combined	P. Clifford	65, 726
Level and plumb	S. A. Bostwick	72, 159
Level and square, Combined	G. L. Chamberlin	60, 690
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Level, Plumb	C. Ensminger and A. W. Elmer	66, 695
Level, Plumb	J. T. Zimmerman and H. Baker	69, 602
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Level, spirit, Adjustable	L. L. Davis	68, 961
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Leveling attachment to agricultural implements mounted on wheels	B. F. Cook	70, 804
Level and clinometer	J. L. L. Knox	72, 740
Lever for railroad cars	J. Noble	74, 046

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Life preserver	J. M. Billhofer	64, 939
Life preserver	J. Shaw	65, 287
Life preserver	R. Robinson	70, 121
Life preserver	D. H. Heyen	71, 755
Life-preserving berth	J. J. Clyde	62, 609
Life-preserving float and mattress	L. Bauhoefer	63, 831
Life-preserving seat	H. Matthews	62, 433
Lifting apparatus	W. L. Jones	63, 526
Light, calcium-magnesium, Producing	C. A. Dresser	71, 860
Lighter and alarm	T. N. Howell	72, 854
Light-house or floating battery	J. Moody	62, 870
Light, Locomotive head, Gasoline	J. B. Terry	72, 697
Lightning arrester	A. Barbarin	68, 407
Lightning conductor	J. A. Kissell and N. Blickensdufer	64, 774
Lightning conductor	W. G. Pike	70, 741
Lightning rod	C. Jillson	61, 741
Lightning rod	C. Stearns	65, 775
Lightning rod, Corrugated	J. A. Kissell and N. Blickensdufer	66, 854
Lightning-rod insulator	D. Stebbins	66, 054
Lime, bisulphite of, Application of	W. Marr	70, 588
Line holder	W. Morse	68, 304
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Line holder	S. J. Clark	71, 709
Line or rope holder	A. J. Chase	69, 767
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Liniment	H. Stonebraker	62, 298
Liniment	J. Gifford	62, 403
Liniment	J. S. Lightner	63, 269
Liniment	L. B. Cram	63, 995
Liniment	J. C. Dustan	64, 649
Liniment	E. M. Carpenter	65, 170
Liniment	R. Newcomb	65, 688
Liniment	P. Baumann	67, 706
Liniment, Anti-rheumatic	J. Galette	66, 482
Liniment for cure of foot rot in sheep	W. H. Lawes	62, 644
Liniment, Vegetable	T. L. Upton	63, 965
Lining drawing, Hatch	E. K. Haynes	72, 636
Link and hook, Connecting	R. Creuzbaur	63, 996
Link, Connecting	R. Creuzbaur	66, 303
Link, Connecting	R. Creuzbaur	70, 172
Links for cables and other shelley ^{mechanical} means for making	A. Homfray	70, 845
Links, Machine for cutting bars for chain	G. Homfray	62, 488
Links, Machine for preparing rods for chain	G. Homfray	62, 335
Liquid for bleaching and removing stains	M. E. Tompkins	71, 426
Liquid for carburetting gas tar	L. E. Holden	61, 662
Liquid for carburetting gases	J. A. Bassett	64, 831
Liquid for distillation and for other purposes, Fermenting	R. D'Heureuse	67, 512
Liquid for making ice and for other purposes	P. H. Vanderveyde	72, 431
Liquids, Aërating	E. L. Pratt	68, 788
Liquids, aërating, and manufacture of soda water, Apparatus for	J. Matthews, jr	68, 375
Liquids, as fuel, hydrocarbon, Burning	A. J. Works	61, 131
Liquids, cane juice and other, Evaporating and concentratg	A. Fryer	65, 205
Liquids, Cooling	M. Gould	69, 797
Liquids, Distilling and evaporating	P. T. Badoux	61, 651
Liquids, Draining and weighing	E. S. Harris and S. S. Robinson	66, 149
Liquids, Evaporating	L. C. England	65, 065
Liquids, hydrocarbon, as fuel, Using	F. Cook	68, 705
Liquids, hydrocarbon, Burning	C. Fisher	67, 108
Liquids, hydrocarbon, Vaporizing	J. A. Bassett	68, 686
Liquids, hydrocarbon, Vaporizing and burning	F. Cook	68, 702
Liquids, hydrocarbon, Vaporizing and burning	F. Cook	68, 703
Liquids, hydrocarbon, Vaporizing and decomposing in the presence of steam	F. Cook and J. A. Bassett	68, 708
Liquids, malt and other, Fermenting	G. Wallace	62, 581
Liquids, Measuring	A. Fickett and J. C. Ware	65, 897
Liquids, Mixing	A. Watkins	69, 054
Liquids on draft, Cooling	A. Whyte	65, 329
Liquids, Rectifying distilled	A. Presichon and L. Jarchow	66, 323
Liquids, saccharine, Filtering, evaporating, and granulating	I. Hopkins	61, 200
Liquids, sulphuric acid and other, Concentrating	J. Agnes	65, 227
Liquor, alcoholic, Ageing	J. Martin	64, 990
Liquor and other spirits, Weighing	S. Hawkins	61, 425
Liquor and wine, Ageing and refining	R. Furner	69, 275
Liquors, malt and spirit, Preventing fraud on the revenue derived from	E. J. J. J. and A. Steurnagel	61, 913
Liquors, malt, Boiling, cooling, and fermenting	T. Hy and R. A. Robertson	64, 011
Liquors, malt, Cooling	W. Pagton	69, 930
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Liquor used in treating straw, wood, &c., Saving and utilizing the alkaline.	S. Pettibone	71, 783
Loading and dumping machine	W. Goff	70, 196
Lock	L. P. Decker	61, 055
Lock	W. Dickson	63, 230
Lock	H. D. Richardson	64, 568
Lock, Alarm	J. S. and R. Porter	62, 683
Lock, Alarm, for tills	D. K. Miller	63, 922
Lock, Alarm, for tills	C. Tucker	64, 598
Lock and alarm attachment for money drawers	J. H. Weaver	68, 816
Lock and key	H. B. Weaver	60, 974
Lock and knob latch, Combined	E. F. G. Arndt and C. E. L. Moebius	67, 938
Lock apparatus and burglar alarm	C. E. Pierce	71, 637
Lock, Burglar alarm	G. Jacobs	66, 090
Lock, Canal	J. Burt	65, 054
Lock, Canal	G. Heath	66, 151
Lock, Canal	M. Bishop	68, 833
Lock, Canal	H. H. Day	69, 639
Lock, Car seat	S. Bowles	62, 311
Lock, Car seat	M. P. Ford	66, 479
Lock, Car seat	E. Hamburjer	68, 436
Lock, Door	R. Vollschwitz	60, 970
Lock, Door	F. Just	62, 036
Lock, Door	F. F. Landis	62, 545
Lock, Door	A. Leich	62, 645
Lock, Door	D. C. Jordan	62, 753
Lock, Door	E. W. Brettell	63, 204
Lock, Door	S. L. Chase	63, 214
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Lock, Door	W. J. and J. W. Harris	64, 975
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Lock, door, Burglar alarm	E. Tracy	71, 822
Lock, door, Compound	G. Hubert	67, 116
Lock, door, Prison	C. E. Felton	67, 641
Lock, door, Safety guard	R. K. Lee	63, 063
Lock, Drawer	G. B. ^{Gaylord} Cooper	60, 874
Lock for car doors, &c.	G. B. F. Cooper	64, 635
Lock for traveling bags	C. H. Schubens	72, 914
Lock, knob and latch, Combined	B. Ssegmuler	67, 140
Lock, latch and knob, Combined	M. E. Foote	70, 081
Lock, Magnetic	L. C. Springer	60, 953
Lock, Pad	A. Leyden	62, 862
Lock, Pad	B. J., S. B. and A. H. Ebert	69, 645
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Lock, pad, Combination	J. B. Green	72, 845
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Lock, pad, Sealing	Z. L. Chambers	70, 409
Lock, pad, Sealing	J. Kelly	62, 636
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Lock, Permutation	E. W. Brettell	68, 281
Lock, Permutation	S. Wheeler	68, 922
Lock, Permutation	C. Flesch	71, 373
Lock, Permutation, for doors	I. W. Lamb	72, 408
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Lock, Piano	E. L. Gaylord	68, 496
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Lock, Sash.....	J. B. Tinker.....	62, 575
Lock, Sash.....	J. K. Clark.....	62, 817
Lock, Sash.....	A. M. Smith.....	72, 692
Locks, door, Keeper for.....	G. W. Da Cunha.....	64, 847
Locks, door, Key guard for.....	J. Wiard.....	71, 350
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Lock, Spring.....	A. M. Smith.....	61, 025
Locks, safe, Spindle of.....	J. Sargent.....	62, 446
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Locks, trunk, Hasp for.....	L. Witting.....	62, 453
Lock, Trunk.....	E. A. G. Roulstone.....	61, 361
Lock, Trunk.....	W. J. Hare.....	63, 041
Lock, Trunk.....	C. Gschwind and C. Reichardt.....	63, 242
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Lock, Wagon.....	H. Basch.....	68, 685
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Locomotive attachment.....	A. Ohlenslager.....	66, 618
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Locomotive, Road.....	B. F. Partridge, jr.....	65, 264
Locomotives, Ash pan and fire grate for.....	E. C. James.....	72, 397
Locomotives, Draft pipe for.....	C. H. Nichols and D. Upton.....	62, 787
Locomotives, Draw bar for.....	A. Pearsall.....	62, 620
Locomotives, Head light for.....	D. C. Cannell.....	64, 071
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Locomotives, Preventing collision of.....	C. W. T. Krausch.....	61, 546
Locomotives, Railroad smoke conductor for.....	H. Payne, jr.....	61, 354
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Locomotive tenders with water, Supplying.....	L. Y. Ketcham.....	62, 038
Locomotive trucks, Link for.....	W. J. Brassington and W. B. Burtnett.....	65, 869
Logotrope.....	T. J. Rowley and W. Poland.....	72, 231
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Loom.....	J. R. Weber.....	62, 791
Loom.....	C. Zuelke.....	63, 333
Loom.....	C. Miller.....	64, 127
Loom.....	J. Graham.....	64, 525
Loom.....	T. Robjohn.....	64, 573
Loom.....	J. Earnshaw.....	66, 574
Loom.....	G. Crompton.....	66, 682
Loom.....	F. W. Huppelsberg.....	66, 844
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Loom.....	W. B. Walker.....	69, 516
Loom.....	D. K. Fritz.....	69, 622
Loom.....	L. Scofield.....	69, 711
Loom.....	H. Wyman.....	70, 309
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Loom.....	H. M. Cooper.....	70, 964
Loom.....	W. Hainsworth.....	71, 229
Loom.....	I. Haigh.....	71, 480
Loom.....	S. T. Thomas and J. H. Dolley.....	72, 119
Loom for circular weaving.....	J. Buser.....	72, 362
Loom for weaving palm leaf, &c.....	G. W. Chandler.....	71, 852
Loom for weaving piled fabrics.....	W. Hartley.....	63, 631
Loom for weaving ribbons, &c.....	J. Thworth.....	69, 708
Loom, Hand.....	A. Renberger.....	63, 752
Loom, Hand.....	J. Drownne.....	65, 997
Loom, Hand.....	C. Widel.....	68, 918
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Loom, Hand	A. and P. P. Meredith	71, 035
Loom, Hand	T. H. Tibbles	71, 087
Loom, Hand	H. H. Mitchell	72, 879
Loom harness, Motion for	J. F. Gebhart	66, 827
Loom harness, Motion for	J. F. Gebhart	66, 828
Loom harness, Motion for	H. Yount	67, 699
Loom harness, Motion for	L. J. Knowles	68, 303
Loom harness, Motion for	C. Schilling	68, 795
Loom harness, Wire heddle for warp eyes of	D. C. Brown	64, 944
Loom heddle	C. Kennedy	68, 444
Loom heddle	J. Senneff	72, 917
Loom, Narrow ware	S. Walker	61, 583
Loom picker	O. B. Smith	66, 996
Loom, Power	J. M. Deen, B. W. Bolding, and H. Perry	63, 143
Loom, Power	J. Earnshaw	63, 622
Loom, Rib knitting	B. Wainright	62, 579
Looms, Cam for	G. S. Faulkner	66, 818
Looms, Cam for	F. E. Howe and L. Washburn	69, 438
Looms, corset, Sectional take-up for	S. Ottenheimer	65, 112
Looms, Eye of wire heddles for	J. Ashworth	61, 501
Looms, harness in, Hanging and guiding	L. S. Fisher	63, 877
Looms, Index chain for	B. H. Jenks	62, 204
Looms, Let-off and take-up mechanism for	J. A. Marden	64, 235
Looms, Let-off for	G. Richardson	65, 606
Looms, Let-off for	J. Remick	70, 265
Looms, Let-off for	G. Richardson	64, 147
Looms, Let-off mechanism for	M. Brookfield	68, 699
Looms, Let-off mechanism for	E. Wright	72, 769
Looms, Let-off mechanism for narrow ware	J. N. Leavenworth	61, 218
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Mills, grain, Feeder for.....	M. Decamp.....	71, 857
Mills, Grinding, Bush for spindles of.....	J. H. Teahl.....	64, 809
Mills, grinding, Tramstaff for.....	W. Ring.....	70, 266
Mills, paper, Self-adjusting guide roll for.....	R. L. Howe.....	62, 958
Mill, Spindle.....	J. H. McMinn.....	72, 661
Mills, saw, Cross-head for.....	F. Hermann.....	66, 960
Mills, saw, Dog for.....	A. M. Beard.....	62, 309
Mills, saw, Dog for.....	C. G. Jones.....	63, 799
Mills, saw, Head block for.....	A. M. Beard.....	60, 847
Mills, saw, Head block for.....	A. Buell.....	61, 046
Mills, saw, Head block for.....	J. W. and W. Ebert.....	61, 178
Mills, saw, Head block for.....	G. Burket and S. M. Gaskill.....	63, 609
Mills, saw, Head block for.....	W. Carlton.....	63, 015
Mills, saw, Head block for.....	G. H. Clemens.....	63, 614
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Mills, saw, Head block for.....	J. P. Hayes.....	71, 614
Mills, saw, Head block for.....	T. C. Bell.....	71, 678
Mills, saw, Head block for.....	C. K. Ely.....	72, 380
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Mill stone.....	W. Bahama.....	72, 587
Millstone bush.....	C. Custer.....	72, 812
Millstone dress.....	D. Bowman.....	63, 360
Millstone dress.....	N. W. Wortman.....	72, 256
Millstone dress.....	A. N. Garland.....	71, 733
Millstone feed.....	M. De Camp.....	63, 786

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Millstones, Balancing	E. and Z. Dawson and B. Hilton	68, 963
Millstones, Exhaust for	D. Baird	71, 677
Millstones, Furrowing	J. J. Zinn	66, 459
Millstones, Ventilating	H. McEldowney	69, 459
Millstones, Ventilating	W. K. Fuller	72, 474
Millstones, Ventilating	J. Gray	70, 198
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Mill, Sugar cane	D. J. Powers	62, 499
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Mill, Wind	W. D. Nichols	60, 927
Mill, Wind	R. O. Lowrey	61, 077
Mill, Wind	F. G. Fowler	61, 530
Mill, Wind	F. Hewitt	62, 269
Mill, Wind	H. P. Gallup	63, 498
Mill, Wind	C. C. Gish	64, 661
Mill, Wind	J. Schenker	68, 007
Mill, Wind	J. S. Thornton	69, 374
Mill, Wind	W. Peck	72, 890
Mill, Wind applied to raising water	E. McAllister	67, 664
Mincing machine	H. M. Remington	61, 954
Mineral and ore, Disintegrating and desulphurizing	W. F. Goodwin and C. R. Squires	68, 561
Mineral knob	J. Jones	68, 885
Mineral, vegetable, and animal matters with steam, Treating	H. Wood	67, 693
Mineral water	C. E. Michel	71, 777
Mineral waters, Bottling	C. H. Thomas	65, 842
Mining and tunnelling machine	R. C. M. Lovell	67, 323
Mirror, Adjustable	L. F. Neagle	71, 320
Mirrors, Frame for	O. L. Gardner	68, 730
Mirrors, Hanging	W. C. Cumming	60, 699
Mirrors, Hanging	F. Brown	66, 450
Mirrors in dressing cases, Adjustment of	A. A. Gray and W. C. Hyde	70, 713
Mirrors, Ornamenting	T. C. March	62, 654
Mirrors, toys, Cast-iron frame for	R. Frisbie	61, 729
Mirror, Toilet	R. H. Brown	62, 526
Mitten	A. P. Smith	60, 949
Mixing and drying cylinder	L. B. Pitcher	70, 742
Molasses gate, Automatic	P. H. Kimball	67, 319
Mold, Adjustable ship builders	J. J. Cassidy	68, 487
Mold, Brick	J. Evans	68, 862
Mold, Brick	F. M. Franklin, O. K. McIntire, and W. Wirtteley	69, 909
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Molded forms from the press, Removing	G. Patten	72, 533
Mold, Elastic	T. Taylor	61, 640
Mold facing machine	R. Howdon	70, 847
Mold for artificial teeth	M. Assay	70, 148
Mold for casting aluminum plates for artificial teeth	J. B. Bean	69, 614
Mold for casting car wheels	J. B. Tarr	70, 482
Mold for casting grooved rolls	R. C. Totten	63, 443
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Mold for casting metals	J. Farrar and W. Groves	67, 181
Mold for casting steel ingots	J. E. Fry	70, 710
Mold for making cores for casting globe valves	J. M. Cooper	70, 965
Mold for making glass goblets, glasses, &c	J. Magoun	68, 633
Mold for pipe casting	H. M. Bird	63, 781
Mold for purposes of casting metal, Forming	A. H. Lowell	65, 922
Mold for putting up buildings of concrete and other materials, Sectional	J. R. Richards	65, 945
Mold for stereotype or electric plates	M. Nelson	65, 501
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Mold, Glass bottle	J. J. Christie	72, 368
Molding	N. Jenkins	67, 553
Molding boxes	T. L. Luders	66, 508
Molding machine	G. S. Hudson	65, 226
Molding machine	O. H. Perry	71, 531
Molding machines, Cutter guide for	D. Jordan	64, 227
Molding machines, wood, Cutter head for	D. Cumming, jr	63, 707
Molding plastic material	W. B. Gleason	72, 017
Moldings, Cutter head for	J. Whitmore	71, 670
Moldings, Cutter head for dressing	J. Temple	71, 817
Moldings, cutting, Tool for	E. C. Austin	61, 306
Molds for rubber goods, Filling cylindrical	J. W. Cobb	65, 794
Molds, Powder for facing	W. Batty	60, 824
Mold, stereotype, Producing	J. Mac Nair	72, 515
Mold, Type	M. Nelson	65, 000
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Mop head	W. A. Lewis	63, 731
Mop head	J. A. Wilson	64, 612
Mop head	H. H. Mason and J. Messinger	64, 683
Mop head	G. Meader	65, 584
Mop head	O. S. Garretson	65, 662
Mop head	H. H. Mason and J. Messinger	66, 863
Mop head	O. S. Garretson	67, 643
Mop head	C. B. Clark	67, 722
Mop head	H. M. Guild	67, 873
Mop head	G. W. Sanders	69, 368
Mop head	J. Troxel	69, 512
Mop head and brush	T. T. Prosser	72, 677
Mop pail and wringer	E. H. Lord and E. Hinman	68, 447
Mop squeezer	E. N. Porter	63, 294
Mop squeezer	E. S. Wilkins and J. Straw	63, 973
Mop wringer	O. C. Barnes	65, 330
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Mortising machine	S. C. Brown	65, 996
Mortising machine	D. L. Gibbs	68, 298
Mortising machine	J. Richards and W. H. Doane	68, 791
Mortising machine	C. R. Tompkins	70, 051
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Mosquito bar	J. S. Hunter	65, 085
Mosquito bar and window screen	A. J. Whittier	65, 326
Mosquito bar for windows, &c	V. Barker	61, 986
Mosquito bar frame	D. McHugh	67, 784
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Mosquito frame for windows	A. E. Horton	69, 343
Mosquito guard	H. Harris	68, 739
Mosquito net frame	W. A. Griffith	67, 532
Moss, Cleaning	H. Hull	66, 026
Moth proof case	J. W. Aiken and J. H. Stone	70, 676
Moths, Destroying	C. F. Worch	65, 462
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Motion, Converting	J. Hawthorn	61, 829
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Motion, Converting	B. Eytel	64, 511
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Motion power	J. K. Glenn	69, 987
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Movement, Mechanical	J. H. Pelton	66, 623
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Movement, Mechanical	C. D. Snell and J. W. Penney	69, 719
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Mow and sheep rack, Combined	J. Harman	68, 191
Mower and hedge trimmer, Combined	J. H. Hepperly	62, 487
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Mowing machine	A. Wimple	61, 644
Mowing machines, Attaching the draft pole to	C. W. Cardot	64, 745
Mowing machines, Attaching the draft pole to	C. W. Cardot	64, 746
Mucilage holder	W. W. Beach	66, 449
Mucilage holder and inkstand, Combined	W. W. Beach	66, 448
Mucilage pot	C. Dean	69, 415
Mucilage stand	E. Moran	66, 868
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Muff	L. Bauhoef	67, 841
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Nail.....	H. A. Harvey.....	66, 331
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Nail.....	B. Robinson.....	72, 230
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Nail clincher.....	J. Koyle.....	68, 567
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Nail, Horseshoe.....	A. Shaw.....	72, 550
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Nail machine, Horseshoe.....	A. St. Louis.....	70, 374
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Net, Mosquito and fly	E. O. Carrington	72, 452
Net, Mosquito, in window blinds	G. W. Miles	71, 773
Nets, fly, Cutting	H. D. Martin	60, 764
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Nose jewel for swine	M. G. Tousley and F. E. Marcellus	64, 461
Nozzle, Extension and ventilating for oil-cans	W. Bonner	69, 067
Nozzle for fire engines, &c	J. J. Hofer	71, 756
Nozzle for hose pipes	A. M. White	63, 680
Nozzle, Hose	M. C. Curtis and G. W. Harris	72, 372
Numbering machine	S. W. Soulé	65, 839
Numbers, Embossing consecutive	L. Henser	60, 726
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Nut and washer	D. B. Hart	67, 539
Nut fastener	W. Harris and C. Browning	61, 620
Nut fastener	C. Buckley, jr	69, 173
Nut fastening	W. Harris	72, 486
Nut, Hot-pressed	L. Thierry and G. B. Hill	66, 414
Nut lock and washer	E. A. Ellsworth	71, 722
Nut machine	J. Haslam	65, 380
Nut machine	D. Howell	66, 238
Nut machine	O. C. Burdick	68, 556
Nut machine	A. Schwebel	69, 256
Nuts, Locking washer for	J. H. Gridley	62, 483
Nuts, Making	A. B. Bean	62, 923
Nuts, Making	A. Emerson	64, 510
Nuts, Making	J. R. Bridges	67, 403
Nuts, Making	G. Dunham	67, 421
Nuts, Tapping	H. C. Hart and J. R. Blakeslee	72, 487
Nut-tapping machine	J. Kirkley	70, 862
Nutritive and curative preparation	S. C. Upham	62, 512
Nutritive medicine	S. C. Upham	62, 091

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Oar	B. J. Kellam	62, 755
Oar	A. S. Jacobs	66, 847
Oar	S. W. Francis	69, 983
Oar collar	J. Robison	67, 804
Oar lock	M. A. Lanagan	72, 865
Odometer	W. H. Prescott and W. Judson	62, 152
Odometer	J. C. Spencer	69, 038
Odometer	M. W. Stevens and E. H. Drake	69, 504
Oil and burning fluid by pneumatic pressure, Raising	J. H. Smith	72, 101
Oil and fat, Chilling	J. E. Richardson	65, 275
Oil and gas from coal, Manufacture of	J. Shoemaker	71, 233
Oil and grease from animal and vegetable substances, Extracting.	J. Besso	66, 119
Oil and other liquids, Distilling, evaporating, and refining	J. Ellis and E. C. Kattell	68, 860
Oil, Anti-friction	J. F. Boynton	60, 829
Oil, Bleaching vegetable	T. Leonard	71, 763
Oil, Burning	H. C. Dewitt	63, 229
Oil cloth	J. B. Stevenson, jr	72, 932
Oil cloth, coating, Compound for	J. L. Tenney and J. W. Bailey	65, 301
Oil cloth, floor, Preparing	S. W. Herrick and C. G. Gilbert, jr	67, 195
Oil, Compound, for mixing paints	E. K. Wood and R. W. Henry	61, 696
Oil cup	W. P. Patton and J. R. Miller	69, 582
Oil cup	C. Williams	69, 882
Oil cup for machinery	W. Douglas and H. M. Ingler	64, 646
Oil cup for steam engines	J. Wildhack	62, 103
Oil cup for steam engines	F. Lunkenheimer	66, 157
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Oil ejector	H. Searle	61, 571
Oiler	J. Kips and W. Allmendinger	62, 039
Oiler	G. Holt	64, 014
Oiler	J. H. Godwin	67, 974
Oiler	F. Stone	67, 225
Oiler and filler	A. Millar	67, 896
Oiler, Improved	C. P. Pfeiglar and W. Shollhorn	62, 562
Oil, Filtering and refining	M. H. Kruger	60, 747
Oil, floating, Collecting	J. J. Lenell	61, 830
Oil for lubricating, Compound for the treatment of	C. J. Eames and C. A. Seely	66, 572
Oil for paint, Drying	F. Huot	68, 367
Oil from animal and vegetable substances, Extracting	C. O. Heyl	68, 506

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Oil from paraffine, &c., Obtaining	S. L. Wrigand	62, 583
Oil from seed, Extracting	J. Robertson	61, 463
Oil, Hydro-carbon	A. M. Burke and S. Wright	65, 999
Oil, hydro-carbon, Burning	M. T. Gosnell	70, 712
Oil, hydro-carbon, Burning as fuel	F. Cook	68, 707
Oil, hydro-carbon, Distilling	H. W. C. Tweddle	72, 126
Oil, Illuminating	A. W. Burrows	70, 405
Oil in casks, &c., Putting up	P. G. Finn	64, 855
Oil, linsced or other, Preparing	D. E. Breinig	61, 653
Oil, Lubricating	P. H. Vander Weyde	62, 092
Oil, Lubricating	E. L. Brady	68, 942
Oil, Lubricating	C. Moore	70, 454
Oil, lubricating and petroleum, Refining	P. H. Vanderweyde	61, 125
Oil paint	S. Melsom	64, 123
Ointment for curing spavin, splint, &c., in horses	B. Lehman	62, 759
Ointment for horses	G. P. Barnum	67, 627
Ointment for treating disease in horses and other animals	J. S. Williams	62, 717
Ordnance	W. E. Woodbridge	60, 979
Ordnance	G. P. Harding	62, 266
Ordnance, Breech-loading	C. C. W. Müller	67, 792
Ordnance, Breech-loading	A. Weeks	69, 519
Ordnance, Loading	J. B. Ends	71, 592
Ore, Amalgamating	A. Bassett	61, 363
Ore and minerals, Disintegrating and desulphurizing	W. F. Goodwin and C. R. Squires	68, 561
Ore and oxides, Reducing and refining metallic	S. C. Salisbury	65, 122
Ore, Auriferous and argentiferous, Treating	J. W. Roe	61, 806
Ore, Concentrating	T. Varney	62, 983
Ore concentrator	M. Hungerford	62, 749
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Ore crusher	W. P. Parrott and J. J. Boardman	61, 019
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Ore, Crushing and amalgamating	J. Hart	64, 416
Ore, Desulphurizing	I. N. Stanley	61, 577
Ore, Desulphurizing and extracting gold and silver	W. W. Hubbell	65, 387
Ore, gold and silver from, Amalgamating and collecting	W. P. Parrott and J. J. Boardman	65, 593
Ore, Grinding and amalgamating	P. Hinkle	63, 979
Ore, iron, Desulphurizing	J. Little	64, 887
Ore, Jigging machine for dressing	W. W. Spalding	65, 703
Ore, lead, argentiferous, Extracting silver from	C. F. Flach	63, 492
Ore, manganese, Reducing	C. Adams	71, 355
Ore, quicksilver, Reducing	J. C. Coult	70, 321
Ore, rock, &c., Crushing	W. F. Goodwin and C. R. Squires	69, 656
Ore, rock, &c., Pulverizing	W. F. Goodwin and C. R. Squires	69, 655
Ore separator and concentrator	T. N. Paine and S. Stephens	70, 603
Ore stamping	W. Ball	72, 715
Ore washer	J. Wicks	64, 178
Ore washing	R. Wren	61, 124
Ore washing	N. S. Ryder	69, 030
Ore, zinc, Smelting	A. Borgnet	61, 706
Organ	G. B. Kirkham	64, 956
Organ	B. O. Church and H. Smith	72, 369
Organ pipe	E. B. Andrews	64, 470
Organs, Motor regulator and register attachment for	W. H. Topham	65, 452
Oscillating steam rubber	L. D. Wheeler	61, 589
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Ox yoke	C. H. Post	67, 798
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Packing for manholes of steam generators	J. P. McLean	63, 073

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Packing for stuffing boxes of steam engines, pumps, &c.	W. H. Miller	64, 995
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Packing, Metallic stuffing box	J. F. Chuse	62, 527
Packing, Stuffing box	C. M. Templeton	71, 664
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Pail, Dinner	D. Howarth	71, 305
Pails, kettles, &c., Lid for	S. B. Cox	67, 847
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Paper, Rolling and winding, in the manufacture of paper cop tubes	S. Burgess	67, 716
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Paper with mucilage, &c., Coating	H. E. Rile	65, 948
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Pavement, Metallic	J. B. Tarr	61, 580
Pavement, Metallic	J. Dean	70, 076
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Pavements, concrete, Composition for	R. Fisk	69, 738
Pavements, Roofs and roof, Illuminating	T. Hyatt	68, 332
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Pavement, Street	A. Hamar	71, 746
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Pavements, walks, floors, &c., Composition for	B. Doud	61, 056
Pavement, Wood	J. L. Brown	70, 514
Pavement, Wooden	H. Fayette	64, 959
Pavement, Wooden	H. Fayette	64, 960
Pavement, Wooden	P. Koch	68, 089
Pavement, Wooden	C. G. Waterbury	69, 517
Pavement, Wooden	R. L. Ream	69, 703
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Peat for fuel, Preparing	J. H. Ames	66, 277
Peat for fuel, Preparing	J. Webster	72, 573
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Peat-gathering machine	J. Webster	61, 586
Peat, Grinding	A. Michelbacher	64, 784
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Peat machine	B. Hotchkiss	60, 730
Peat machine	S. Marden	60, 918
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Peat machine	A. Robinson	61, 464
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Peat machine	L. P. Jenks	62, 752
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Peat, Treating	S. Brackett	72, 161
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Pegging machine	J. Robbins	68, 902
Pegging machine	B. Q. Budding	64, 481
Pegging machine	E. M. Stevens	65, 294
Pegging machine	H. C. Stone	69, 040
Pegging machine, Hand	J. H. Brown	60, 681
Pegging machine, Hand	J. H. Brown	62, 525
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Pencil and pen case	R. H. Ryne	72, 684
Pencil and pen holder	R. H. Ryne	62, 227
Pencil and pen holder	J. T. Price	69, 126
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Pencil holder	J. Smith	72, 926
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Pencil, Lead	E. Weissenborn	68, 819
Pencil, Lead, or lead holder	P. Gabriel	67, 528
Pencil point protector	G. Merritt	62, 555
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Pencil sharpener	E. Spencer	67, 922
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Pen, Fountain	J. S. Charles	67, 720
Pen, Fountain	M. Klein and H. W. Wynne	68, 445
Pen, Fountain	G. R. Metten	70, 453
Pen, Fountain	M. Wagner	70, 765
Pen handle and eraser combined	W. A. Morse and J. G. Howell	62, 496
Penholder	O. O. Witherell	62, 913
Penholder	P. Gabriel	68, 727
Penholder	D. D. Foley	72, 382
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Penholder and eraser	W. A. Morse	67, 899
Penholder, Reservoir	J. Darling	68, 418
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Pendulum level and sight combined	C. Morrill	63, 807
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Perishable articles, Preserving, refrigerating, and transporting	C. F. Pike	72, 894
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Pessary	E. F. Hofmann	65, 382
Pessary	W. G. Grant	65, 903
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Petroleum, Burning crude	C. Saffray	69, 253
Petroleum, Burning, in conjunction with steam or heated air, or both	G. O. Spence	64, 260
Petroleum, Deodorizing	O. Lugo	60, 757
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Petroleum, &c., Refining	F. Huot	63, 051
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Photographic apparatus	D. H. Houston	67, 981
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Piston rod packing	J. Young	61, 789
Piston rod packing	J. P. McLean	63, 672
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Pitman	J. Butter	71, 450
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Planing machine	A. A. Wilder	64, 609
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Planing machine	F. J. Plummer	66, 519
Planing machine	G. Woodbury	67, 623
Planing machine	W. D. Hatch	70, 208
Planing machine	R. N. Meriam	70, 592
Planing machine	E. Myers	71, 403
Planing machine	B. Pitts	72, 618
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Planing machine for wood	P. T. Smith	65, 128
Planing machines, Cutter head for	H. A. Lee	66, 719
Planing machines, Cutter head for	M. F. Connett	68, 048
Planing machines, Cutter head for	W. H. Christie	71, 455
Planing machines, Cutter head to	C. R. Tompkins	71, 341
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Planing machine, Wood	W. H. Doane and W. E. London	65, 796
Planing machine, Wood	F. Schmidt	65, 954
Planing machine, Wood	A. and H. Streit	71, 814
Planing machine, Wood	G. B. Durkee and W. H. Murray	71, 862
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Planter and cultivator, Combined	S. B. Conover	63, 476
Planter and cultivator, Combined	I. H. Chappell	63, 858
Planter and cultivator, Combined	W. L. Gebby	64, 519
Planter and cultivator, Combined	J. Adams	68, 026
Planter and cultivator, Combined	I. H. Chappell	71, 134
Planter and cultivator, Combined	J. Vaughn	72, 703
Planter and manure distributor	B. F. Whitner	64, 926
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Planter, Corn	E. F. Smith	61, 273
Planter, Corn	A. Barber	61, 701
Planter, Corn	F. P. Westerfield	61, 783
Planter, Corn	J. N. Arvin and J. M. Whitmore	61, 981
Planter, Corn	J. M. Reeds	62, 067
Planter, Corn	W. J. Hobson	62, 200
Planter, Corn	H. Maxell	62, 280
Planter, Corn	D. Ruppert	62, 290
Planter, Corn	J. E. West	62, 458
Planter, Corn	L. M. Reamy	62, 886
Planter, Corn	J. S. Rieckel	62, 888
Planter, Corn	C. W. Henkel	63, 047
Planter, Corn	A. M. Corbitt	63, 219
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Planter, Corn	B. Wieland	66, 923
Planter, Corn	W. W. Hubbard	67, 115
Planter, Corn	H. S. Mitchell and C. Search	67, 444
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Planter, Corn	O. Billings	71, 572
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Planter, Corn	J. R. Weber	71, 932
Planter, Corn	H. J. Johnson	72, 501
Planter, Corn	R. W. Moran	72, 525
Planter, Corn and cotton-seed	M. L. and R. W. Thornton	66, 912
Planter, corn, and cultivator, Combined	M. J. Hunt	61, 071
Planter, corn, and cultivator, Combined	A. N. Gow	62, 263
Planter, corn, and cultivator, Combined	S. J. Taylor	66, 910
Planter, corn, and cultivator, Combined	D. W. Jacoby	68, 201
Planter, corn, and fertilizer, Combined	B. F. Grimes	65, 073
Planter, corn, and fertilizer, Combined	S. H. Wallize	71, 930
Planter, Corn, and guano-sower	J. B. Gemmill	66, 959
Planter, corn, and hoe, Combined	H. Soggs	62, 376
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Planter, Corn, and seeder combined	J. F. Sterrett and C. M. J. Reynolds	69, 502
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Planter, corn, Hand	L. Weaver	61, 490
Planter, corn, Hand	J. P. Van Vleck	62, 380
Planter, corn, Hand	McC. Russell and A. G. Burdic	70, 747
Planter, Cotton	F. E. Moran	62, 356
Planter, Cotton	J. P. Selsor	62, 447
Planter, Cotton	J. L. A. Edwards	63, 623
Planter, Cotton, seed, and fertilizer distributor	J. Johnson	66, 713
Planter, hand and hoe, Combined	H. Fessler and I. E. Betz	64, 755
Planter, harrow, and cultivator, Combined	D. D. Stelle	66, 904
Planter, Potato	J. P. Scudder	65, 695
Planter, Potato	J. E. Bendix and M. Dietsch	70, 786
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Planter, seed, Hand	J. H. Jones	63, 643
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Plow	T. E. C. Brinley	71, 968
Plow	H. Briggs	71, 966
Plow	S. J. Leach	72, 365
Plow	A. Gilmore	72, 386
Plow	W. D. Titus	72, 568
Plow	A. N. Moore	72, 880
Plow and cultivator	S. F. Seely	67, 595
Plow and cultivator, Combined	I. Young	61, 920
Plow and cultivator, Combined	A. Romann and J. Peterka	68, 114
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Plow and planter, Combined	J. D. Marshall	70, 237
Plow and scraper, cotton, Combined	T. P. Warren	65, 847
Plow attachment	H. B. Smith	61, 885
Plow beam	W. Eddy	65, 357
Plow beam	W. Gilman	67, 183
Plow carriage	J. M. Hammit and H. T. Miller	60, 721
Plow carriage	H. Minuse	68, 777
Plow cleaner	C. P. Devereaux	66, 809
Plow clevis	H. Ingraham	68, 200
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Plow clevis	J. Newhart	70, 351
Plow, Corn	J. Hindmarsh	61, 195
Plow, Corn	J. M. Clark	65, 725
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Plow, Corn	A. Canfield	67, 843
Plow, Corn	A. Canfield	67, 844
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Plow, Corn	M. C. Buffington	69, 071
Plow, Corn	J. Marsh	69, 109
Plow, Corn	J. Snyder	72, 104
Plow, Corn, and seed sower	P. Hackett	68, 563
Plow, Cotton	W. B. Williams	67, 831
Plow, Cotton and corn	D. C. Richardson	70, 120
Plow, Cultivator	S. A. Wray	60, 982
Plow, Cultivator	G. W. Hatfield	61, 828
Plow, Cultivator	W. H. Startzman	68, 393
Plow, Cultivator and sulky	J. H. Barringer	61, 039
Plow cultivator, Garden	C. A. Harris	69, 803
Plow, Ditching	J. T. Miller	62, 215
Plow, Ditching	W. R. Clark	68, 697
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Plow, Draining and ditching	H. B. Smawley	63, 952
Plow, Gang	J. H. Douthit	61, 408
Plow, Gang	J. C. Bethea	61, 796
Plow, Gang	H. Kynett	63, 260
Plow, Gang	E. Sexton	64, 152
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Plow, Gang	C. L. Eastham	65, 798
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Plow, Gang	J. Harris	71, 301
Plow, Gang	W. Foster	72, 730
Plow, Gang and cultivator	G. W. Price	61, 566
Plow, gang, Steam	W. H. H. Heydrick	63, 247
Plow, Grape	R. Hardenbrook	68, 190
Plow, Hand	F. Keefer	64, 771
Plow handle	G. Watt	64, 464
Plow handle	T. E. C. Brinley	72, 596
Plow handle, Self-acting	J. L. Keasor	69, 678
Plow, harrow, cultivator, and roller, Combined	J. Johnston	66, 240
Plow, Hill-side	F. Feldhaus	69, 554
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Plow point	D. J. Selden	64, 914
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Pump, Steam	W. M. Henderson	65, 911
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Rocks, Disintegrating	J. Johnson	65, 677
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Spring, Bed	D. F. Husz	66, 490
Spring, Bed	E. S. Hayward	71, 169
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Spring, Carriage-seat	W. Scott	70, 475
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Spring, Door	L. Hillebrand	71, 616
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Spring, Door	C. Burnham	72, 449
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Stair rod	W. B. Gould	62, 027
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Stair rod	C. E. Stearns	66, 903
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Stamp, Hand	D. H. Chamberlain	66, 560
Stamp, Hand	D. H. Chamberlain	66, 561
Stamp, Hand	J. M. Willbur	71, 105
Stamp, hand, Elastic	G. H. Mellen	61, 849
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Stamps, postage and revenue, Attaching	C. H. Bacon	72, 442
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Starch	J. J. Gilbert	65, 664
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Steel, Tempering	F. G. Harris	70, 559
Steel, Tempering, after it has been welded to iron for cutting tools.	A. R. Reynolds	63, 096
Steel, tempering, Compound for	W. G. Esser	65, 892
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Steel, Welding, to malleable iron and tempering the steel by one operation.	A. R. Reynolds	63, 097
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Stopper, Hawse-pipe	J. Stewart	62, 902
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Stove, Automatic ventilating	R. Eaton	70, 979
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Stove, Coal	N. A. Boynton	61, 602
Stove, Coal	A. Brown	61, 922
Stove, Coal	J. J. Low	63, 538
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Stove, Coal	G. R. Moore	63, 926
Stove, Coal	G. R. Moore	66, 610
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Stove, Coal	J. H. Stone	66, 907
Stove, Coal	W. C. Durant	66, 957
Stove, Coal	J. H. Keyser	66, 969
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Stove, Coal	A. Dart	72, 610
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Stove, Coal-oil	F. H. Brown	60, 680
Stove, cook, Gasoline	J. D. Spang	70, 641
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Stove, Cooking	F. C. Adams and J. Peckover	61, 790
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Stove, Cooking	J. J. Savage	61, 956
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Stove, Cooking	W. A. Greene	65, 375
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Stove, Cooking	D. E. Paris	67, 344
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Stove cover lifter	G. W. Hunt	71, 388
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Stove, Heating	W. A. Barlow	60, 845
Stove, Heating	G. W. Beard	61, 795
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Stove, Heating	A. Lee	64, 884
Stove, Heating	A. Brown	64, 943
Stove, Heating	T. Yates	65, 524
Stove, Heating	J. Grossius	68, 299
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Stove, Hot-air	J. Player	65, 599
Stove lid lifter	G. B. Scribner	67, 593
Stove, Nurse	L. A. Plumb	61, 863
Stove, Petroleum	J. Lee	63, 400
Stove, Petroleum and gas-heater	A. T. Boon	63, 004
Stove, Petroleum vapor	J. J. Riddle and W. S. Gray	65, 507
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Stove pipe thimble	J. P. Gallagher	71, 602
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Stove plate pattern boiler hole seat	A. P. Rich	66, 992
Stoves and furnaces	J. B. Driscole	71, 465
Stoves and furnaces, Door for	F. S. Bissell	67, 942
Stoves and grates, Fire back for	J. Habermehl	71, 297
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Stoves, cooking and heating, Water back and grate of	G. Dewey	70, 077
Stoves, cooking, Ash and lifting pan for	J. H. Shear	62, 695
Stoves, cooking, Cover for	S. Raymond	63, 093
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Stoves, Ventilating attachment to	T. S. Bowman	67, 945
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Stove, tool and lantern, Combined	D. P. and M. P. Farnham	60, 869
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Stove, Wood-burning	G. G. Wolf	64, 616
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Strainer and bucket, Milk	D. N. West	68, 400
Strainer, Coffee and tea pot	M. Simons	62, 697
Strainer, Cream	G. J. Bennett	66, 552
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Straw cutter	W. Gale	61, 933
Straw cutter	W. Gale	61, 617
Straw cutter	J. D. Smith	69, 593
Straw cutter	A. Buch	70, 464
Straw cutter	S. Elliott	70, 539
Straw cutter	H. Parks	70, 891
Straw cutter	J. T. Harvey	71, 000
Straw cutter	J. W. Mauzy and J. Hughes	72, 062
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Wines, high and low, Separating.....	E. B. McDowell and T. W. Wilson.....	63, 409
Wire, Annealing.....	H. C. Gee.....	65, 481
Wire, Coiling.....	W. Weaver.....	63, 445
Wire, Covering, with fine wire.....	W. H. Rodgers.....	61, 261
Wire, Cutting and forming.....	J. Wasson.....	71, 091
Wire dish stand.....	E. P. Woods and D. Sherwood.....	72, 770
Wire dish stands, Making.....	E. P. Woods and D. Sherwood.....	70, 770
Wire figure.....	W. R. Boerner.....	71, 573
Wire for needle blanks, Reducing.....	T. Fowler.....	68, 430
Wire, Hardening and tempering.....	J. C. Walter.....	65, 780
Wire or wire rope together, Fastening.....	M. F. Maury.....	64, 018
Wire, Pointing and reducing.....	O. L. Hopsom and H. P. Brooks.....	62, 336
Wire-pointing machine.....	J. Lockwood.....	63, 270
Wire rein snap.....	W. B. Hayden.....	62, 194
Wire rope bands, Preventing the untwisting of the ends of.....	A. Barbarin.....	71, 839
Wire, Skirt.....	G. W. Hubbell.....	63, 253
Wire, Skirt.....	G. W. Reynolds.....	70, 018
Wire, skirt, Making in lengths for hoops.....	J. Fraser.....	61, 660
Wire, skirt, Tempering.....	J. H. Monk.....	70, 881
Wire, steel, Tempering.....	J. Hallas.....	65, 215
Wires, telegraph and circuit, Insulating covering for.....	S. C. Bishop.....	71, 658
Wires, telegraphic, Compound for coating and insulating.....	R. S. Tucker.....	62, 236
Wires, Tool for cutting.....	W. H. Flinn.....	65, 557
Wire, Twisting.....	P. L. Slayton.....	65, 699
Wire-twisting machine.....	T. B. Smith.....	63, 570
Wire work.....	C. Shortan.....	66, 896
Wood and metals, Painting and varnishing.....	W. R. Boerner.....	70, 946
Wood and other materials, Composition for coating.....	W. Piotrowski.....	62, 222
Wood and other materials to form paper pulp, Disintegrating and bleaching.....	C. L. Robertson.....	63, 428
Wood and timber, Preserving.....	J. B. Biron.....	67, 941
Wood, Bending.....	D. R. Prindle.....	63, 306
Wood, Bending.....	J. Klahr.....	71, 886
Wood, Bending.....	L. Heywood.....	72, 292
Wood, Bending.....	L. Heywood.....	72, 293
Wood bending machine.....	J. A. Dann.....	63, 997
Wood bending machine.....	O. W. Stearns.....	66, 409
Wood bending machine.....	S. C. and E. O. Frink.....	68, 621
Wood bending machine.....	D. Catchpole and J. Havens.....	69, 313
Wood, Bundling.....	D. D. Sherwood.....	71, 798
Wood, Carving.....	A. Basse.....	71, 568
Wood, cloth, metal, and for forming various articles, Composition for coating.....	A. Pelletier.....	63, 087
Wood, Coating.....	P. S. Devlan.....	63, 618
Wood, Coating, with rubber and gutta-percha.....	K. W. Hoimes and A. Albright.....	64, 419
Wood, Composition for filling the pores of.....	J. F. Bernard.....	69, 165
Wood, Composition for hardening and preserving.....	H. L. Houghton.....	65, 674
Wood, Composition for imitating.....	H. Carter.....	68, 952
Wood, Composition for stuffing.....	H. Smith.....	70, 277
Wood, Enameled.....	C. L. Robertson.....	67, 679
Wooden structures, Composition for coating.....	J. Heckel.....	71, 752
Woodenware.....	A. R. Reese.....	70, 263
Wood, Finishing.....	G. Chambers.....	72, 366
Wood for musical instruments, Preparing.....	W. H. May.....	72, 877
Wood for the manufacture of labels, tags, &c., Preparing.....	J. Melling.....	66, 512
Wood from decay, Preserving.....	A. Holmes.....	62, 334
Wood gear, Cutting.....	T. F. Freeman.....	70, 192
Wood, Imitation of open carving in.....	W. H. May.....	61, 549
Wood, Impregnating, with oleaginous and saline matters.....	C. A. Seely.....	69, 260
Wood, Impregnating, with tar and other materials.....	G. Pustkuchen.....	64, 703
Wood, iron, and paper, Composition for coating.....	A. Pelletier.....	71, 210
Wood, kindling, Bundling.....	J. Richardson and F. H. Stevens.....	66, 254
Wood, metals, or other articles, Cleaning.....	C. S. Toms.....	65, 139

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Wood-planing machine	G. H. Ober	66, 988
Wood, Polishing	E. Weissenborn	67, 240
Wood, Preparing and preserving	T. Hanvey	62, 956
Wood, preparing and hardening, and preserving the same, Com- position for	J. L. Samuels	60, 794
Wood, Preserving	C. E. Clarke, G. Hadley, and J. C. Clifford	67, 104
Wood, preserving, Compound for	S. T. Harding	68, 069
Wood, Preventing decay in	J. H. Taylor	70, 761
Wood, Seasoning and preserving	S. Constant and J. Smith	65, 545
Wood-splitting machine	J. Davock	60, 702
Wood-splitting machine	L. Tilton	65, 303
Wood to be used in the manufacture of paper and for other purposes, Preparing	C. K. Marshall	70, 872
Wood to metal, Securing	R. Howdon	64, 767
Wood, toy pails from, Cutting	H. Mellish	63, 415
Wool and palm-leaf warp for weaving, Preparation of	F. Perrin	65, 266
Wool and woolen fabrics, Scouring and cleaning	O. Macdoniel	71, 191
Wool, burring, ginning cotton, &c., Machine for	R. J. Clay	63, 471
Wool, burrs from, Removing	Z. Parkhurst	62, 877
Wool-carding machine	S. C. Plilbrick	71, 784
Wool, Cleaning	S. R. Parkhurst	67, 901
Wool, Cleaning	H. Hayward and J. S. Pendleton	71, 170
Wool dryer	C. Beu	61, 145
Wool, Drying	L. W. Boynton	62, 468
Wool from mixed articles and fabrics, Extracting	A. & J. Knowles and J. Barraclough	62, 139
Wool, oiling, Composition for	J. Gomershall	61, 532
Wool, oiling, Composition for	J. McCabe	72, 658
Wool packer	A. Saeger	68, 240
Wool presser	G. M. Briggs	62, 930
Wool, Removing burrs and other substances from	W. A. Govern	70, 065
Wool, Removing burrs from	W. Sykes	72, 563
Wool, Shearing and clipping	R. T. Smith and J. K. Priest	72, 103
Wool tier and sheep holder, Combined	A. M. Culver	63, 222
Wool, &c., Burring	R. J. Clay	67, 394
Wool, &c., Drier for	L. W. Boynton	63, 462
Work bench, Carpenters'	J. Bragdon	71, 126
Wrench	R. S. Stenton	60, 801
Wrench	T. Pratt	61, 097
Wrench	J. C. Jackson	61, 340
Wrench	J. L. Peake	61, 355
Wrench	P. Sommer	61, 575
Wrench	T. Earle	61, 929
Wrench	J. B. Savage	62, 291
Wrench	S. B. Hill	62, 630
Wrench	S. S. Barnaby	63, 459
Wrench	J. E. Crouk	63, 481
Wrench	J. A. Partridge	63, 935
Wrench	W. H. Landbeck	64, 676
Wrench	L. Jordan	65, 489
Wrench	W. P. Dunlap	65, 550
Wrench	G. B. Keeler	65, 678
Wrench	D. A. Kellogg	65, 679
Wrench	I. H. Smith	66, 051
Wrench	J. V. H. Secor	66, 177
Wrench	G. C. Taft	67, 818
Wrench	J. A. Talpey	68, 128
Wrench	T. D. Christopher	68, 168
Wrench	J. N. Freestone	68, 431
Wrench	C. T. Poulton	68, 787
Wrench	J. Mott	69, 575
Wrench	D. Harrigan	69, 911
Wrench	B. S. Lawson	70, 005
Wrench	E. Perry	70, 605
Wrench and pruning shears, Combined	J. S. Kalb	67, 987
Wrench and tongs	J. N. Arvin	63, 356
Wrench bars, Heating	T. C. Rice	64, 364
Wrench bars, Rolling	T. C. Rice	64, 447
Wrench, boot-jack, and nail-pull	O. Shepard	66, 643
Wrench, Pipe	J. W. Close	61, 715
Wrench, Pipe	R. Bain	63, 689
Wrench, Pipe	M. H. Freeman	64, 656
Wrench, Pipe	J. L. Ordner	65, 111
Wrench, Pipe	J. R. Brown	65, 162
Wrench, Pipe	W. C. Abbe	67, 937
Wrench Pipe and stud	J. B. Barnes	65, 465
Wrench, Self-adjusting	A. M. Olds	63, 588
Wringer and mop-pail	E. H. Lord and E. Hinman	68, 447
Wringer, Clothes	G. Palmer	61, 353
Wringer, Clothes	A. H. Page	61, 680

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Invention or Discovery.	Name of Patentee.	No.
Wringer, Clothes	J. Young	64, 180
Wringer, Clothes	C. H. Amidon	64, 932
Wringer, Clothes	G. L. Witsill	65, 148
Wringer, Clothes	C. H. Knox	66, 362
Wringer, Clothes	J. Harrison and G. W. Harris	66, 835
Wringer, Clothes	J. Harrison and G. W. Harris	66, 836
Wringer, Clothes	W. Rowell	68, 576
Wringer, Clothes	F. A. Glason	68, 732
Wringer, Clothes	J. M. McMaster	68, 893
Wringer, Clothes	T. B. Emerson	70, 181
Wringer, Clothes	E. H. Covell	70, 808
Wringer, Clothes	D. Lyman	72, 407
Wringer, Clothes	D. Lyman	63, 273
Wringer for clothes and mops	C. E. Gage	60, 761
Wringer for clothes and mops	L. Hannum	62, 843
Wringer, Mop	A. J. Robinson	60, 790
Wringer, Mop	B. Van Alstine	62, 237
Wringer, Mop	L. F. Rollins	62, 567
Wringer, Mop	C. W. Gage and J. Northrup	65, 558
Wringer, Mop	W. W. Finch	65, 737
Wringer, Mop	H. Russell	66, 639
Wringer, Mop	A. G. Starkweather	66, 647
Wringer, Mop	A. S. Lesner	66, 720
Wringer, Mop	C. E. Wareham	67, 388
Wringer, Mop	D. Peck	69, 694
Wringer, Mop	R. W. Soper	69, 942
Wringer, Mop	R. T. Reed	70, 017
Wringer, Mop	J. Adams	70, 310
Wringer, Mop	O. M. Brooks and E. J. Matteson	70, 692
Wringer, Mop	Z. Howe	72, 043
Wringer, Mop and scrubber	J. J. Harlan	66, 834
Wringers, clothes. Attachment for	C. L. Carter	68, 043
Wringing machine	J. W. Latcher and J. Young	61, 012
Wringing machine	S. Squires	61, 037
Wringing machine	S. A. Bailey	62, 805
Wringing machine	R. B. Hugunin	62, 851
Wringing and washing machine	C. A. White	62, 459
Wringing and washing machine	E. F. and F. Blood	66, 450
Wringing and washing machine	I. Hog-land	66, 839
Wringing and washing machine	J. Whitney	68, 270
Wrist pin and pitman head	W. N. Whiteley	70, 143
Writing apparatus for the blind	J. Synnot	71, 084
Y.		
Yard measure	J. Douglass	71, 719
Yard stick, Registering	W. P. Lupton and C. M. Talbot	72, 210
Yarn and textile fabrics soiled in dyeing, Cleaning	A. Paraf	63, 420
Yarn and thread, Dyeing, bleaching, and washing	I. Osgood and A. Munroe	63, 744
Yarn, cloth, and other textile fabrics, Bleaching and dyeing	I. Colton and A. M. Hastings	62, 612
Yarn, Clouded	J. Chase	69, 178
Yarn, Clouded	J. Chase	69, 967
Yarn dressing machines, Roll for	B. R. Cotton	64, 078
Yarn from spools, Winding and delivering	R. Kershaw	69, 101
Yarn, thread, &c., Let-off and tension of	A. B. Ely	64, 209
Yoko and hand lifting, Apparatus for	M. Mattson	71, 775
Yoke, Neck	W. B. Chapman	69, 074
Yoke, neck, Draft	A. B. Coleman	68, 099
Z.		
Zinc, Chloride of	J. E. Mills	69, 573
Zinc from gold and silver, Separating	E. Bulbach, jr.	64, 934
Zinc, oxide of, Collecting	G. C. Hall	72, 032

DESIGNS.

Invention or Discovery.	Name of Patentee.	No.
A.		
Axe-handle	J. B. Viets	2, 600
B.		
Badge, Masonic	V. Price	2, 846
Bag, Paper	S. W. Valentine	2, 767
Balance, Post Office	W. W. Reynolds	2, 678
Band, Metallic, for car-seats	D. F. Randall	2, 633
Band sli-e	E. Sealy	2, 828
Blud binding	S. Hasenbuhler	2, 691
Book, Pocket	S. and I. Scheuer	2, 719

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Invention or Discovery.	Name of Patentee.	No.
Books, Edges of	J. H. Crowell	2, 576
Boots and shoes, Heel plate for	F. Shaw	2, 600
Bottle	C. Gantier	2, 613
Bottle	S. A. Whitney	2, 652
Bottle	H. Schlichter and H. A. Zug	2, 816
Bottle and cap	R. B. Parkinson	2, 659
Bottle, Ink	B. P. Holmes	2, 753
Box, Cigar	F. Becker	2, 614
Box, Tobacco	C. J. Hauck	2, 631
Bracket	J. H. Bellamy	2, 543
Brush, Horse	A. H. Smith, W. W. Clark, and G. F. Starbuck	2, 766
Buckle	J. F. Markland	2, 570
Burial case	M. H. Crane	2, 552
Burial case	C. Zeuner	2, 602
Burial case	C. Zeuner	2, 603
Burial case	C. Zeuner	2, 604
Burial case	C. Zeuner	2, 605
Burial case	B. Smith	2, 668
Burial case	B. Smith	2, 669
Burial case or coffin	E. S. Earley	2, 698
Burial casket	R. R. Bacon	2, 818
Buttonhole for cuffs, &c	J. R. Wood	2, 768
C.		
Can	C. Barry	2, 820
Can, Oil	C. Pratt	2, 712
Can, Oil	S. R. Wilmot	2, 594
Card, Visiting	S. W. Francis	2, 684
Carpet or floor oil-cloth pattern	R. Hoskin	2, 633
Carpet or floor oil-cloth pattern	R. Hoskin	2, 634
Carpet or floor oil-cloth pattern	C. T. Meyer	2, 635
Carpet or floor oil-cloth pattern	C. T. Meyer	2, 636
Carpet or floor oil-cloth pattern	C. T. Meyer	2, 637
Carpet or floor oil-cloth pattern	C. T. Meyer	2, 640
Carpet or oil-cloth pattern	C. T. Meyer	2, 770
Carpet pattern	E. J. Ney	2, 590
Carpet pattern	E. J. Ney	2, 591
Carpet pattern	E. J. Ney	2, 592
Carpet pattern	E. J. Ney	2, 593
Carpet pattern	A. Beck	2, 616
Carpet pattern	A. Beck	2, 617
Carpet pattern	E. J. Ney	2, 754
Carpet pattern	E. J. Ney	2, 755
Carpet pattern	E. J. Ney	2, 756
Carpet pattern	E. J. Ney	2, 757
Carpet pattern	E. J. Ney	2, 758
Carpet pattern	E. J. Ney	2, 759
Carpet pattern	E. J. Ney	2, 760
Carpet pattern	E. J. Ney	2, 761
Carpet pattern	E. J. Ney	2, 762
Carpet pattern	E. J. Ney	2, 763
Carpet pattern	E. J. Ney	2, 764
Carpet pattern	E. J. Ney	2, 765
Carpet pattern	C. T. Meyer	2, 783
Carpet pattern	R. Hoskin	2, 785
Carpet pattern	C. T. Meyer	2, 787
Carpet pattern	C. T. Meyer	2, 788
Carpet pattern	C. T. Meyer	2, 789
Carpet pattern and floor oil-cloth	C. F. Meyer	2, 730
Carpet pattern and floor oil-cloth	C. F. Meyer	2, 731
Carpet pattern or floor oil-cloth	C. T. Meyer	2, 638
Carpet pattern or floor oil-cloth	C. T. Meyer	2, 639
Carpet pattern or floor oil-cloth	C. T. Meyer	2, 653
Casket handle	W. M. Smith	2, 615
Casket handle	S. D. Arnold	2, 721
Caster covering	W. J. Howard	2, 710
Caster frame	H. C. Wilcox	2, 564
Caster frame	H. C. Wilcox	2, 565
Caster frame	H. C. Wilcox	2, 541
Casters, Handle for	H. C. Wilcox	2, 540
Center-piece	H. Berger	2, 608
Center-piece	H. Berger	2, 661
Chair, Folding	B. J. Harrison and J. Condeo	2, 685
Chimney, Lamp	E. Dithridge	2, 726
Clock case	N. Müller	2, 562
Clock case	N. Müller	2, 563
Clock case	A. C. Felton	2, 626
Clock case	A. C. Felton	2, 675
Clock case	A. F. Atkins	2, 742
Clock case	J. H. Bellamy	2, 776

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Invention or Discovery.	Name of Patentee.	No.
Clock case	J. H. Bellamy	2, 777
Clock case	J. H. Bellamy	2, 778
Coffee and tea pot	G. Jones	2, 598
Coffee strainer	A. Shafer and A. Barclay	2, 582
Coffin	H. Hoffinau	2, 713
Coffin handle	C. L. Nieberg	2, 585
Coffin handle	C. L. Nieberg	2, 586
Coffin handle	C. L. Nieberg	2, 647
Coffin handle	C. L. Nieberg	2, 648
Coffin handle	C. L. Nieberg	2, 649
Coffin handle	J. S. Ray	2, 826
Coffin or burial case	E. S. Earley	2, 698
Coisar, Paper	W. F. Mosely	2, 849
Comb, Round	W. S. Mingis	2, 537
Comb, Round	W. S. Mingis	2, 538
Comb, Round	W. S. Mingis	2, 555
Confectioners' cornucopia	C. W. Quanz	2, 571
Cooler, Water	J. L. Hadden	2, 597
Croquet balls and mallets, Decorating	C. W. Kirby	2, 845
D.		
Drill, Blacksmith's	J. L. Haven	2, 747
E.		
Emblem	M. B. Dyott	2, 805
Engine, fire, Steam	B. Fitts	2, 672
Envelope	E. Morgan	2, 628
Eyelets	J. C. Merritt	2, 706
F.		
Fabric, Knitted	F. Bleekle	2, 690
Fabric, Woven	W. B. Weeden	2, 799
Fence	W. F. Smith	2, 773
Fence and post	C. Coots	2, 724
Fence panel	G. Lovejoy	2, 632
Flags, signal, Set of	H. J. Rogers	2, 599
Floor cloth	J. Paterson	2, 692
Floor cloth pattern	A. E. Powers	2, 801
Flower garden	W. Webster	2, 559
Fork or spoon handle	J. Seymour	2, 720
Fork or spoon handle	J. Polhamus	2, 772
Fork or spoon handle	H. H. Hayden	2, 548
Fork or spoon handle	Le Roy S. White	2, 551
Fork or spoon handle	D. C. Wilcox	2, 741
Fork, Knife-edged	A. W. Cox	2, 567
Furniture, school, Standard for	C. W. Sherwood	2, 556
Furniture, school, Standard for	C. W. Sherwood	2, 557
G.		
Glassware, table, Ornamenting	H. S. McKee	2, 825
H.		
Hammer, Tack, drawer and wrench combined	A. Iske	2, 676
Handle, Fork or spoon	H. C. Wilcox	2, 654
Handle, Fork or spoon	J. Polhamus	2, 539
Handle, Knife, fork or spoon	E. W. Sperry	2, 642
Handle, Knife, fork or spoon	E. W. Sperry	2, 643
Handle, Knife or fork	E. W. Sperry	2, 641
Handle, Spoon, knife or fork	P. B. Gilbert	2, 646
Handle, Spoon or fork	A. Hebbard	2, 664
Hat	P. W. Vail	2, 622
Hats and dresses, Ornament for	M. A. Lawrence	2, 572
Hat bands, Pendant for	E. Sealy	2, 829
Heaters, &c., Pilaster and center piece of.	C. J. Shepard	2, 802
I.		
Inkstand	H. Harris	2, 610
J.		
Jar	S. B. Rowley	2, 840
K.		
Key tag	A. Stafford	2, 856

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Invention or Discovery.	Name of Patentee.	No.
Knife, fork, or spoon handle	E. W. Sperry.....	2, 642
Knife, fork, or spoon handle	E. W. Sperry.....	2, 643
Knife or fork handle.....	E. W. Sperry.....	2, 641
Knob, Door.....	J. Euteneur.....	2, 838
L.		
Label.....	J. Fabnestock.....	2, 715
Label border.....	A. D. Thurber.....	2, 811
Label, Bottle.....	C. Gautier.....	2, 699
Lamp, Carriage.....	M. De Voursney.....	2, 656
Lamp, Coach.....	R. P. Cowles.....	2, 534
Lamp, Coach.....	T. Boudren.....	2, 566
Lock, Rine.....	E. M. Mix.....	2, 701
Lock, Rine.....	E. M. Mix.....	2, 702
M.		
Match safe.....	R. Frisbie.....	2, 553
Medal.....	D. K. Hitchcock.....	2, 544
Medal.....	D. K. Hitchcock.....	2, 545
Medallion.....	O. Frazee.....	2, 536
Melodeon case.....	J. R. Lomas.....	2, 832
Mirror frame.....	R. Frisbie.....	2, 709
Model of the ancient city of Jerusalem.....	J. G. Evans.....	2, 814
Monogram.....	J. H. Cummings.....	2, 583
Monument, Military.....	J. S. Armstrong.....	2, 595
Monument, Soldier's.....	D. Morgan.....	2, 677
Molding.....	S. Kellett.....	2, 554
Molding.....	E. Martin.....	2, 823
Molding for picture frames.....	J. H. Brown.....	2, 852
Molding for show cases.....	C. Fersch.....	2, 853
Muff.....	R. M. Seldis.....	2, 841
N.		
Name plate.....	S. S. Bent.....	2, 817
O.		
Oil cloth.....	W. H. Townsend.....	2, 830
Oil cloth, Floor.....	C. T. Meyer.....	2, 546
Oil cloth, Floor.....	H. Christie.....	2, 575
Oil cloth, Floor.....	C. T. Meyer.....	2, 579
Oil cloth, Floor.....	C. T. Meyer.....	2, 580
Oil cloth, Floor.....	C. T. Meyer.....	2, 581
Oil cloth, Floor.....	J. T. Webster.....	2, 705
Oil cloth, Floor, and carpet pattern.....	C. F. Meyer.....	2, 730
Oil cloth, Floor, and carpet pattern.....	C. F. Meyer.....	2, 731
Oil cloth, Floor, or carpet pattern.....	R. Hoskin.....	2, 633
Oil cloth, Floor, or carpet pattern.....	R. Hoskin.....	2, 634
Oil cloth, Floor, or carpet pattern.....	C. T. Meyer.....	2, 635
Oil cloth, Floor, or carpet pattern.....	C. T. Meyer.....	2, 636
Oil cloth, Floor, or carpet pattern.....	C. T. Meyer.....	2, 637
Oil cloth, Floor, or carpet pattern.....	C. T. Meyer.....	2, 638
Oil cloth, Floor, or carpet pattern.....	C. T. Meyer.....	2, 639
Oil cloth, Floor, or carpet pattern.....	C. T. Meyer.....	2, 640
Oil cloth, Floor, or carpet pattern.....	C. T. Meyer.....	2, 653
Oil cloth or carpet pattern.....	C. T. Meyer.....	2, 770
Oil cloth pattern.....	J. Paterson.....	2, 850
Oil cloth pattern, Floor.....	J. Robley.....	2, 806
Organ case.....	J. R. Lomas.....	2, 807
Ornament for hats and dresses.....	M. A. Laurence.....	2, 572
Ornament of American Jockey Club.....	C. L. Tiffany.....	2, 547
P.		
Pans, frying, Bottom of.....	H. D. Musselman.....	2, 549
Picture frame.....	J. H. Bellamy.....	2, 542
Picture frame.....	J. H. Bellamy.....	2, 588
Pilaster and center piece of heaters, &c.....	C. J. Shepard.....	2, 802
Pillar.....	W. S. Rockwell.....	2, 733
Pipe, Smoking.....	W. Masters.....	2, 824
Pipe, Tobacco.....	L. Saurback.....	2, 573
Pistol barrel.....	J. Murphy.....	2, 855
Pitcher.....	A. and W. Dunworth.....	2, 601
Plow clevis.....	G. P. Darrow.....	2, 674
Post and fence.....	C. Coots.....	2, 724
Pot, Coffee and tea.....	G. Jones.....	2, 598
Pot, Tea or coffee.....	G. Jones.....	2, 681
Press, Copying.....	J. Naylor.....	2, 550

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Invention or Discovery.	Name of Patentee.	No.
R.		
Reflector	E. Dithridge	2, 727
Reflector	E. Himes	2, 821
Reflector	A. Wilhelm	2, 857
Reflector, Lantern	C. Wilhelm and J. Neumann	2, 624
Ring, Napkin	F. J. Clamer	2, 671
S.		
Sad-iron handle	A. Barrows	2, 851
Satchel	R. M. Seldis	2, 835
Scale, Counter	W. W. Reynolds	2, 679
Scissors	S. W. Valentine	2, 558
Seats, car, End frame for	G. Buntin	2, 609
Seats, car, Metallic band for	D. F. Randall	2, 693
Sewing machine	W. G. Wilson	2, 836
Sewing machine	T. C. Page	2, 798
Sewing machine, Frame of a	W. B. Bartram	2, 584
Shade for ceiling lights	C. Wilhelm and J. Neumann	2, 623
Shaft frame	A. H. Rau	2, 657
Shovel, Coal	S. W. Gibbs	2, 560
Skate runner	H. P. Tilden	2, 843
Soldier's memorial	J. T. Harrison	2, 782
Spoon	C. E. Marchaud	2, 768
Spoon handle	G. A. Eno	2, 596
Spoon handle	J. Biogham, jr	2, 779
Spoon handle	A. Hebbard	2, 789
Spoon handle	L. and N. S. Boardman	2, 794
Spoon handle	P. B. Gilbert	2, 646
Spoon, knife, or fork handle	H. C. Wilcox	2, 654
Spoon or fork handle	A. Hebbard	2, 664
Spoon or fork handle	J. Seymour	2, 720
Spoon or fork handle	J. Polhamus	2, 772
Spoon or fork handle	H. H. Hayden	2, 548
Spoon or fork handle	Lé Roy S. White	2, 551
Spoon or fork handle	D. C. Wilcox	2, 741
Spoon or fork handle	J. Polhamus	2, 539
Star, Ornamental	J. Dundas	2, 728
Statuary, Group of	J. Rogers	2, 704
Statuette	T. H. Dorian	2, 644
Statnette	J. S. McKaye and H. E. McKay	2, 717
Statnette	J. S. McKaye and H. E. McKay	2, 748
Statnette	J. S. McKaye and H. E. McKay	2, 769
Statnette	H. Billings	2, 703
Stave machines, Back piece of	O. Redmond	2, 703
Stool, Piano	H. M. Ritter	2, 658
Stove	H. Eaton	2, 535
Stove	J. Spear	2, 803
Stove, Cannon	W. Caven	2, 714
Stove, Charcoal	A. J. Redway	2, 718
Stove, Coal	L. Rathbone	2, 651
Stove, Cooks'	J. Martino, J. Beesley, and J. Currie	2, 611
Stove, Cooks'	J. Abendroth	2, 655
Stove, Cooks'	G. Smith and H. Brown	2, 574
Stove, Cooks'	A. E. Chamberlain & J. B. Crowley	2, 662
Stove, Cooks'	J. Martino, J. Beesley, and J. Currie	2, 687
Stove, Cooks'	S. Sailor	2, 680
Stove, Cooks'	G. W. Ball	2, 694
Stove, Cooks'	G. W. Ball	2, 695
Stove, Cooks'	G. W. Ball	2, 696
Stove, Cooks'	J. Martino, J. Beesley, and J. Currie	2, 729
Stove, Cooks'	C. Olhaber and N. S. Vedder	2, 732
Stove, Cooks'	G. Smith and H. Brown	2, 809
Stove, Cooks'	G. Smith and H. Brown	2, 810
Stove, Cooks'	T. J. and W. Armstrong	2, 813
Stove, Cooks'	J. B. Crowley	2, 837
Stove, Cooks'	C. Harris and P. W. Zoiner	2, 844
Stove, Cooks'	R. Wheeler	2, 847
Stove, cooks', Plate for a	G. Smith and H. Brown	2, 557
Stove, cooks', Plate for a	D. S. Colby and R. Scorer	2, 589
Stove, cooks', Plate of a	J. R. Rose and E. L. Caley	2, 612
Stove door	T. A. Dorgan	2, 800
Stove door	C. J. Woolson	2, 625
Stove door	S. Sailor	2, 749
Stove door	N. S. Vedder	2, 738
Stove door	N. S. Vedder	2, 739
Stove door	N. S. Vedder	2, 740
Stove, Door and plate of a	N. S. Vedder	2, 736
Stove handle	J. S. Simmerman	2, 621
Stove, Parlor	J. Van Wormer and M. McGarvey	2, 781

Alphabetical list of designs—Continued.

Invention or Discovery.	Name of Patentee.	No.
Stove, Parlor	C. Harris and P. W. Zoiner	2,606
Stove, Parlor cook	W. Caven and C. Stemler	2,814
Stove, parlor, Plate of a	D. S. Colby and R. Scorer	2,723
Stove plate	D. Hathaway	2,746
Stove plate	I. A. Sheppard	2,790
Stove plate	H. S. and A. S. Hubbell	2,839
Stove plate	I. A. Sheppard	2,673
Stove plate	L. W. Harwood	2,700
Stove plate	D. S. Colby and R. Scorer	2,582
Stove plate	D. S. Colby and R. Scorer	2,583
Stove plate	D. Hathaway	2,686
Stove plate	G. Smith and H. Brown	2,689
Stove plate	W. L. McDowell	2,711
Stove plate	N. S. Vedder	2,734
Stove plate	N. S. Vedder	2,735
Stove plate	N. S. Vedder	2,737
Stove plate	D. Hathaway	2,752
Stove, Plate and door of a	N. S. Vedder	2,736
Stove top	W. L. McDowell	2,716
Stove, Wood	L. Rathbone	2,650
T.		
Tack drawer, hammer, and wrench, combined	A. Iske	2,676
Trade mark	C. C. Buckley and L. Dovell	2,533
Trade mark	A. Heidelberg	2,561
Trade mark	N. Fairbrother and G. S. Fales	2,568
Trade mark	G. H. Lincoln	2,569
Trade mark	L. L. Arnold	2,627
Trade mark	E. W. Bailey	2,628
Trade mark	J. M. Batchelder	2,629
Trade mark	J. P. Baxter	2,630
Trade mark	M. V. B. Ferris	2,645
Trade mark	G. F. Filly	2,663
Trade mark	S. McCartney	2,666
Trade mark	S. McCartney	2,667
Trade mark	H. Tetlow	2,670
Trade mark	I. Cook	2,697
Trade mark	J. S. Waters	2,707
Trade mark	C. O. Benton	2,722
Trade mark	J. B. Crump	2,725
Trade mark	J. L. Bates	2,743
Trade mark	J. L. Bernecker	2,744
Trade mark	J. L. Bernecker	2,745
Trade mark	G. Brett	2,751
Trade mark	H. J. and J. T. Monsch	2,771
Trade mark	W. Ziock	2,774
Trade mark	P. Behr	2,775
Trade mark	F. Whittaker	2,784
Trade mark	J. G. Mackintosh	2,786
Trade mark	T. Bakewell	2,792
Trade mark	S. Gwynn	2,797
Trade mark	F. Messing	2,808
Trade mark	G. Wilson	2,812
Trade mark	C. Griffith	2,815
Trade mark	J. T. Bailey	2,819
Trade mark	J. N. Schoonmaker	2,827
Trade mark	D. O'Sullivan	2,842
Trade mark	J. Gorham	2,854
Trade mark	E. C. Ruthven	2,833
Type, Ornamental	D. Bruce	2,618
Type, Printers'	J. Herriet	2,832
Type, Printers'	J. Herriet	2,577
Type, Printers'	A. Little	2,607
Type, Printers'	D. Bruce	2,831
Type, Printers'	J. Herriet	2,578
Type, Printing	R. Smith	2,791
U.		
Urn, Garden	G. T. Spicer	2,750
W.		
Washstand	J. L. Mott	2,619
Washstand	J. L. Mott	2,620
Watch plate	A. Gerard	2,795
Wheel, Pending	J. Kirchof	2,665
Window fastener	G. B. Kirkham	2,848
Wrench, tack-drawer, and hammer, combined	A. Iske	2,676

REISSUES.

Invention or Discovery.	Name of Patentee.	No.
A.		
Acid, Phosphoric, and phosphates for use in preparation of food and for other purposes.	The Rumford Chemical Works	2,597
Album, Photographic	W. W. Harding	2,617
Animal matters for use as a fertilizer, Preparing	A. Smith	2,507
Auger	R. Cook	2,513
Auger	A. C. Kasson and N. C. Gridley	2,551
Auger	W. W. Grier and R. H. Boyd	2,712
B.		
Bark, tan, and other materials, Obtaining the extractive matter of, by displacement.	W. H. Burrigge and J. Brainerd	2,523
Battery, Galvanic	E. A. Hill	2,502
Beam, Sheet metal	R. Montgomery	2,668
Bed bottom	G. L. Gerard	2,677
Bed bottom	L. S. Babbitt	2,736
Bedstead, Sofa	C. F. Martine	2,757
Beehive	A. T. Wright	2,540
Bell	A. Patterson	2,793
Boiler, Wash	M. W. Staples	2,816
Boiler, Water	C. A. Harper	2,806
Bolt-tapping and drilling machine	C. W. Coe	2,487
Bone black, Cleaning and purifying	C. N. Brock	2,679
Bones, fish, and other substances, Steam digester for treating	W. Perry	2,663
Bonnets, hats, &c., Fabric for	Modena Hat Company	2,587
Boot crimper	De Witt C. Mowrey	2,826
Boot detaching tackle	T. Huntington	2,478
Boot heels. Attaching and finishing	The McKay Heeling Machine Co	2,527
Boot and shoe	G. Hawkes	2,867
Boots and shoes, sole of, Finishing	J. Purinton, jr	2,556
Boot tree	C. T. Eames	2,466
Bottle for druggists and chemists	W. N. Walton	2,631
Box, Fruit	N. Hallock	2,441
Brace for bits	N. Spofford	2,576
Brake, Car	J. A. Goeway, E. S. Wood, and J. Jones	2,696
Brake, car, Railroad	J. W. Latcher and W. J. Powell	2,747
Brick machine	E. J. Bradford, J. H. Renick, and O. A. Clough	2,553
Brick machine	P. H. Kells	2,810
Brick machine	P. L. Sword	2,532
Brick machine	J. Watson	2,533
Brick and tile for roofing	R. O. Lowrey	2,591
Bridge	D. Hammond	2,586
Bridge	D. Hammond and W. R. Reeves	2,701
Bridge	P. M. Frees and Z. King	2,707
Broom	W. H. Cooy	2,598
Brooms, Clamp for making	J. Day	2,495
Brush holder	B. Morahan	2,750
Buckle	E. Cole	2,823
Burner, Gas	E. P. Gleason	2,605
Burner, Lamp	A. J. Walker	2,492
Butter worker	J. P. Corbin	2,776
C.		
Cake baker and egg pan	The Russell and Erwin Manufacturing Company	2,450
Can, Paint	H. Miller	2,592
Cans, Sealing preserve	H. S. Fisher	2,801
Capstan, Power	D. N. B. Coffin, jr., and I. D. Spaulding	2,558
Capstan, Power	D. N. B. Coffin, jr., and I. D. Spaulding	2,559
Capstan for steamboats	J. Schaffer	2,437
Carding machines, Stripping top flats for	W. B. Bates	2,705
Carding machines, Stripping top flats in	W. B. Bates	2,706
Car's, railway, street, Braking and starting	A. Higley	2,460
Cartridge, Metallic	I. M. Milbank	2,716
Cartridges, metallic, Priming	H. Smith and D. B. Wesson	2,636
Caster	J. T. Barnes	2,644
Caustic alkali, Manufacture of	G. Thompson	2,569
Caustic alkali, Manufacture of	G. Thompson	2,571
Caustic alkali, Putting up	G. Thompson	2,570
Ceiling and roof, Fire-proof	J. Gilbert	2,794
Chair, Railroad	J. McMurtry	2,767
Charcoal, animal, Cleaning	The Union Sugar Refinery	2,778
Chimney holder for gas burners	E. P. Gleason	2,813
Clasp for metallic hoops	J. R. Speer	2,491
Coal and ores, Desulphurizing	J. J. Storer	2,629

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
Coal-dumping apparatus.....	E. R. Kerr and J. L. Platt.....	2, 489
Cock, Steam.....	A. Hallowell and H. R. Barker.....	2, 687
Comb.....	J. H. Briggs.....	2, 822
Compound, Explosive.....	The United States Blasting Oil Co.....	2, 537
Compound, Explosive.....	The United States Blasting Oil Co.....	2, 538
Cooking apparatus and refrigerator.....	J. Neuburg.....	2, 618
Corset-skirt supporter.....	J. H. and L. H. Foy.....	2, 653
Corset-skirt supporter.....	J. H. and L. H. Foy.....	2, 654
Couch and seat, Car.....	H. Allen.....	2, 692
Cream from whey, Extracting.....	K. Egger.....	2, 505
Crimping machine.....	J. P. Jamison.....	2, 497
Crucible, Black lead.....	G. Nimmo.....	2, 621
Crucible for metallic baths.....	B. S. Stokes.....	2, 642
Cultivator.....	D. J. Noble.....	2, 683
Cushion, Billiard-table.....	H. W. Collender.....	2, 510
Cushion, Billiard-table.....	H. W. Collender.....	2, 511
Cushion, Billiard-table.....	H. W. Collender and M. Phelan.....	2, 512
Cutter to rotary disks, Securing.....	H. Disston and J. E. Atwood.....	2, 728
Cutting board.....	R. C. Hussey.....	2, 496
D.		
Ditching machine.....	H. C. Ingraham.....	2, 795
Doors, Hanging.....	G. W. Holly.....	2, 738
Drill, Grain.....	W. P. Penn, J. Geiss, and J. Brosius.....	2, 640
Drilling and bolt-topping machine.....	C. W. Coe.....	2, 437
Drying apparatus.....	E. Y. Robbins.....	2, 432
E.		
Egg pan and cake baker.....	The Russell and Erwin Manufacturing Company.....	2, 450
Elevator.....	N. D. Hinman.....	2, 751
Embalming dead bodies and carcasses.....	G. W. Scollay.....	2, 691
Emery wheels, Forming and grinding and polishing surfaces of.....	The New York Quartz Company.....	2, 501
Engines, steam and other, Packing for stuffing.....	R. Burr and the Silver Lake Manufacturing Company.....	2, 584
Engines, steam, Valve motion for.....	J. D. Shepard.....	2, 645
Engine, Steam.....	O. Kelsey and J. F. Bailey.....	2, 488
Engine, steam, Locomotive.....	A. F. Smith.....	2, 536
Envelope machine.....	G. H. Reay and L. Negbauer.....	2, 529
Envelope machine.....	H. C. Berlin and G. H. Jones.....	2, 787
Envelopes, Gumming and printing.....	H. C. Berlin and G. H. Jones.....	2, 616
F.		
Fabrics, corded, Weaving.....	W. Smith.....	2, 656
Fagot for railroad rails.....	J. Price and W. Lewis.....	2, 651
Fagot for railway rails.....	W. Lewis, J. Price, and F. Naylor.....	2, 697
Fan and parasol.....	G. Mallory.....	2, 788
Fence.....	T. E. King.....	2, 638
Fertilizer, animal matter for use as a, Preparing.....	A. Smith.....	2, 567
Fetter and hopple.....	R. N. Eagle.....	2, 514
Fire-arm, Breech-loading.....	W. Mont Storm.....	2, 445
Fire-arm, Breech-loading.....	W. Mont Storm.....	2, 446
Fire-arm, Breech-loading.....	C. Sharps.....	2, 481
Fire-arm, Breech-loading.....	C. Callaghan.....	2, 581
Fire-arm, Breech-loading.....	W. H. and G. W. Miller.....	2, 768
Fire-arm, Magazine.....	V. Fogety, R. E. Robbins, and F. W. Andrews.....	2, 669
Fire-arm, Many-barrelled.....	C. Sharps.....	2, 480
Fire-arm, Revolving.....	W. H. Elliott.....	2, 650
Fire escape.....	American Fire Escape and Firemen's Ladder Company.....	2, 735
Fireplace.....	J. B. Ryan.....	2, 698
Fireplace.....	A. J. Redway.....	2, 740
Fireplace heater.....	H. H. Welch.....	2, 699
Fish bones and other substances, Steam digester for treating.....	W. Perry.....	2, 663
Food, Composition or paste for articles of.....	R. M. Livingston.....	2, 720
Fork, Agricultural.....	A. and C. Clow.....	2, 758
Fork, hay, Horse.....	A. R. Sprout.....	2, 817
Fork, hay, Horse.....	A. R. Sprout.....	2, 818
Fork and spoon.....	F. Grosjean.....	2, 682
Fruit and other substances, Preserving.....	N. S. Shaler.....	2, 503
Furnace, Cupola.....	J. and T. Insull.....	2, 479
Furnace, Puddling.....	P. Keenan and E. O'Connor.....	2, 689
Furnaces, Cupola and other melting.....	C. Truesdale and W. Resor & Co.....	2, 724
Furnaces, puddling, Fix for.....	H. McDonald.....	2, 690
Furnaces, Reverberatory and other metallurgic.....	J. R. Groul.....	2, 549
G.		
Gas apparatus.....	E. A. Pond and S. M. Richardson.....	2, 455
Gas, Carburetting.....	H. L. Stuart.....	2, 785
Gas, Generating, and obtaining other useful products from animal and vegetable materials.....	T. D. Ledyard.....	2, 628

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
Gas on steamboats and other vessels, Supplying	N. Treadwell.....	2, 593
Gas works, Hydraulic mains of.....	N. Stanley.....	2, 815
Gate	E. Kemper	2, 764
Gate, Farm	A. C. Teel	2, 607
Gauge, Steam	E. Quinn	2, 516
Generator, Steam	C. F. Jauriet	2, 824
Generator, Steam	C. F. Jauriet	2, 825
Glass, articles of, or other vitreous material, Ornamenting.....	A. Schwittier	2, 546
Governor, engine, Steam	A. Brown	2, 753
Grain Separator.....	P. Geiser.....	2, 484
Grate bar.....	L. B. Tupper.....	2, 573
Grate, Furnace	E. Langen	2, 760
Grinding and polishing surfaces and forming emery wheels.....	The New York Quartz Company.....	2, 501
H.		
Hammers and stamps, Operating	C. R. James and N. W. Condict, jr ..	2, 461
Handle for implements	T. R. Timby	2, 563
Handle, Tea and coffee pot	G. B. Halsted	2, 585
Harvester	C. Aultman	2, 439
Harvester.....	A. J. Holman	2, 452
Harvester.....	A. J. Holman	2, 453
Harvester.....	W. N. Whitely, J. Fassler, and O. S. Kelly.....	2, 660
Harvester.....	A. J. Holman	2, 454
Harvester.....	R. T. Campbell.....	2, 483
Harvester.....	R. Hoffheins	2, 490
Harvester.....	A. R. Reese	2, 522
Harvester.....	C. Wheeler, jr	2, 582
Harvester.....	C. Wheeler, jr	2, 583
Harvester.....	P. Sylla and A. Adams	2, 608
Harvester.....	C. Wheeler, jr	2, 610
Harvester.....	J. W. Bope	2, 625
Harvester.....	C. Wheeler, jr	2, 632
Harvester.....	W. N. Whiteley	2, 643
Harvester.....	T. Brett	2, 693
Harvester.....	R. Bryson	2, 755
Harvester.....	W. N. Whitely, J. Fassler, and O. S. Kelly.....	2, 661
Harvester.....	H. L. Hopkins.....	2, 664
Harvester, Corn.....	G. Green	2, 440
Harvester cutter.....	G. Stone	2, 732
Harvester cutter bar connection.....	G. W. D. Culp and W. J. Keeney ..	2, 602
Harvester cutter bar connection.....	G. W. D. Culp and W. J. Keeney ..	2, 603
Harvester cutter bar connection.....	G. W. D. Culp and W. J. Keeney ..	2, 604
Harvester rake	C. Aultman	2, 438
Harvester rake	A. R. Reese	2, 464
Harvester rake	A. R. Reese	2, 465
Harvester rake	A. R. Reese	2, 469
Harvester rake	A. R. Reese	2, 649
Harvesters, Cutting device for	C. Wheeler, jr	2, 594
Harvesters, Pitman connection for.....	H. L. Wanzer	2, 798
Harvesters, Raising and lowering the cutter of.....	C. Wheeler, jr	2, 611
Harvesting machine	D. J. Marvin	2, 809
Hats, bonnets, &c., Fabric for	Modena Hat Company	2, 587
Heel stiffener	J. A. Greene	2, 770
Heel stiffener	J. A. Greene	2, 771
Hides and leather, Stretching and preparing	I. W. Dawson	2, 791
Hides and other animal tissues for the manufacture of various articles, Preparing.....	New England Vulcanite Company.....	2, 662
Hinge, Spring.....	C. E. Stanley.....	2, 725
Hinge, Spring.....	C. E. Stanley.....	2, 775
Hoe	T. R. Timby	2, 563
Hoe cultivator, Horse	R. B. Dunn and J. C. Flint	2, 812
Hoe, Horse	R. B. Dunn and J. C. Flint	2, 808
Holler, Spring, for wiping cloths.....	H. Johnson	2, 442
Hook, Clothes.....	H. M. Whitmarsh and S. S. Putman.....	2, 744
Hoops, Cutting	M. Reed	2, 574
Hopple and fetter	R. N. Eagle	2, 514
Hops, Straining	L. H. Whitney	2, 752
Horse power	E. Totman	2, 723
Horse power	S. and A. Perry	2, 635
Horse shoe.....	O. P. Magill and T. Poultney	2, 560
I.		
Ice in rivers and harbors, Obstructing	P. Voorhis.....	2, 796
India-rubber roller	J. B. Forsyth	2, 589
Inking rollers, pads, and other printing purposes, Composition for.....	L. Francis and C. H. Loutrel.....	2, 805
Inkstand, Barometer	T. S. Hudson	2, 607
Insulator for telegraph wires	D. Brooks.....	2, 717

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of Patentee.	No.
J.		
Jars, fruit, Sealing	W. H. Lyman	2, 463
K.		
Knife	I. Merritt	2, 520
Knife, Mincing	H. M. Remington	2, 659
Knife sharpener	J. Meyer, jr	2, 762
Knobs, door, Fastening, to their spindles	D. Skidmore	2, 473
L.		
Labels to bottles, Attaching	E. E. Walton	2, 630
Lamp	A. J. Walker	2, 493
Lamp	W. W. Blackmar	2, 509
Lamp	T. S. Williams and P. S. Page	2, 678
Lantern	E. N. Jenkins	2, 462
Lantern	J. H. Miltimore	2, 555
Lantern	A. B. Ely	2, 557
Lantern	W. Westlake and J. F. Dane	2, 765
Lantern	W. Westlake and J. F. Dane	2, 766
Lap joint	H. Underwood	2, 433
Leather and hides, Stretching and preparing	I. W. Dawson	2, 791
Leather, Creasing, slicking, and skiving	C. C. Bellows	2, 685
Leather, Scouring	P. Jewell & Sons	2, 518
Leather, Stretching	I. W. Dawson	2, 790
Lightning rod	N. Brittan	2, 601
Liquids, saccharine, Applying sulphurous acid gas in the deflection of	N. P. Poindexter	2, 781
Lock, Permutation	G. Thompson and H. Mitchell	2, 786
Locomotive head lights	J. Carton	2, 680
Locomotives, Increasing traction in	C. W. F. Krausch	2, 552
Loom	G. Crompton	2, 451
Looms, Picker staff motion for	The Amoskeag Manufacturing Co	2, 627
Looms, Picker staff motion for	The Amoskeag Manufacturing Co	2, 749
Looms, Picker staff motion of	E. H. Graham and W. Rouse	2, 626
Looms, Roller temple for	H. Keyser	2, 534
M.		
Mattress, Spring	R. Stillwell and A. D. Farrell	2, 742
Meat chopper	Met. Wash. Mch. Co	2, 700
Meat, fruit, and other substances, Preserving	N. S. Shaler	2, 543
Melodeon	La Fayette Louis	2, 498
Melodeons, Swell for	G. A. Prince, C. E. Bacon, and C. F. S. Thomas	2, 666
Metals, sheet, Grinding	The Bridgeport Brass Co	2, 564
Meter, Spirit	J. G. Allen	2, 657
Milk, Cooling	W. Peck	2, 827
Mill, Cider	W. N. Whiteley, J. Fassler, and O. S. Kelley	2, 499
Mill, Cider	W. N. Whiteley, J. Fassler, and O. S. Kelley	2, 704
Mill, Grinding	E. P. Baugh	2, 577
Mill, Sugar cane	S. L. Denney	2, 759
Mosaic veneer	O. Heinigke and M. Laemmel	2, 633
Motion, Stopping and changing	G. L. Lincoln and Co	2, 588
Mower and reaper	R. T. Campbell	2, 783
Blowing and reaping machine	P. V. Staats, A. R. Rees, C. S. Melick, A. J. Farrand, G. Sweeney, J. W. Dean and R. Slicker	2, 472
Mowing machine	C. C. More	2, 639
Mowing machine	P. V. Staats	2, 647
Mowing machine	P. V. Staats	2, 648
Muffs, Ear, cheek, and chin	W. P. Ware	2, 482
N.		
Nail and tack	O. L. Bassett, T. R. Bearse, and W. Wilber	2, 649
Necktie holder	J. A. Eshleman	2, 448
Needle	C. P. S. Wardnell	2, 779
Nuts, Making	W. E. Ward	2, 434
O.		
Oiler	J. Broughton	2, 686
Oil, hydrocarbon, Refining and utilizing waste products therefrom	H. Pemberton	2, 431
Oil, hydrocarbon, Refining and utilizing waste products therefrom	H. Pemberton	2, 539
Opaque pigments	D. L. Bartlett and G. H. Hunt	2, 623
Opaque pigments	D. L. Bartlett and G. H. Hunt	2, 624
Ordnance, Operating	C. Perley	2, 739

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of patentee.	No.
Ores and coal, Desulphurizing	J. J. Storer	2, 629
Over shoe.....	H. G. Tyer.....	2, 820
Oxides, metallic, Purifying	A. Monnier.....	2, 430
P.		
Packing for stuffing steam and other engines	R. Burr and the Silver Lake Manu- facturing Co.	2, 584
Pails, Graining.....	J. R. and A. J. Cross	2, 637
Paint for ships' bottoms.....	J. G. Tarr and A. H. Wanson	2, 732
Pan, Dust	J. H. Rohrman	2, 721
Paper, Cutting.....	H. Law	2, 670
Paper, Cutting.....	H. Law	2, 803
Paper cutting machine	W. Smith	2, 619
Paper, Making thick	S. G. Levis	2, 789
Paper pulp.....	J. B. Palser and G. Howland	2, 665
Paper pulp.....	J. B. Palser and G. Howland	2, 730
Paper pulp.....	J. B. Palser and G. Howland	2, 731
Paperstock, Washing	H. W. Peaslee	2, 515
Parasol and fan	G. Mallory	2, 788
Pavement, Wooden	S. Nicolson	2, 748
Pegging machine.....	A. B. Ely	2, 550
Pegging machine, Hand.....	W. N. Ely	2, 447
Pen and pencil case	W. S. Hicks	2, 777
Pen and pencil case	L. A. Heely	2, 525
Pencil and pen case	W. S. Hicks	2, 477
Pencil and pen case	L. A. Heely	2, 525
Pencil point protector	G. Merritt	2, 595
Petroleum and other liquids, Distilling	C. H. Hall	2, 470
Phosphoric acid and phosphates for use in preparation of food and for other purposes.	The Runford Chemical Works.....	2, 597
Pigments, Opaque.....	D. L. Bartlett and G. H. Hunt	2, 633
Pigments, Opaque.....	D. L. Bartlett and G. H. Hunt	2, 624
Pipe cutter.....	J. Balmore	2, 600
Pipe, Tobacco	G. W. Francis and W. L. Woods	2, 506
Piston pump	D. S. Wood	2, 763
Planting machine, Wood	J. Whitney	2, 676
Planter, Corn and cotton seed	C. C. Garrett.....	2, 681
Planting, Machine for.....	J. G. Clark	2, 517
Plow	E. Volkmann	2, 703
Plow	T. E. C. Brinsley	2, 726
Plow, Snow	S. Richards	2, 671
Plow, Snow	S. Richards	2, 672
Pocket-book	J. F. Dubber	2, 475
Powders, &c., Putting up	H. Sawyer	2, 760
Dress, Printing	G. P. Gordon	2, 792
Pulley attachment for raising weights	G. W. Gregory	2, 784
Pumps, railroad, Operating	S. Moss	2, 566
Pump, Steam	L. C. Rodier and J. B. Gardiner	2, 530
Pump, well, Deep	R. Cornelius	2, 545
Punching apparatus	N. C. Stiles	2, 542
Railway, Elevated	P. Andrew	2, 799
Raisins, Removing seeds from	H. Locke	2, 599
Rake for reaping machine	A. R. Reese	2, 641
Rake, Harvester	C. F. Davis	2, 800
Rake, Harvester	C. Aulman	2, 438
Rake, Harvester	L. C. Reese	2, 456
Rake, Harvester	S. S. and J. G. Sherman	2, 457
Rake, Harvester	A. R. Reese	2, 464
Rake, Harvester	A. R. Reese	2, 465
Rake, Harvester	A. R. Reese	2, 469
Rake, Harvester	R. Bryson	2, 620
Rake, Horse	A. R. Reese	2, 694
Rake, Horse	S. E. Ament	2, 710
Rake, Horse	J. D. Jones	2, 772
Reaper and mower	R. F. Campbell	2, 783
Reaping and mowing machine	P. V. Starts, A. R. Reese, C. C. Welick, A. J. Farrand, G. Swee- ney, J. W. Dean, and R. Sliker.	2, 472
Reel, Harvester	W. N. Whiteley	2, 743
Refrigerator.....	M. C. Longacre	2, 773
Refrigerator and cooking apparatus	I. Neuburg	2, 618
Rein-holder, Driving	B. B. Hotchkiss	2, 541
Rice, Hulling	R. Anderson	2, 723
Ring, Clench	G. M. Patten	2, 444
Roller, India-rubber.....	J. B. Forsyth	2, 589
Rollers, pads, and other printing purposes, Composition for inking.	L. Francis and C. H. Loutrel	2, 805
Roof and ceiling, Fire-proof.....	J. Gilbert	2, 794
Roofing, Composition for	J. P. Cowing	2, 524
Roofing, Composition for, and for other purposes	R. B. Smith	2, 575
Roofing, Composition for, and for other purposes	W. L. Potter	2, 684
Roofing fabrics, Preparing	A. Robinson	2, 741

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
S.		
Safes, burglar-proof, Construction of, and in the materials for the same.	W. and W. H. Terwilliger and J. S. Lockwood.	2,508
Saw	E. M. Boynton	2,695
Sawing machine	S. M. Nickerson	2,471
Saws, Swage for sharpening	J. E. Emerson	2,719
Scissors sharpener	H. D. Ward and W. A. Richardson.	2,674
Screw heads, Nicking	G. L. Morris	2,443
Seat and couch, Car	H. Allen	2,692
Seed, clover, Bolting and cleaning	J. C. Birdsall	2,797
Seeding machine	W. P. Penn	2,467
Seeding machine	H. L. and C. P. Brown	2,782
Seine net	W. E. Hooper and Sons	2,622
Sewing machine	A. B. Ely	2,567
Sewing machine	A. B. Ely	2,578
Sewing machine	A. B. Ely	2,579
Sewing machine	A. B. Ely	2,580
Sewing machine	J. E. A. Gibbs	2,655
Sewing machine	C. Hodgkins	2,745
Sewing machine	C. Hodgkins	2,746
Shade fixture	S. Hartsborn	2,756
Shears	Barnard, Son & Co	2,474
Sheep, Shearing	R. B. Walker and L. Miller	2,613
Sheep, Shearing	R. B. Walker and L. Miller	2,614
Sheep, Shearing	R. B. Walker and L. Miller	2,615
Sheep-skins, Cleaning and softening	J. M. Brown	2,727
Shingle machine	C. S. Burt	2,535
Shingle machine	C. S. Burt	2,774
Shoe heels, Cutting and finishing	The McKay Heeling Machine Co	2,527
Shoe pad for horses' feet	S. Adlam, Jr.	2,543
Skate	P. Smith	2,819
Skirt	J. E. Lucas, J. P. Arey, and C. G. Howard.	2,634
Soda-water apparatus	E. Bigelow	2,711
Sofa bedstead	C. F. Martine	2,757
Soles, Water-proof	The Waterproof Sole Co	2,565
Spelling block	S. L. Hill	2,528
Spinning frames, Lubricating the bearing of	A. H. Gilman	2,544
Spoon and fork	F. Grosjean	2,682
Spring holder for wiping cloths	H. Johnson	2,442
Spring, Volute	J. Hobart	2,777
Stamps and hammers, Operating	C. R. James and N. W. Condict, Jr. .	2,461
Stamp, Hand	D. H. Chamberlain	2,734
Stamps, post office, to letters, Affixing	R. Hoe & Co	2,737
Stove, Base-burning	D. G. Littlefield	2,612
Stove, Cooking	D. E. Paris	2,688
Stove, Cooking	D. E. Paris	2,709
Stove, Cooking	J. J. Savage	2,828
Stove, Cooking	J. C. Henderson	2,458
Stove, Cooking	D. E. Paris	2,494
Stove, Heating	W. A. Barlow	2,425
Stove, Heating	W. A. Barlow	2,436
Stove, Heating	C. Jones	2,714
Stove, Heating	S. B. Sexton	2,476
Stoves, Heating and other	J. C. Henderson	2,459
Stump extractor	I. Hicks	2,802
Sugar evaporator	F. Farquhar and R. E. Doan	2,729
Sugar machine, Centrifugal	A. Mackey	2,708
Sulphurous acid gas in the deflection of saccharine liquids, Applying.	N. P. Poindexter	2,781.
Switch, Railway	M. Smith	2,814
T.		
Tack and nail	O. L. Bassett, T. R. Dearse, and W. B. Wilber.	2,649
Tacks, Capping	J. C. Rhodes	2,521
Tan bark and other materials, Obtaining the extractive matter of, by displacement.	W. H. Burridge	2,523
Tank, Oil	J. B. Butten and H. Pierce	2,718
Tanning	B. H. McNulty, W. Kern, and S. Bonsall.	2,519
Tanning	J. M. Muller	2,596
Tie, Cotton-bale	Z. W. Lee	2,449
Tie, Cotton-bale	C. W. Wailey	2,486
Tie, Cotton-bale	G. N. Beard	2,548
Tie, Cotton-bale	J. W. Branch and J. Crookes	2,554
Tile and brick for roofing	R. O. Lowrey	2,591
Tobacco, chewing, Preparing	C. W. Sweet and J. F. Greene	2,468

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
Tobacco pouch.....	W. Sims.....	2,561
Top, Toy.....	F. O. and W. W. Tucker.....	2,673
Trap, Animal.....	C. Willson.....	2,590
Truck, Hand.....	P. H. Hinnes.....	2,804
Tunnel, Marine.....	The American Submarine Tunnel Company.....	2,504
Tuyere.....	J. Bayliss.....	2,811
V.		
Valve, engine, Steam.....	J. D. Shepard.....	2,646
Valve gear for steam engines.....	Putnam Machine Company.....	2,754
Valve, Safety.....	H. Waterman.....	2,675
Veneer, Mosaic.....	O. Heinigke and M. Laemmel.....	2,633
Vessels' holds, Discharging bilge-water from.....	A. Hermann.....	2,713
Vise.....	J. S. Hoar.....	2,606
W.		
Wagon.....	E. Huson.....	2,500
Warp-dressing frame.....	A. M. Damon.....	2,536
Washing machine, Barrel.....	J. Peacock.....	2,761
Weaving corded fabrics.....	W. Smith.....	2,656
Wheel, Carriage.....	J. Raddin and G. W. Chipman.....	2,572
Wheels, emery, Forming and grinding, and polishing surfaces.....	The New York Quartz Company.....	2,501
Wheels of horse-powers, harvesters, &c., Casting the driving.....	E. P. Russell.....	2,702
Whey, cream from, Extracting.....	K. Egger.....	2,505
Window sash fastener.....	H. G. Arnold.....	2,821
Window sash fastening.....	M. B. Stafford.....	2,568
Wire, Hoop-skirt.....	J. N. McIntire.....	2,715
Wire, skirt, Manufacture of.....	The Silver Skirt and Wire Manu- facturing Company.....	2,485
Wringer, Clothes.....	A. J. Sergeant.....	2,652
Wringer, Clothes.....	A. J. Sergeant.....	2,829
Wringer, Mop.....	W. and W. S. Gillett.....	2,658
Wringing clothes.....	The Bailey Washing and Wringing Machine Company.....	2,609
Wringing machine roller.....	The Bailey Washing and Wringing Machine Company.....	2,547

EXTENSIONS.

A.		
Alarm, Electro-magnetic.....	L. A. Pope.....	9,802
B.		
Beam, metal, Sheet.....	R. Montgomery.....	9,812
Books, Covering the back of.....	S. M. Elder.....	9,886
Boots and shoes, Pegging.....	J. J. Greenough, (1).....	10,427
Boots and shoes, Pegging.....	J. J. Greenough, (2).....	10,427
Boots and shoes, Pegging.....	J. J. Greenough, (3).....	10,427
Boots and shoes, Pegging.....	J. J. Greenough, (4).....	10,427
Boots and shoes, Pegging.....	J. J. Greenough, (5).....	10,427
Boots and shoes, Pegging.....	J. J. Greenough, (6).....	10,428
Bottles, Ornamenting.....	L. Q. C. Wishart.....	1,161
Box, Anti friction.....	G. Y. Perry.....	9,912
Button backs, and connecting the eyes thereto, Forming.....	J. C. Cook.....	9,146
D.		
Drilling stone.....	J. J. Couch.....	9,415
F.		
Fabric, Warp-knit.....	J. Mee.....	9,719
G.		
Gas apparatus, Portable.....	W. and M. Stratton.....	9,568
Gold, Preparing.....	A. J. Watts.....	9,691
Grain separator.....	J. R. Moffitt.....	9,432
H.		
Hat bodies, Shrinking.....	J. S. Taylor.....	9,700

Alphabetical list of extensions—Continued.

Invention or Discovery.	Name of Patentee.	No.
I.		
Irregular forms, Turning	L. Ward	9, 822
K.		
Knitting machine.....	D. Tainter.....	9, 435
Knitting machine.....	M. Marshall, W. Aldrich, and L. B. Tyng.....	9, 627
Knitting machine.....	J. Mee	9, 718
L.		
Lamp, Spirit.....	A. J. Walker	9, 751
Loom, (No. 1)	C. Duckworth	9, 815
Loom, Power, (No. 2)	C. Duckworth	9, 815
Loom, Power, (No. 3)	C. Duckworth	9, 815
Looms, Temple for.....	S. Dutcher	9, 502
Looms, treadle of, Operating	R. W. Andrews	9, 540
M.		
Metals, Grinding and sharpening.....	S. Darling	9, 976
Mill, Cider.....	J. Krauser	9, 972
Millstones, Eye for	E. Munsen	9, 859
Mop head.....	H. M. nch.....	9, 781
Mortising machine.....	J. Guild	9, 433
N.		
Nut machine	J. Rees and R. Crichton	10, 249
P.		
Paper, Copying	W. Mann	9, 536
Paper file.....	H. L. Smith.....	9, 776
Paper, Pulp from wood, &c., for the manufacture of, (No. 1)	C. Watt & H. Burgess.....	11, 343
Paper pulp, treating wood and other vegetable substances in the manufacture of, (No. 2.)	C. Watt and H. Burgess.....	11, 343
Pills, Making	E. A. Pond	9, 424
Planter, Seed, (reissue No. 1,036)	G. W. Brown.....	9, 893
Planter, Seed, (reissue No. 1,037)	G. W. Brown.....	9, 893
Planter, Seed, (reissue No. 1,038)	G. W. Brown.....	9, 893
Planter, Seed, (reissue No. 1,639)	G. W. Brown.....	9, 893
Plow, Cultivator	W. S. Hyde.....	9, 798
S.		
Saw	G. N. Reed and P. L. Tuttle	9, 877
Saws, reciprocating, Driving	I. Brown	9, 855
Screw blanks, Pointing and threading	T. J. Sloan	9, 688
Screw blanks, rivets, &c., Heading	W. E. Ward	9, 588
Scythe fastening	P. Frost	9, 531
Sewing machine	J. E. A. Gibbs.....	1, 206
Sewing machine	W. Wickersham	9, 679
Sewing machine	W. H. Johnson	10, 597
Ships, Side light for	E. Eidden	9, 811
Socket for auger handles and braces.....	A. H. McKinley.....	9, 929
Spoon handle	G. Sharp	1, 880
Stove, Cooking.....	G. F. Filley.....	9, 188
T.		
Tunnel, Submarine.....	W. Miller	9, 899
Turning irregular forms	L. Ward	9, 822
U.		
Umbrella covers, Hemming and cording	S. C. Blodgett.....	10, 386
V.		
Valve of steam engines, Balance slide	R. Waddell.....	10, 999
Vessels, Supporting the topping lift and peak-halyard blocks of sail.....	W. and S. B. Coleman.....	9, 619
W.		
Weaving corded fabrics.....	W. Smith.....	9, 653

DESCRIPTIONS.

28 C P

THE NATIONAL BUREAU OF INVESTIGATION

WASHINGTON, D. C. 20535

REPORT OF THE DIRECTOR

TO THE ATTORNEY GENERAL

DATE: [Illegible]

RE: [Illegible]

[The remainder of the page contains extremely faint and illegible text, likely a detailed report or memorandum.]

DESCRIPTIONS AND CLAIMS OF PATENTS

ISSUED IN THE YEAR 1867.

ILLUSTRATED WITH ENGRAVINGS.

60,658.—I. H. ABELL, East Hampton, Conn.—*Fastening Sleigh Bells.*—January 1, 1867.—The inverted ends of the hooks are rebent so as to form catches, which spring out and retain the sleigh bell in position.

Claim.—The spring hooks *b* of the catch *B*, adapted to enter the slot *a* of the bell, and hold the bell by the expansion of the shanks of the hooks, in the manner and for the purpose specified.

60,659.—D. D. ADAMS, Brookline, Mass.—*Scaffold.*—January 1, 1867.—The frames which support the floor have adjustable connecting rods and pawl and brace arms, by which they are attached to the corner blocks and brick work.

Claim.—First, an improved scaffold, formed by combining the front rails *C*, the central rails *A*, the back rails *D*, the side bars *B*, the pawls *H*, the corner blocks *E*, and connecting rods *I* with each other, the various parts being constructed and arranged substantially as herein described and for the purpose set forth.

Second, the combination of the braces *K* and brace hangers *L*, constructed as described with each other and with the side bars *B* and front rails *C*, substantially as described and for the purpose set forth.

60,660.—GEORGE ADAMSON, Philadelphia, Pa.—*Apparatus for Coating Fabrics with Fluid or Semi-fluid Substances.*—January 1, 1867.—The lower roller is covered with rubber, and its lower surface is submerged in the adhesive solution in the trough. The paper or other fabric is passed between the two rollers and its lower surface coated with the solution.

Claim.—The employment, substantially in the manner described, of the gum-elastic roller *D* and the rigid roller *E* for transferring fluid or semi-fluid substances to fabrics in the manner described.

60,661.—N. B. ALLEN, Newport, R. I.—*Boat Detaching Apparatus.*—January 1, 1867.—The boat is sustained by the down-curved ends of the longitudinal rods, and freed by their inversion, which may be accomplished by a universal joint at their connection, or by gearing to another bar.

Claim.—The hooks *C* which are secured to the bars *A*, or their equivalents *D E*, and which are operated by the lever *B*, substantially as and for the purpose herein shown and described.

60,662.—W. D. ANDREWS, New York, N. Y.—*Steam Generator.*—January 1, 1867.—The fire box extends the whole length of the boiler, and in a combustion chamber beyond are apertures for the introduction of air. The caloric current is returned through tubes in the water space to the ascending flue or chimney.

Claim.—A boiler having a fireplace extending over its entire horizontal area, with the exception of a narrow water-space surrounding it and a series of tubes, whether one or more, passing horizontally through the water-space above the fireplace, when the said fire-space and the said tube or tubes are connected by and communicate through a combustion chamber formed outside the boiler, having openings, adjustable or otherwise, for the admission of atmospheric air thereto, and an opening or openings passing through

the water-space surrounding the fireplace and communicating with the latter, when the whole is constructed and arranged so as to operate substantially in the manner described and for the purpose specified.

60,663.—ELMCOIT D. AVERELL, New York, N. Y.—*Ruling Paper by Electro-Magnetism.*—January 1, 1867.—Improvement on his patent of June 12, 1866. The electro-magnet at one end of the pen board of the ruling machine is combined with an armature and break-circuit finger to raise and lower the gang of pens.

Claim.—The application of an electro-magnet for the purpose of ruling paper in combination with the circuit-breaker finger *F*, in the manner and substantially as described in the foregoing.

60,664.—ALBERT BALL, Windsor, Vt., assignor to himself and WINDSOR MANUFACTURING COMPANY, same place.—*Cartridge Retractor for Breech-loading Fire-arms.*—January 1, 1867.—The opening of the carrier block operates upon a notched plate pivoted on the same screw to withdraw the shell of the cartridge. A spring retains this plate in its open or closed position, and also withdraws the shell.

Claim.—First, the carrier block *B*, in combination with the shoulder *r* of the rotating ejector, or equivalents, for the purpose of creating the gradual movement of the cartridge shell when the carrier block is being swung open, as described.

Second, the operating spring *S*, in combination with the notch *n* and shoulder *v* of the rotating ejector, or equivalents, for the purpose of creating the jerk movement and restricting the same, as described.

Third, the combination of the spring and hinge and ejector, to hold the carrier block open or shut.

Fourth, the combination of the spring, and hinge, and ejector, and carrier block and ways, to cast the cartridge shell out when the ejector is operated by opening the carrier block, as and for the purposes substantially described.

60,665.—GEORGE A. BANTA, New York, N. Y.—*Refrigerator.*—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, an ice box for a refrigerator lined with slate, in combination with air passages surrounding said ice box, through which air circulates to and from the refrigerator and is cooled by contact with the exterior of such slate ice box, substantially as specified.

Second, in a refrigerator, the perforated trough *m*, receiving the water that comes from the ice box and delivering it through a series of small holes, so as to flow over the outside of a barrel or other vessel for cooling its liquid contents, as set forth.

Third, a receptacle for water in a refrigerator, formed of slates in the manner specified, so that the water shall be cooled by the air circulating in contact with its exterior surface, as set forth.

Fourth, the ascending air passage *7* and descending passage *8*, in combination with the ascending air passages *10* and descending passage *12*, whereby the air is caused to travel around the ice box in passing to and from the chamber of the refrigerator, as set forth.

Fifth, the valve *13*, in combination with the air passages *11* and *14*, whereby said valve can be employed

for closing the passage 11 for ventilating the refrigerator, or opening it for effecting a circulation of the air, as set forth.

60,666.—ARCHIBALD H. C. BARBER, Clinton, Ill.—*Grain Dryer*.—January 1, 1867.—Air is forced through the annular chambers of drums within a furnace, and then through a cylinder containing a rotary gauze screen, through which the grain passes.

Claim.—The hollow rings G and connecting pipes H, constructed as described, in combination with each other and with the furnace of a drying kiln, substantially as described and for the purpose set forth.

60,667.—N. H. BARBOUR, New York, N. Y.—*Peat Machine*.—January 1, 1867; antedated December 21, 1866.—The revolving cylinder is mounted on a hollow stationary shaft, and has a series of molds, which extend from the periphery to the hollow shaft. The peat passes through an opening in the shaft to the molds, which are fitted with plungers operated by cams. A segment retains the peat in the mold while it is being compressed, and after the mold has passed the segment the compressed block is discharged and falls on the chute, which conducts it out of the machine at the end of the hollow cylinder opposite that at which it was received.

Claim.—First, the revolving annular cylinder A, provided with a series of holes a and plungers B, which revolve with said cylinder in combination with the hollow shaft E, stamp seat G, and cams H J K, constructed and operating substantially as and for the purpose described.

Second, feeding the material to be compressed through one end of the hollow shaft and discharging it through the other, substantially as and for the purpose set forth.

Third, making the cam H adjustable, substantially as and for the purpose described.

60,668.—JOHN H. BARNES, Brooklyn, N. Y.—*Grooved Wheel or Pulley*.—January 1, 1867; antedated December 2, 1866.—Portions of the rims of the grooved pulley are cut away at intervals on alternate sides, for safety in carrying the rope and for economy in material.

Claim.—A grooved wheel or pulley having the opposite sides of the groove entirely cut away or removed, substantially as described, so as to permit the wheel or pulley to be cast or struck up, substantially as and for the purposes set forth.

60,669.—W. B. BARTRAM, Danbury, Conn.—*Sewing Machine*.—January 1, 1867.—The shaft by being turned backward reverses the feed, making no other change in the sewing. The tension device is a glass cylinder surrounding the spool, and capable of being turned on its axis to tighten the coil of thread about it. The loop plays in a path at right angles to the line of feed. The motion of the looping hook is at right angles to that of the feed, and may be actuated by a cam on the driving shaft or an obliquely slotted longitudinally reciprocating sleeve on the hook shaft. The upper frame is laterally adjustable on the stand to tighten the belt. The spool is placed in, and the thread issues from the side of a cylinder having rotary adjustment to regulate the tension by the length of thread coiled upon it. The needle arm is actuated by a pin projecting from a ring having play in an eccentric groove of the driving disk. A wrist pin plays in the spreading notch of a lever connected to the feed bar by a set screw, by which the rate of feed is regulated.

Claim.—First, the looping hook E, when arranged in a sewing machine having a reversible feed so as to move in a plane at right angles to the line of feed, and so timed to the movement of the needle that the two will operate in proper relation to each other without regard to the direction in which the feed is moving.

Second, the combination of the driving wheel D and pulley C of a sewing machine when they are arranged so that the distance between them may be varied by sliding the machine sideways upon its table and securing it by the devices shown.

Third, the adjustable tension cylinder O, constructed and operating substantially as set forth.

Fourth, the combination of the eccentric groove in the pulley L, the ring M, fitted loosely in the said

groove, and the pin N, through which the needle arm is actuated.

Fifth, in combination with a rectilinear feeding dog of a sewing machine, the tapering notched lever J, and eccentric pin I, substantially as and for the purpose set forth.

60,670.—JOHN A. BASSETT, Salem, Mass.—*Capillary Material for Filling Gas and Air Carburetors*.—January 1, 1867.—The material known commercially as "Excelsior," and consisting of wooden fiber torn into shreds, to form a stuffing for mattresses, &c., is used as a capillary material in the chambers where the air or gas is carburetted.

Claim.—An absorbent and capillary material for gas and air carburetors, composed of the substance described and prepared substantially in the manner set forth.

60,671.—ERNEST BAZIN, Paris, France.—*Recovering Sunken Ships*.—January 1, 1867.—A gigantic net is spread out upon the water by means of a marginal flexible air tube, to which it is attached by pieces of rope, which are cut to sink the net. The head of the net passes through a sheet iron buoy, which settles down on the submerged ship when water is admitted thereto. The expulsion of the water constitutes the buoy the floatative agent, the net being the grappler. A raft consisting of connected tubes is attached by hinged arms to a quay, and sunk beneath the ship, which is floated above and further raised by filling the tubes with air.

Claim.—First, the gigantic cast net A, or analogous apparatus, by means of which the wreck or sunken vessel may be seized or grappled, in combination with the circular tube B, covered with cloth in caoutchouc or any other kind of supple or waterproof material, sustaining the net and allowing of its extension on the surface of the water, substantially in the manner and for the purpose herein set forth.

Second, the floating tube E, in combination with the air tube B, cast net A, to sustain and spread it out on the surface of the water, substantially as and in the manner hereinbefore described.

Third, the lifting buoy K, traversed by a chimney, so as to guide its immersion in a vertical manner, substantially as hereinabove described.

Fourth, the floating buoy R, in combination with the lifting buoy K, the former serving to sink and lower this latter on to the sunken vessel, substantially as hereinbefore set forth and described.

Fifth, the cages Y, serving to build up the temporary chimney Q, in order to facilitate the moorings above water, in combination with the lifting buoy K, so as to connect the cast net with the lifting buoy K, substantially as hereinbefore set forth and described.

Sixth, the raft, serving to emerge the wreck, substantially as hereinbefore described and represented in Figures 9 and 10, in combination with the embankment A', substantially as described.

60,672.—FREDERICK BECK, New York, N. Y.—*Glazing Paper*.—January 1, 1877.—The surface of the paper is covered with stearic acid and is subjected to the action of friction rolls.

Claim.—The within-described process of treating paper with stearic acid, substantially in the manner and for the purposes set forth.

60,673.—MATTHEW BENNETT, Kilbourne City, Wis.—*Door Fastening*.—January 1, 1867.—The spring latch is driven into the door. The bolt unites the knobs and works under and raises the latch. The notch in the stop takes hold of the plate on the outside. When the latch is opposite the mortise in the spring catch the latter flies forward and engages the latch.

Claim.—The combination of the devices constructed and arranged as described.

60,674.—HERMANN BERG and ANDREW BLESSING, Smithfield, Mass.—*Gas Burner and Reflector*.—January 1, 1867.—The globular reflector is surrounded by the burners.

Claim.—As a new article of manufacture a gas burner, having a globular or dome-shaped reflector arranged between the lights of the same, substantially as herein set forth.

60,675.—L. C. and M. C. BIGNALL, Medina, N. Y.—*Sink.*—January 1, 1867.—The sink top is of cast iron, rectangular outside and rounded within. It has a down-curved edge to receive the top of its supporting wooden frame, and an extension at one end to hold a wooden shelf for the support of a pump.

Claim.—The sink basin A, when constructed with flanges *a* curved or recessed on the under side to receive the ends *b* of the boards which form its support, and with right-angled exterior corners *c* to correspond with the square or rectangular top of the wooden support, and the rounded interior corners *d*, combined and arranged substantially as and for the purposes set forth.

Also, in combination with the sink basin A, the extension frame I, formed of a continuation of the sides of the basin and flange *a*, and provided with the shelf C, to form, in connection with said basin and its support B, a seat or bearing for the pump, when arranged substantially as set forth.

60,676.—VIRGIL W. BLANCHARD, Bridport, Vt.—*Harvester.*—January 1, 1867.—The two driving cog wheels on the axle shaft are of different diameters, and engage loose pinions on another shaft, to which either one may be connected by a clutch. Another clutch upon the shaft connects it to one of two bevel wheels of varying diameters. By this arrangement the speed of the cutter bar is regulated. The front ends of the guards are vertically adjusted by set nuts upon a bolt traversing a guide piece which embraces a curved bar connected to the guard bar. A pin in the rear end of the curved bar has play in a vertical slot of an arm projecting forward from the frame. A short arm is hinged to the curved bar and runs over a spring piece of india-rubber. Its other end is held down by a projection on the guide piece, and a set screw rests on the rubber spring to adjust the counterpoise to the finger bar. The grain is automatically gathered and clasped between the two vertical belt arms, and discharged upon the ground. The supporting wheel of the cutter is on one end of a pivoted bar. The other end rests on a rubber spring.

Claim.—First, the arrangement of the collar D with the wheels E or F attached, or both the sliding parts *a a'*, or their equivalents, of the clutches G G', and the spring H or its equivalent, all placed on the axle C to operate in connection with the pinions I or J or both, substantially as and for the purpose set forth.

Second, the clutches G G' L L' and O O', when combined and arranged with sliding collars or sleeves, and with variable or differential gearing, substantially as and for the purpose specified.

Third, the curved bar E*, in combination with the adjustable guide F*, arranged as shown for the purpose of elevating or depressing the front ends of the fingers or guards, as described.

Fourth, the arm K* connected to the rear side of the curved bar E*, as shown, in combination with the adjustable guide F* connected with the bar E*, as shown, for the purpose specified.

Fifth, the bar H* connected to the upper side of the bar E* by a hinge or joint *e**, and provided with india-rubber spring *d**, as shown, in combination with the lip *b** on the adjustable guide F*, substantially as and for the purpose described.

Sixth, the grain-discharging device, composed of two shafts P* Q*, arms Y*, arranged with the chains X* and pulleys Z*, and operated automatically from the axle C, or other suitable driving shaft, by the lever R*, pin *b***, substantially in the manner as herein set forth.

60,677.—THOMAS BOYD, Cambridgeport, Mass.—*Ventilator for Mining Shafts, Buildings, &c.*—January 1, 1867.—The lenses conduct the sun's rays to a chamber connected with and drawing air from the space to be ventilated. The rarified air is made to take a rotary motion as it ascends to agitate the air and assist ventilation. Artificial heat communicated to a central globe may be made to operate in place of solar heat.

Claim.—The method of ventilating buildings, &c., by the use of a metallic chamber conducting the heat of the sun's rays to the air within the same, with or without glazed orifices, operating substantially as described.

Also, the combination of the above-described metallic chamber, having glazed orifices, with an interior

metallic surface, whether globular or of other form, so arranged as to receive the heating rays of the sun and radiate the heat to the air within the chamber, substantially as set forth.

Also, the employment of orifices in the metallic chamber fitted with plain glass lenses or other translucent material, to allow the direct transmission of the sun's rays to the air within the said metallic chamber, operating substantially as described.

Also, in combination with the above, the vibrating cap G, operating substantially as described, for the purpose set forth.

Also, the use of the tubes *a b*, so arranged as to produce a rotary motion of the air within the chamber A, substantially as described.

Also, the use of one or more twisted or smooth tubes *e f*, in combination with the chamber A, substantially as and for the purpose set forth.

Also, introducing artificial heat from a furnace or other heating apparatus into the hollow ball D and chamber A, so as to heat the same and increase the upward current in the absence of the sun's rays, substantially as described.

60,678.—JACOB R. BRESEE, Middleton, N. Y.—*Gate.*—January 1, 1867.—The slats of the trellis gate are pivoted at the intersections, so that the whole can be condensed laterally toward the hinge post. The gate is sustained on arms whose forward ends form two of the slats, but whose rear ends are enlarged, and play in diagonal passages in the gate post. The lower one is pivoted, and the upper has an anti-friction roller at the end.

Claim.—Attaching the gate B to the gate post A, provided with a diagonal guide, as described, by means of the crossed bars C D, arranged and operating substantially as and for the purposes specified.

60,679.—GEORGE BRICKER, Sr., Newville, Pa., assignor to himself and S. I. IRVIN, same place.—*Furniture Polish and Restorer.*—January 1, 1867.—The polish is composed of alcohol, sandarac or other gum, and prepared galls.

Claim.—A furniture polish or polish restorer compounded of an alcoholic solution of gum and galls, substantially as described.

60,680.—FRANKLIN H. BROWN, Chicago, Ill., assignor to himself and JAMES F. GRIFFIN, same place.—*Coal Oil Stove.*—January 1, 1867.—The burner consists of an annular trough with a horizontal diaphragm, beneath which is placed wicking and above it incombustible porous material. Above the burner is a funnel-shaped deflector which admits of inversion, in which case it acts as a concentrator of heat to the central hole. The supply of burning fluid is regulated by a screw valve.

Claim.—First, the reversible heat deflector E, arranged and operating substantially as and for the purposes specified and shown.

Second, in combination with a stove constructed substantially as herein described, the burner L, provided with a passage beneath the perforated partitions *a* to effect an equal diffusion of the oil through the burner, when arranged and operating substantially as set forth.

Third, in combination with a burner L, constructed as described, the reservoir J, the tube M, provided with a slot *m*, and the plug N, operating substantially as and for the purpose set forth.

Fourth, the combination of the deflector E and plate D, when arranged within the stove, substantially as described.

Fifth, in combination with a stove constructed substantially as described, the plate A and passage B, when arranged substantially as and for the purposes set forth.

60,681.—J. HAMILTON BROWN, Watertown, Mass.—*Hand Pegging Machine.*—January 1, 1867.—The spiral spring is placed inside the plunger so as to allow of the whole surface of the latter acting as a guide. A single blow upon the plunger head moves the instrument the distance between the pegs, drives the pegging awl, severs the peg and drives it into the hole previously made. The peg strip is carried forward by a spring follower, and is presented sideways of the grain.

Claim.—The plunger F, made hollow for the reception of the spring *d*, substantially as and for the purpose set forth.

Also, the plunger F, with its exterior surface so formed as to give to the lever J the required movements for causing the knife E to cut a single peg on the commencement of the downward stroke of the plunger, for the purpose specified.

Also, the plunger F, with its groove K and exterior surface so formed as to cause the lever K to operate the feeding point, substantially as set forth.

Also, the table L, so formed that in connection with the lever K a uniform sliding and rocking motion, viz: down and forward, up and back, will be given to the feeding point, for the purpose described.

Also, the gauge plate O, operated by its spring *f*, and having the lower end *q* of its shank so formed as to fit snugly a slot of corresponding form in the plate M, by which it is prevented from turning therein when in use after adjustment, substantially as described.

Also, the pin 13 or its equivalent, for performing the double office of keying theawl and peg driver to the plunger, as set forth.

Also, the removable head G for confining the spring *d* within the plunger F, substantially as described.

60,682.—LEWIS BUDD BRUEN, New York, N. Y.—*Sewing Machine.*—January 1, 1867.—This is an adaptation of the "Sibley" or "Bruen" attachment to the elliptic hook machines which employ a looper describing an elliptic path about the lower disk bobbin; such attachment enables these machines to make the lock stitch, the Grover and Baker stitch, or three or more threaded stitch.

Claim.—First, the devices described, attached to the cloth plate of elliptic-hook machines, constructed and operating substantially as explained, for forming double loop and three or more thread stitches thereby at pleasure.

Second, the combination of cloth plate D, elliptic hook F, with or without bobbin G, needle arm C, thread carrier P, and the other usual and essential operative parts of elliptic-hook machines, constructed and operating together substantially as and for the purposes described.

Third, remover S, to withdraw the threads from the line of travel of the hook, substantially as described.

60,683.—WILLIAM BURLINGAME, Exeter, N. H.—*Making Reamers.*—January 1, 1867.—The cutters and shanks of steel are placed in the mold and the melted iron run through until a partial weld takes place between the iron and steel.

Claim.—The reamer consisting of the cast-iron body A, steel cutters B, and steel shank C, when constructed as herein shown and described, as and for the purpose specified.

60,684.—SANFORD S. BURR, Dedham, Mass.—*Crib and Walking Stool.*—January 1, 1867.—The stool top is divided centrally, and each section has a descending frame which is so pivoted that it may be turned out and form an extension. The rockers have hinged connections to the stool frame, and are folded up when not in use.

Claim.—The combination of a crib or cradle with a walking stool in one piece of furniture, constructed and operated substantially as above described and for the purposes above set forth.

Also, the frame A B and C, resting upon casters *b*, and connected by pivot at *o* with the top H and its connections, and by the bar D with the rocker F, substantially as herein shown and described.

Also, the rocker F attached to a walking stool, constructed and operating substantially as herein shown and for the purposes above set forth.

Also, the top H with its connections J and K, pivoted at *o*, constructed and operating substantially as herein shown and for the purposes above set forth.

60,685.—WILLIAM CADY, Marietta, Ohio.—*Oil Filter.*—January 1, 1867.—The oil is placed in the upper tank and allowed to flow into the lower division of the filter, which division contains water. In the filter is a horizontal perforated plate, having a sheet of flannel on its lower side, through which the oil ascends. A pipe opening into the water space may convey steam thereto.

Claim.—First, the process substantially as herein described of filtering and depriving petroleum of its earthy impurities by passing the same under a head or pressure, through a suitably heated medium or fluid

of superior density, in an upward course or direction through a filtering diaphragm or medium, essentially as herein set forth.

Second, the combination of the oil tank A and filtering vessel D, having a lower chamber C covered by a filtering cloth or diaphragm, also provided with a suitable heating device or contrivance and arranged below the level of the tank with which it is connected, substantially as and for the purpose herein set forth.

60,686.—JAMES CAIRNES, Philadelphia, Pa.—*Molding Turbine Wheels.*—January 1, 1867.—The cores for the inter-bucket spaces are placed around the pattern, and sand rammed between them and the flask. The pattern is then raised. The cores are so deep as to have a bearing against each other at their periphery beyond the bucket flukes.

Claim.—Forming the molds for the buckets of turbine wheels by means of the cores C, without the use of a pattern, the said cores having a close fit outside of the bucket spaces *b*, as and for the purpose specified.

60,687.—F. B. CARLETON, Cambridge, Vt.—*Elastic Hoof Pad.*—January 1, 1867.—A band surrounds the hoof at its crest, with flexible projections to prevent injury from "interfering."

Claim.—As a new article of manufacture, an elastic hoof pad constructed substantially as described and represented.

60,688.—THOMAS B. CARROLL, Noblesville, Ind.—*Broom Head.*—January 1, 1867.—The butts of the corn brush are inserted under the wire rings from the upper side. They are then bent down and sewed to the thin end of the central plate.

Claim.—First, the combination of the core *a'*, core B, wires C D, and corn F, secured thereto as described, and flanged cap G, substantially as and for the purpose specified.

Second, the combination of the projecting wires or railings C and D with the metallic core B, substantially as described and for the purpose set forth.

60,689.—A. CAVLEER, WM. MCCUDDY, and P. N. WOLISTON, Springfield, Ohio.—*Ice Cream Freezer.*—January 1, 1867.—The annular cream chamber revolves by a horizontal hand crank, and has inclined stirring arms attached to its periphery. Inclined plates within the cylinder carry the colder liquid upward.

Claim.—First, the hollow tube D open at the bottom and surrounding the pivot rod E, constructed as described, operating with the revolving cylinder B in combination with plate G, pins *d*, and strips I, to which the upwardly-inclined lifting plates *f f* are secured, all substantially as described, for the purpose specified.

Second, the cover C and crank *a*, connected together substantially as and for the purpose specified.

60,690.—G. L. CHAMBERLAIN, Marietta, Ohio.—*Combined Square and Level.*—January 1, 1867.—The leveling block has a graduated semicircular scale and concentrically pivoted frame with pointers upon it to act as a clinometer. The pivoted frame is set to any inclination by a set screw.

Claim.—The block A, having a graduated semicircular plate C at one or both sides, and a level B inserted in one edge, in combination with the adjustable frame D applied to block A, substantially as and for the purpose herein set forth.

Also, the adjustable or sliding bar E in combination with the shaft or arbor *b*, to which the frame D is attached, substantially as and for the purpose specified.

Also, the pins *g* on the projection *f* of one of the strips *d* of the frame D, in combination with the spring *h* in block A, substantially as and for the purpose set forth.

60,691.—CHARLES CLIFTON, Jersey City, N. J.—*Paint Mill.*—January 1, 1867.—The grinder and scrapers are kept in contact with the side of the revolving cylinder by adjustable weights, and are connected to the axial fixed bar. The cylinder receives motion from a cog wheel upon its periphery, and runs on anti-friction rollers. The paint is fed from a hopper by a screw worm rotating in a pipe in the axial shaft at the

smaller end of the cylinder, and is drawn from a pipe at the other end.

Claim.—First, the cylinder A, in combination with the grinder or pulverizer O, when arranged together and operating substantially as and for the purpose described.

Second, the grinder or pulverizer O, when made hollow, substantially as and for the purpose described.

Third, the spiral screw shaft or conveyer W, or its equivalent, when arranged within the stationary center shaft C, on which the cylinder A revolves or turns, substantially as described, for the purpose specified.

Fourth, removing the material ground in the cylinder A from the same through a pipe or tube I², arranged or formed within the center and stationary shaft C so as to form a communication between the inside and outside of the cylinder.

60,692.—WILLIAM F. COCHRANE, Springfield, Ohio.—*Harvester.*—January 1, 1867.—The main axle extends through the frame and acts as a rock shaft for the raising of the frame, which is accomplished by a lever. The frame is retained to any adjustment by a stirrup piece, which engages one of a series of steps on the tongue.

Claim.—The side pieces of the frame with the segmental slots formed in them made in one piece, substantially as described.

Also, the segmentally slotted frame arranged between the wheels and in combination with the main axle of the machine, substantially as described.

Also, the employment of the main axle as a rock shaft, in combination with the segmentally slotted frame, sliding up and down on said axle, substantially as described.

Also, the slotted lever K, or its equivalent, connected to and operating the main axle and frame of the machine, substantially as described.

Also, the combination of the slotted lever and adjusting stirrup with the segmentally slotted frame, substantially as described.

Also, the adjusting stirrup in combination with a toothed rack, and a segmentally slotted frame for locking the said frame when the cutting apparatus is adjusted to the desired height, substantially as described.

Also, the divided boxes or bearings for the crank shaft in combination with the divided tubular transverse pieces or girders and the through bolts, or their equivalent, substantially as described.

60,693.—WILLIAM F. COCHRANE, Springfield, Ohio.—*Harvester.*—January 1, 1867.—The frame has slots in which the axle has play in raising or lowering the frame. This vertical adjustment of the frame is accomplished by segmental racks which engage spur-wheels upon the axle. The fore end of the tongue has adjustable link connection to the frame by which its horizontal position may be maintained under alteration in altitude.

Claim.—The combination of the main frame of the machine with the tongue and main axle in such manner that said frame may be raised and lowered bodily, maintaining its parallelism with or relation to the ground at whatever height therefrom it may be adjusted or set, substantially as described.

Also, the combination of a pivoted swinging yoke with a segmentally slotted frame, arranged to slide up and down on the main axle, substantially as described.

Also, the combination of geared segments with a segmentally slotted frame which is adjusted up and down on the axle, substantially as described.

Also, the main axle provided with pinions and made to operate as a rock shaft, by which, through geared segments or their equivalents, to raise and lower the slotted frame, substantially as described.

Also, the pivoted swinging yoke in combination with the tongue and slotted frame, substantially as described.

Also, a swinging yoke attached to the tongue and frame, made adjustable for varying the movements of the frame in raising and lowering the cutters, substantially as described.

60,694.—ELISHA T. COLBURN, Boston, Mass.—*Railway Carriage Window.*—January 1, 1867.—The moving sash of a railway carriage contains a separate centrally hinged sash, whose free side engages behind the extended bead piece of the outer sash.

Claim.—The arrangement and application of the

auxiliary sashes C C', with the window sash B, or its equivalent, substantially in manner and by means as specified.

Also, the combination, as well as the arrangement of the window frame, the main sash B, and the auxiliary sashes C C', applied together, and to the main sash, substantially as specified.

60,695.—GEORGE A. COLTON, Adrian, Mich.—*Burglar Alarm.*—January 1, 1867.—The pallet is held fast, so that it cannot operate the bell by means of the short arm of a straight steel lever. The upper end of the lever is curved, and fastens around the door knob, the turning of which lets off the pallet that carries the bell hammer, or the keeper arm may enter between the door and jamb, and release the alarm on the opening of the door.

Claim.—The arrangement of the spring M, with its stop L, in combination with the escapement or pallet G, substantially as and for the purpose described.

Also, the hook O, or its equivalent, in combination with the above, substantially as described and for the purpose specified.

60,696.—JAMES CONNOLLY, Boston, Mass.—*Journal Box.*—January 1, 1867.—The absorbing cord draws the lubricant from the reservoir beneath the box, and discharges it on the points of friction. The journal box has cast upon it a collar guard, which acts as a protection from dust, and as a drip cup for superfluous oil.

Claim.—The combination of the box or bearing a, the reservoir d, and the enlarged extensions or cups f, when of size sufficient to receive and protect the shaft collars i, and when cast in one piece, substantially as described.

60,697.—THOMAS CONNOLLY, New York, N. Y.—*Saw Set.*—January 1, 1867.—The frame has adjustable guide plates, and the saw passes between two levers, each carrying a set punch to operate simultaneously on the teeth. Set screws in the levers regulate the amount of "set" given. The jaws have longitudinal adjustment to suit fine or coarse teeth.

Claim.—First, in combination with the jaws A A, the two levers F F, with the two steel punches G G, which are attached to the levers, and which operate simultaneously upon two teeth of the saw, in the manner as set forth.

Second, the small thumb screw Q, in combination with set screw P, and jaws A A, all constructed and arranged as set forth.

Third, the two thumb screws I I, in combination with the jaws A A and levers F F, constructed and operating in the manner as set forth.

Fourth, the arrangement as described of all the parts, so that the device may be adjusted to set the teeth of either fine or coarse saws accurately, and otherwise operate as set forth.

60,698.—SILAS CRISPIN, New York, N. Y.—*Breech-loading Fire-arm.*—January 1, 1867.—The cartridge chamber is bisected transversely, and the cartridge is circumferentially ridged at the place of bisection.

Claim.—As new in that class of breech-loading fire-arms, which have the charge chamber bisected as described and shown, the recessed rear portion 2b', in combination with the ribbed and recessed forward portion a' of the charge chamber, the whole constructed and operating together to receive and retain while being fired the kind of cartridge herein referred to.

60,699.—W. C. CUMMING, Peekskill, N. Y.—*Hanging Mirrors.*—January 1, 1867.—The mirror is pivoted on the bifurcated frame, and has a thumb-screw by which it is fixed to any angle. The support consists of telescopic tubes, which slide within each other for vertical adjustment.

Claim.—The slotted and notched sleeves or tubes F, whether one or more, for the rod D, to which the mirror is attached, substantially as and for the purpose specified.

60,700.—C. N. CUTTER, Worcester, Mass.—*Button-hole Cutter.*—January 1, 1867.—The movement of the pivoted arms is regulated by a set screw beyond the pivot, and the cutter is pivoted at the end of the upper blade, so that its range of operation on the

anvil upon the lower arm may be circumscribed to the desired length of the button hole.

Claim.—The cutter blade D, adjustable graduated cutter blade D², pivot *c*, set screw G, and slot *d*, in combination with the handles A A and screw N, so that a button hole may be cut any length without measuring, substantially as herein set forth.

60,701.—J. DAVIS and J. McKELVEY, Pawtucket, R. I.—*Tanning.*—January 1, 1867.—The hides are handled in a solution of gambier, 330 pounds; glauber salt, 20 pounds; sal soda, 10 pounds; oil of vitriol, 10 pounds, with a sufficient quantity of water. Additional quantities are added as required, and at the last addition 10 pounds chalk substituted for the sulphuric acid. The operation requires from two to six weeks.

Claim.—The described improvement in the process of tanning.

60,702.—JOHN DAVOCK, New York, N. Y.—*Wood-splitting Machine.*—January 1, 1867.—The frame that carries the rotary splitter shaft is actuated by a pitman from a crank on the main shaft. The splitter shaft has a slight rotary movement given to it at each elevation, and this movement forces down rods on each side of the splitter to release the wood. The endless feed belt has intermittent motion by the reciprocation of the splitter frame.

Claim.—First, the rotary spindle G, with the attached knife Z or knives, in combination with the crosshead F, arranged substantially as herein shown and described.

Second, in combination with the rotary spindle G, the vertically sliding rod *t*, operated by the cams *s s*¹, &c., substantially as and for the purpose herein specified.

Third, the combination of the crosshead F, with the lever H, rack *e*, connecting rod *f*, and toothed wheels O O¹, the whole being arranged and operating substantially as and for the purpose herein set forth.

Fourth, the arrangement and combination of the feed rollers M M¹, endless belt *y*, gear wheels *w w*¹, rack N, and pin *v*, the whole being arranged and operating substantially as and for the purpose herein specified.

60,703.—LEVI S. DEMING, Newington, Conn.—*Door and Gate Closer.*—January 1, 1867.—A sectional plate on the weighted lever has a grooved arc for the reception of a cord running around a pulley on the hinge pintle. The gravitation of this lever closes the door.

Claim.—The employment of the lever segment weight *h f g*, in combination with the pulley *e*, cord *n*, substantially as and for the purpose described.

60,704.—GEORGE DRAPER, Milford, Mass.—*Spindle and Bolster for Spinning Machines.*—January 1, 1867.—Improvement on the patent of Amasa Houghton, of July 13, 1858. The helical oil-elevating groove is cut in the spindle and ends above in an annular groove in the latter and a coincident groove in the bolster.

Claim.—The arrangement of the helical groove in the upright spindle, when the groove is used in combination with the covered cup or closed oil chamber applied to the spindle and bolster, and formed in the sleeve D, as set forth.

Also, the combination, as well as the arrangement of both of the annular grooves *d e*, with the helical groove *c*, formed in the spindle, and to operate in the bolster, and extend up from the oil cup *a* thereof, substantially as and for the purpose specified.

Also, the arrangement of both the grooves *c* and *d* in the spindle, when they are used in connection with an oil cup applied to the spindle, or arranged in the bolster as specified.

60,705.—CLAUDE DUCRUX, New York, N. Y.—*Safety Attachment to Carriages.*—January 1, 1867.—The backward movement of the perpendicular hand lever releases the harness attachments to the thills, and operates the braking cups on the rear axle to bring them in contact with the wheel hubs.

Claim.—First, the combination of a detaching apparatus with the brakes of a vehicle, substantially as herein shown and described.

Second, the combination of the pins *c*, with the oscillating cross bar D, substantially as and for the purpose herein shown and described.

Third, the manner of securing the pins *c* to the swinging cross bar D, by means of plates *d*, substantially as and for the purpose herein shown and described.

Fourth, the combination of the brake draw rod O, and the strap rods F G or I, with the oscillating cross bar D, substantially as and for the purpose herein shown and described.

Fifth, the combination of the lever H, with the cross bar D, pins *c* and sliding bars E F G, substantially as and for the purpose herein shown and described.

Sixth, the combination of the sliding bar I, with the tongue S and the oscillating lever D, substantially as and for the purpose herein shown and described.

Seventh, the bars F and G, and upright arms *g h h*, or the bar I and arms *l l* combined, and operating substantially as and for the purpose herein shown and described.

Eighth, the manner of operating the sliding bars E, by means of slotted upright arms *e* and pins *f*, substantially as herein shown and described.

Ninth, the combination of the spring fastening *i*, with the swinging bar D, substantially as and for the purpose herein shown and described.

Tenth, the construction of the disengaging apparatus, substantially as herein shown and described, so that by the movement of the lever the braces and all the harness straps are simultaneously released, as set forth.

Eleventh, the construction of the brakes M, substantially as described, so as to act upon the hubs of the wheels, as set forth.

60,706.—R. EATON, Lee, England.—*Fire Grate for Steam Boilers.*—January 1, 1867.—The grate bars are broad, and overlap each other in ascending series to the center. Pendant arms from the bars have connection to a bell-crank lever to open or close the spaces between them to regulate the admission of air. A wire gauze before the ash pit prevents the outflying of sparks, &c. Pipes with regulating dampers supply air above the grate bars.

Claim.—First, the improved fire grate for wood or peat, formed of broad grate bars, placed one above another in steps or terraces, with their edges or sides over and under lapping each other, directing the passage of air into the fire laterally between them, and to prevent the dropping of hot coals into the ash pan, constructed and arranged substantially as herein described.

Second, the combination of the broad grate bars A A A with the levers *b b* and *d*, connected by the rods *e e* to open and close the air passages *a a a* between the grate bars, as described, substantially arranged as herein described.

Third, the wire gauze or perforated plate *gnard h*, in combination with the dampers *i i*, and the ash pan C, constructed and arranged substantially as and for the purposes herein described.

Fourth, the air pipe *k*, in combination with the grates A A A, arranged substantially in the manner and for the purposes herein described.

60,707.—M. EVANS, Russiaville, Ind.—*Boot and Shoe.*—January 1, 1867.—The tongue is extended side-wise and its edges stitched to the quarter flaps, to render the gaiter water tight to the top. The ornamental fastening has straps for attachment to buttons on each side.

Claim.—In gaiter boots, provided with flaps, B B, formed with an extension of the quarter and a fold connecting them, so as to make the boot water tight to its top, the double row of buttons, D E, and ornamental guard C, the latter serving to conceal the ends of the flaps, and having straps, C' C' C' C', to take over the buttons D E, as and for the purposes specified.

60,708.—C. J. FAY, Hammonont, N. J.—*Roofing and Siding for Houses.*—January 1, 1867.—The paper has folding and nailing marks formed upon it. In attachment the nail is driven through the single fold in the paper, which is then refolded over so as to cover the nail head.

Claim.—The use of and the manner of applying paper for roofing and clapboarding, substantially as described.

60,709.—THOMAS M. FELL, New York, N. Y.—*Cylindrical Amalgamator.*—January 1, 1867.—The ore is amalgamated in a cylinder which receives oscillating motion by the connection of its cranks with other cranks connected to a rotating shaft. A longitudinal partition reaches nearly to the bottom, beneath which the ore and quicksilver pass as the cylinder is oscillated. Steam is introduced through a longitudinal pipe traversing the cylinder. The amalgamated product is allowed escape through three valves in each end of the cylinder.

Claim.—First, the introduction of the alternating sluice or flood motion for obtaining entire suspension and trituration of the mass, accomplished by what we designate a dash or sluice board, acting in connection with a vibrating or oscillating cylinder, substantially as above set forth, for the purpose of amalgamation of gold and silver ores.

Second, the introduction, for the purpose of amalgamation, of an oscillating or vibrating cylinder, to which I attach my dash or sluice board, all substantially in the manner herein described.

60,710.—JOSEF FLEISCHL, New York, N. Y.—*Paper File.*—January 1, 1867.—One side bar is cylindrical and has a sliding embracing clamp plate. The other side piece has a flattened side and removable caps which carry spring clamps.

Claim.—A paper file, provided with a segmental clamp *b*, and with spring clamps *d e*, which act in combination with the bars *a c*, substantially in the manner set forth.

60,711.—ROBERT G. FOWLER, Olney, Ill.—*Burglar Alarm.*—January 1, 1867.—A wire spring is wound around a mandrel, and one end has a nipple for a percussion cap. The spring is held back by a notch in the side of the casing. The device is fastened to the door by a screw upon an extension of the mandrel. The opening door releases the spring arm from the detaining notch and the cap is discharged.

Claim.—The arrangement of the wire *C d*, mandrel *B*, notched casing *A a*, substantially as described and represented.

60,712.—KASSON FRAZER, Syracuse, N. Y.—*Hollow Ring.*—January 1, 1867.—The hollow ring is constructed from sheet metal, and consists of two parts swaged up in dies. One portion has a flange on the outer edge which laps around the other part, and is spun down so as to hold the two parts together.

Claim.—A hollow metal ring composed of two parts, held together by a self-sustaining lap joint, substantially as and for the purposes herein specified.

60,713.—WILLIAM H. GATES, Louisville, Ky.—*Machine Belting.*—January 1, 1867.—The cord is covered by winding around it a sheet of raw rubber, after which it is wrapped in cloth and subjected to the vulcanizing process.

Claim.—First, a round belt composed of a non-elastic central cord, coated with vulcanized rubber or other elastic material, substantially as described and for the purpose set forth.

Second, the combination of two or more twisted cords coated with, or surrounded by, a coating of vulcanized rubber or other elastic material, to form an improved driving belt for machinery.

Third, the process of coating a cotton or other cord as the base of a round belt, with vulcanized rubber or other elastic material, substantially as described and for the purpose set forth.

60,714.—JOHN GIBSON, Jr., Albany, N. Y.—*Street Car Heater.*—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, the stove *C*, arranged within the space between the seat and the bottom of the car *A*, and provided with the ash box *b* beneath it, substantially as herein set forth.

Second, the perforated protecting plate *D* on the front side of the seat, at the point where the stove is placed, substantially as and for the purpose specified.

Third, the combination of the ash pan *b*, draught doors *m m*, and pinch screw *p*, when arranged as herein shown and described and for the purpose specified.

60,715.—BARNARD GOODRICH, Brentwood, N. H.—*Root Extractor.*—January 1, 1867.—The share is forked and attached beneath the beam by straps which embrace projecting lugs on its front and rear.

Claim.—The bush or root extractor, made substantially as described, viz., of the duplex-pronged share, the beam and handles arranged and for use as specified.

60,716.—JOHN C. GOVE, Cleveland, Ohio.—*Preserving House.*—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, the ice chambers or boxes *C C* arranged above the preserving room *E* and below the receptacle *B*, said boxes being separated from each other and the sides of the house by air chambers *D D*, and being provided with doors at their ends and outside of the house, as and for the purpose herein specified.

Second, the arrangement of the fruit-house *A*, with a room *E*, for preserving fruit, &c., with ice boxes *C C*, chamber or receptacle *B*, and air spaces *D D*, the preserving room and ice chambers being provided with doors which are separate and distinct, and opening into each from the outside of the house, as and for the purpose specified.

60,717.—FREDERICK J. GRACE, Fort Lee, N. J.—*Printing Press.*—January 1, 1867.—The form is carried on a cylinder and the paper passes from a roller over an impression roller beneath the cylinder. Springs beneath the journal boxes of the impression roller keep the paper to the type cylinder, except when the shear lever is depressed. By this lever the paper is cut and the impression roller lowered so as to stop the feed of the paper.

Claim.—First, the impression roller *p* mounted upon springs, in combination with the levers *u u* for moving the roller *p* back to prevent the paper being moved, as set forth.

Second, the adjustable shear *r s*, in combination with the actuating lever *u*, and pins and cams *x* and *y*, as and for the purposes specified.

60,718.—HARRISON GRAMBO, Philadelphia, Pa.—*Machine for Manufacturing Candles.*—January 1, 1867.—The material is forced from the receiving chambers into a cylinder, where it is acted on by a plunger and driven down into the space before a tubular plunger which contains the candle presser and the wick tube. The tallow is pressed into the mold and then ejected from it, and the wick tube drawn back. The wick is held by a clamp and is severed by draw-shears. The candle, on ejection, enters a second mold, which may be surrounded by ice or cold water, and from this mold is ejected on to arms and conveyed to an endless carrier.

Claim.—First, the receiving and reducing mills *B C C*, supply chambers *L*, *L*, *M Q*, pistons *L L*, plungers *N S*, and molds *R*, all combined and arranged substantially as and for the purpose specified.

Second, the pistons *S*, operating in combination with the plunger *S* and molds *R*, substantially in the manner and for the purpose set forth.

Third, the combination with the plunger *S* and pistons *S*, of the wick tubes *a*, arranged and operating substantially as described.

Fourth, the clamps *d d*, arranged and operating substantially as and for the purpose set forth.

Fifth, the receiving and discharging tubes *Y*, when arranged and employed in the manner and for the purpose set forth.

Sixth, the combination with the tubes *Y*, of the stationary pistons *Y*, arranged and operating in the manner and for the purpose specified.

Seventh, the box *Y*, affording a bearing and inclosing case for the tubes *Y*, and reciprocated therewith by the means and for the purpose described.

Eighth, the arms or rails *h*, and levers *h h*, arranged and operating substantially as and for the purpose specified.

Ninth, the endless band *g*, arranged and operating in the manner and for the purpose set forth.

Tenth, the combination with the reducing mills or chambers *B B* of the steam chests or jackets *B*, substantially as described.

Eleventh, the knife *W*, when operated in the manner specified, and employed in connection with the clamps *d d*, for the purpose set forth.

Twelfth, the combination of the dog U with the reels T T, for limiting the let-off motion, as described.

Thirteenth, the within described candle-making apparatus, consisting of the receiving mills or chambers B B, supplying chambers L M Q, plungers and pistons N S S' L L, wick tubes a, reels T T, and clamps d d, all arranged and operating substantially as set forth.

60,719.—JOHN GRAY, East Aurora, N. Y.—*Wear Plate for the Soles and Heels of Boots and Shoes.*—January 1, 1867.—These segmental plates have an inward perforated flange, with guide marks on the outer thicker part indicating the position of the soles.

Claim.—The web or flange d, provided with a continuous series of perforations, in combination with the corresponding guide marks of the rim c, constructed and arranged substantially as and for the purposes set forth.

60,720.—GEORGE HAMEL, Abington, Pa.—*Safety Pocket.*—January 1, 1867; antedated December 30, 1866.—A box, with a snap opened by a thumb-pin, is attached to the bottom of the pocket.

Claim.—A box of any suitable shape and size with spring lid, fastened by seam or otherwise to the bottom of any pocket, for the purpose hereinabove described.

60,721.—JAMES M. HAMMITT and HENRY T. MILLER, Toledo, Iowa.—*Plow Carriage.*—January 1, 1867.

—The plow clevis has chain connection to the axle, and is raised or lowered by a pivoted lever having a segmental rack and spring pawl for adjustment by the rider.

Claim.—A plow carriage having bar D, spring G, lever E, swing F, swinging lever H, ratchet K, pawl L, and handle and spring M, adjusted, combined, and arranged substantially as herein specified.

60,722.—A. P. HAMMON, J. H. LINCOLN, S. LINCOLN, and T. W. HAMMON, Montfort, Wis.—*Cultivator.*—January 1, 1867.—The tongue is pivoted in the frame, and its back end has lateral oscillating motion from chains passing over pulleys to treadles. The pivoted plow standards are connected from side to side by a chain passing around pulleys on the front of the frame.

Claim.—First, the pivoting of the draught pole D to the frame A, and the connecting of the rear end of the former to treadles I I, substantially as and for the purpose set forth.

Second, the connecting of the plow standards of the two beams J J, in the manner shown, or in any equivalent way, so that when the plows of one beam are moved or shoved backward, those of the opposite beam will be moved forward, and *vice versa*, for the purpose specified.

60,723.—L. M. HART, Philadelphia, Pa.—*Making Steel-headed Rails.*—January 1, 1867.—The steel head-plate has longitudinal corrugations coming in contact with complementary corrugations on the base part, to which it becomes united by the heating and rolling process.

Claim.—A fagot for making a steel-capped railroad rail, composed of the corrugated steel bar A, and iron bar B, arranged and piled with the other parts, in the manner shown and described.

60,724.—MICHAEL W. HELTON and JAMES H. REBFIELD, Bloomington, Ind.—*Grinding Mill.*—January 1, 1867.—The grinding machinery operates a screw to release the alarm mechanism at the completion of a certain amount of movement of the said machinery.

Claim.—The horizontal and vertical shafts G and D, with the worm and worm-wheel E and d, the springs I and J, and the belt K, when arranged and combined substantially as herein described and for the purposes set forth.

60,725.—WEBSTER HERRICK, Northampton, Mass.—*Saw Mill.*—January 1, 1867.—The roller axis is tapered in such form that the weight of the carriage will center it truly in its headstock.

Claim.—A saw mill carriage roller with tapering journals, substantially as herein shown and described.

60,726.—LOUIS HEUSER, Boston, Mass.—*Machine for Embossing Consecutive Numbers.*—January

1, 1867.—The undermoving strips have intaglio dies and the upper strips have cameo dies working in unison owing to perpendicular pieces on the under strips which form guides for the upper ones. Each pair of upper and under die strips may be placed in such relative position to the others as to emboss any desired number. The number is indicated by the lever plate, which, by entering the notches, insures the proper position of the numbers in line. The reciprocating motion is continually communicated to the upper end of the pitman, which has sliding motion on the lower end, and the insertion of a spring pin communicates motion to the lower end and operates the dies.

Claim.—The combination of a series of slides, each made up of two pieces f and i, when provided with male and female dies, and are all arranged to be operated at the same time by the plunger m, for the purpose set forth.

Also, guiding and controlling the position and movement of the pieces i, with reference to the pieces f, by means of the guides h, and springs j, as described.

Also, the combination of the inclined bed and wedges e, with the compound slides i f, and plunger m, for the purpose of graduating the amount of impression to be given by descent of the plunger.

And in combination with the compound slides i f, the means described by which the plunger is made to descend only at the will of the operator, while the driving shaft is kept constant in motion.

60,727.—ERNST F. HOFMANN, Poughkeepsie, N. Y.—*Window Latch.*—January 1, 1867.—Closing the spring stop locks an ordinary revolving latch.

Claim.—The stop c, in combination with the catch D, spring b, and latch A, constructed and operating substantially as and for the purpose set forth.

60,728.—GEORGE HOOVER and A. N. HADLEY, Richmond, Ind.—*Machine for Spinning, Twisting, and Reeling.*—January 1, 1867.—The spindles are arranged in line upon the counterbalanced sash and driven at uniform speed by a single belt. The spindle is used simply as a stem for the bobbin upon which the thread is directly spun and wound.

Claim.—The arrangement and combination of the mechanical devices herein set forth and described for producing a spinning, twisting, and reeling machine, substantially as set forth and for the purposes described.

60,729.—H. W. HOPKINS, Milford, N. H.—*Sad Stone.*—January 1, 1867.—The sad stone of steatite is pivoted in the handle, and projections on its pivots enter cavities in their bearings when either side is in position for use. One side has rounded and the other angular edges.

Claim.—A reversible sad stone, consisting of the body A, having plates C at both ends, provided with shoulders B, the rear one having a projection thereon adapted to fit in a corresponding recess in the lower end of the handle B, which is pivoted to the projections, and operating in the manner described for the purpose specified.

60,730.—BENNET HOTCHKISS, New Haven, Conn., assignor to himself and CHARLES MONSON.—*Peat Machine.*—January 1, 1867.—The peat passes from the hopper between two rollers; the superfluous moisture is carried off by an apron. The peat is molded in a revolving wheel and expelled from the molds by reciprocating plungers. The blocks are carried off by an endless apron.

Claim.—First, the use, in a machine for preparing peat or other plastic material, of the grinding surfaces A A', having unequal rates of surface motion, co-operating in the manner described, to effect disintegrating the material, expressing the surplus water, and taking up the product upon the grinding surface having the faster rate of movement, substantially as set forth.

Second, the combination in such machine of the following instrumentalities: the cylinders A A', or equivalent grinding surfaces, having unequal rates of surface motion, and the scraper E, substantially as described for the purposes specified.

Third, the combination in such machine of the following instrumentalities: the said grinding surfaces A A', having unequal rates of surface motion, the

scraper E, and the receiving and conducting trough F, substantially as described for the purposes specified.

Fourth, the combination in such machine of the following instrumentalities: the said grinding surfaces A A', having unequal rates of surface motion, and the apron D, or other equivalent device, for receiving and conducting away the surplus water expressed by the cylinders, substantially as set forth.

Fifth, combining in such machine grinding surfaces operating as described, with an apparatus for molding the peat or other plastic material, the combination being substantially as specified.

Sixth, constructing the cylinder H with molding boxes and pistons, substantially as described, and operating the same in combination with the cam presser G, substantially as set forth.

60,731.—F. W. HOVEY, Boston, Mass.—*Ladder*.—January 1, 1867.—The front edges of the steps are pivoted to the sides, and the steps are connected by slide pieces to a supplemental bar. An inclination of the ladder gives the bar a forward longitudinal movement, in respect to the sides, and keeps the steps longitudinal.

Claim.—First, the combination of the bar D and pivoted steps C, wheels B, and sides A of the ladder with each other, substantially as herein shown and described.

Second, the combination of the notched arm E with the steps C and bar D of the ladder, substantially as herein shown and described.

Third, the combination of the bar D and the removable pivoted steps C with the rounds and sides of the ladder, substantially as herein shown and described.

Fourth, the combination of the slotted bar F and pin *f* with the bar D and steps C of the ladder, substantially as herein shown and described.

60,732.—HENRY HOWARD, Springfield, Mass., assignor to himself and RICHARD F. HAWKINS.—*Hot-Water Heating Apparatus*.—January 1, 1867.—The boiler consists of series of tubes placed in regular vertical and horizontal planes, with tubular connections so disposed as to form vertical divisions at right angles to the main tubes. By a damper the aëric current may be forced through the diving passage between the tubular connection. The doors to the furnace and to the flue chamber are connected by chains to the opposite ends of a centrally-pivoted lever, to which is suspended a globe which an extreme pressure of steam fills with water and moves the lever to close the furnace door and open the flue door. The radiators are formed with larger and smaller pipes to cause the unequal cooling and consequent circulation of water.

Claim.—First, the arrangement of a number of boilers, one above another, in such a manner as to form flues by their sides, and having tubular bars connecting them, substantially in the manner and for the purpose set forth.

Second, the combination with a boiler, by means of a flexible pipe, of a hollow vessel, arranged and operating for the purpose of regulating the fire, substantially as described.

Third, the radiators formed as described, having one part R larger than the other part S, substantially as herein set forth.

60,733.—EDWIN HOYT, Stamford, Conn.—*Tobacco Pipe*.—January 1, 1867.—Beneath the bowl bottom is a cup, whose top has radial perforations for the collection of nicotine, which discharges into a removable lower cup.

Claim.—First, the nicotine and saliva cup C, in combination with the bowl of a tobacco pipe, constructed and arranged substantially as herein specified.

Second, the socket D, provided with a neck *d*, in combination with the cup C, bowl A, and stem B, substantially as and for the purposes herein specified.

Third, the combination of the cup C, bowl A, cap or bulb *c*, socket D, and stem B, substantially as herein shown and described.

60,734.—Z. HUSSEY, Wilmington, Ill.—*Heating Stove*.—January 1, 1867.—The heater pipe has a small

air inlet below and a large vertical exit above. The smoke has a side discharge.

Claim.—A heating stove, constructed with a laterally-flattened and curved internal flue or pipe G, opening upwards through the top H and downwards through the side of the stove, and having a draught opening D below, and a regulating damper E above the fire, said several parts being constructed and arranged for use, substantially as and for the purpose set forth.

60,735.—ROBERT HUTTON, Brooklyn, N. Y.—*Window Sash Fastening*.—January 1, 1867.—The sash acting on the teeth of the sliding wedge draws it down. The friction roller in the rear of the wedge forces the teeth into the sash and supports it.

Claim.—A window sash fastening, composed of a socket C, provided with a friction roller E, or its equivalent, and a wedge or key D, applied to a window frame, and in such a relative position, with the sash B as to operate in the manner substantially as and for the purpose herein set forth.

60,736.—ROBERT HUTTON, Williamsburg, N. Y., assignor to himself and WILLIAM MEE, same place.—*Blind*.—January 1, 1867.—The upper slats are axially pivoted to the sides of the frame, and are connected by the vertical operating rods which are pivoted to their ends. A spiral spring in one of the pivot sockets acts by friction to retain the slats in any position.

Claim.—A blind, having its rod for operating the slats of the same hung to one end of such slats, substantially as and for the purpose described.

60,737.—FREEGHT JACKSON, Sparta, Ohio.—*Combined Seat and Top for Carriages*.—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, attaching a carriage top to a supplementary seat B, which may be placed above a permanent seat A or removed, so as to form a covered or uncovered seat, substantially as described.

Second, connecting the frame supporting the carriage top with the permanent seat A by means of slides and grooves, so as to permit the frame and top to be removed or attached by a single movement, substantially in the manner set forth.

60,738.—JOHN C. JEWETT, Buffalo, N. Y.—*Slop Jar*.—January 1, 1867.—An annular water groove around the top of the jar receives the downcurved edge of the cover, and the downturned edge around the central opening dips into a water cup and forms an air trap.

Claim.—A slop jar provided with the annular water recess formed between the sides *ff* and rim C, submerged flange *e e* and central orod trap and the concave cover B, constructed and arranged substantially as and for the purposes set forth.

60,739.—GILBERT D. JONES, New York, N. Y.—*Quartz Mill*.—January 1, 1867.—Scrapers are attached to the common Chilian machine, and are adjusted to keep the ore in its place while being ground, and to discharge the pulverized ore from the mill.

Claim.—The adjustable or rising and falling scrapers M and the fixed scrapers G, arranged and applied to operate substantially in the manner as and for the purpose set forth.

60,740.—LOUIS PAUL JUVET, Glen's Falls, N. Y.—*Time Globe*.—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, making the axis of the daily wheel *e* of a chronometer, (applied to revolve a hollow globe, and located in its interior,) coincident with the axis of said globe, in the manner substantially as shown and described, and for the purpose set forth.

Second, winding the said chronometer from the outside of the globe, without the use of a key, by means of the thumb-piece T and sleeve *b*, and its connections, in the manner substantially as shown and described, and for the purpose set forth.

Third, the combination of the solid axis *a a'* with the sleeves *b* and *d d'*, the former *b* by which to wind up the works from the outside, and the latter *d d'* by which to transmit the proper motion to the globe, said parts being constructed, arranged, and operating in the manner substantially as shown and described, and for the purpose set forth.

60,741.—JOHN KELLY, Woodberry, Md.—*Car Coupling*.—January 1, 1867.—A prong projects forward above the hook shank to prevent accidental uncoupling.

Claim.—The wrought-iron hook A, provided with a prong C, arranged to act upon the coupling, as described.

60,742.—WILLIAM KERR, Jr., Boston, Mass.—*Clamp for Holding Smoking Pipes for Finishing*.—January 1, 1867.—The frame has an adjustable plate in which the top of the unfinished pipe is placed and keyed by a wedge.

Claim.—The combination with the thumb nuts and enlarged recesses formed in the face plate of springs, arranged and operating substantially as shown and set forth.

60,743.—H. M. KINSLEY, Chicago, Ill.—*Lunch Heating Apparatus*.—January 1, 1867.—The shallow annular receptacle for the burning alcohol is permanently attached beneath a sheet-metal preserving or other can, whose contents are heated by the flame.

Claim.—The combination of a chamber B, for containing alcohol, or its equivalent, with a preserving can A, substantially as and for the purpose herein specified.

Also, the combination of a burning cup or dish C with a chamber B, for containing alcohol, or its equivalent, and a preserving can A, substantially as and for the purpose herein specified.

60,744.—GEORGE B. KIRKHAM, New York, N. Y.—*Key-board for Musical Instruments*.—January 1, 1867.—The key-board has a side movement by means of a pivoted lever, to which it is connected by a rod and an adjustable slide-block. By this movement the keys may be changed higher or lower one-half or a full tone—more or less.

Claim.—First, the levers *k k'*, in combination with the manual keys *z z*, &c., and their common support *l*, acting on the levers *i i*, substantially as and for the purpose set forth.

Second, the combination of the arm *d*, the lever *e*, with its adjusting screw *g*, and slots *ff*, as described, and for the purpose set forth.

60,745.—LANCELOT KIRKUP, Brooklyn, N. Y., assignor to himself, ALBERT PALMER, JOEL PARKER, and W. M. HUDSON.—*Anvil*.—January 1, 1867.—The steel top is secured to the iron base by a dovetail joint and keys.

Claim.—The anvil, constructed substantially as shown, for the purposes specified.

60,746.—EVEN KOONS, Funkstown, Md., assignor to ELIAS EMMERT, Washington county, Md.—*Tuyere*.—January 1, 1867.—The hinged valve block beneath the hearth plate is operated by a jointed rod, to open or close the outer blast openings.

Claim.—First, in combination with the blast openings in the bed of a forge or furnace, the above-described swinging valve or plug, constructed and operated substantially as set forth.

Second, the combination of the cap E, rod D, and hinged valve or plug C, constructed substantially as specified.

60,747.—MAX H. KRÜGER, New York, N. Y.—*Apparatus for Filtering and Refining Oil*.—January 1, 1867.—Glass filters are suspended in a box the sides of which have panes of glass to enable inspection. A steam-pipe passes through the box, by which the temperature is regulated.

Claim.—The movable filters B, suspended from rods *a*, within the steam-box A, for the purpose described, substantially as specified.

60,748.—J. J. LAHAYE and S. P. REEVES, Reading, Pa.—*Slide Valve*.—January 1, 1867.—This is a balance slide valve, and is explained by the claim and illustration.

Claim.—The arrangement of the valve B, with its recess containing an elastic packing material, and the plate D, with its rib *c*, substantially as and for the purpose described.

60,749.—NOYES D. LAMB, Norwich, Conn.—*Leak Signal for Vessels*.—January 1, 1867.—The upward

movement of the spherical float releases the escape-ment to sound the alarm.

Claim.—In combination with a lever *i*, hinged or pivoted to the frame or case and to the stem of the float, the arranging of the bent arm *h*, escapement *g*, and bell hammer *m*, all upon one and the same shaft, by which means I very much cheapen and simplify the construction, and render its action more certain by dispensing with parts that are liable to become disarranged, all substantially as described and represented.

60,750.—GEORGE P. LANG and PETER LAUSTER, Allegheny, Pa.—*Making Jug Tops*.—January 1, 1867.—The collar, lid, and hinge plate are each formed from one piece of metal, the former bent around the neck of the jug and the other fitted to it and connected by a pintle.

Claim.—First, making jug tops of thin sheet metal, consisting of a body section *a*, lid *b*, button *e*, hinge piece *c*, and ring *d*, cut, shaped, and joined substantially in the manner hereinbefore described.

Second, the construction, from thin sheet metal, of the main or body section *a* of a jug top, when the spout *n* forms a part of such section, substantially as and for the purpose above described.

60,751.—CHARLES W. LE COENT, Norwalk, Conn.—*Lathe Dog*.—January 1, 1867.—To secure lightness with a given amount of material the dog is cast hollow except in that portion through which the screw passes. The outer rib strengthens the angle.

Claim.—The hollow dog or carrier, constructed in the manner substantially as and for the purposes set forth.

60,752.—F. M. LEMMON, Shelbyville, Ill.—*Wheelwright's Spoke-Driving Bench*.—January 1, 1867.—The hub is clamped on the bench and the spokes supported in turn by a vertically adjustable post; an upper clamp prevents the bouncing of each spoke while being driven.

Claim.—The bench B, clamping rod D, adjustable rest C *c*, and holding rod and lever G E, all arranged and operating as and for the purpose herein set forth.

60,753.—CHARLES LENNIG, Philadelphia, Pa.—*Compound for Sabine Medicated Baths*.—January 1, 1867.—Composed of silica, 0.0495; chloride of iron, 0.1465; barium, 0.3336; strontium, 0.0039; chloride of calcium, 57.9737; chloride of magnesium, 23.6823; chloride of sodium, 4.0380; chloride of potassium, 1.2785; iodide of magnesium, 0.1412; bromide of magnesium, 1.1316; magnesia, 11.2629; alumina, 0.00083—phosphate alumina. The compound is molded into blocks, kept in air-tight packages, and is used with double the quantity of common salts in a bath.

Claim.—The composition of matter called "strumatic salts," put up in the form and packages as above named, substantially as above set forth.

60,754.—CHARLES LEWANDOWSKI, Paris, France, assignor to himself and EMILE GRANIER, same place.—*Apparatus for Preparing Cotton*.—January 1, 1867.—The cotton passes between feed rollers to a comb cylinder, from which it is taken by the brush arms of a wheel of superior velocity. It then passes over an endless screen apron acted on by beaters. From thence it passes between feed rollers to the ventilating beating cylinder, which has a screen case beneath. The fiber then traverses a metal duct to the classifying chamber, from whence the shorter and lighter fibers are delivered above and the longer ones below, after passing between a series of compressing rollers.

Claim.—In combination with the double combing and beating cylinders, and the single air duct, for separating and classifying the fibers, the double delivering mechanism for separately discharging the thus separated and classified fibers in laps or slivers, the whole operating in the manner substantially as and for the purpose described.

60,755.—JOHN S. LIPPS, Brooklyn, N. Y., assignor to himself and EDWIN SANDERSON, New York, N. Y.—*Composition for Fuel and other Purposes*.—January 1, 1867.—Coal dust is mixed with charcoal or coke and dextrine, dissolved in water.

Claim.—The composition of matter, substantially as herein described, and composed of coal, coke or char-

coal dust admixed with dextrine and powdered pitch and baked, essentially as herein set forth.

60,756.—HORACE T. LOVE, Vermillion township, Kansas.—*Fastening for Railroad Rails.*—January 1, 1867.—The screw head is so inclined on its under side as to have a fair bearing on the base flange of the rail. A segment is cut from one side to allow the flange of the rail to pass when necessary.

Claim.—Such an inclination of the under surface of a screw head, truncated in its relation to the gauge of the thread of the screw, as to necessitate a bearing of that surface upon the flange of the rail, so as to make the rail tight when screwed down, and the rail released by a reverse operation of the screw, the truncation being tangential to the shank of the screw, in the manner and for the purpose herein described.

60,757.—ORAZIO LUGO, New York, N. Y.—*Deodorizing Petroleum.*—January 1, 1867.—For two gallons oil take a mixture of niter, two pounds; common salt, a half ounce, and bichromate of potash, one drachm; add sulphuric acid, one pound. The oil is treated with this compound while the materials are acting on each other. It is then treated with hypochlorite of soda.

Claim.—The use of chromic acid and hypochlorite of soda, or their equivalent, for the purpose of deodorizing offensive smelling kinds of petroleum.

60,758.—GEORGE B. and CLARK LEWIS, Adams Centre, N. Y.—*Device for Suspending Horse Hay Forks, &c.*—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, a clutch for suspending horse hay forks, &c., consisting of the movable and adjustable bars A A pivoted together, and having penetrative points G G, substantially as described and for the purpose set forth.

Second, in combination with the above, the crocheted bolt B, handle nut C, and bolt H, applied and operating, substantially as and for the purpose specified.

Third, the sliding or movable ring F, in combination with the adjustable clutch A A, as and for the purpose specified.

60,759.—JOSEPH D. LOFTUS, Chelsea, Mass.—*Concentrating Sulphuric Acid.*—January 1, 1867.—The acid is concentrated to 62° or 63° by Beaume's scale in open iron pans, and then to 67° by heat in an iron still.

Claim.—In the process of concentration or distillation of sulphuric acid, the employment of iron vessels or tanks, substantially as set forth.

60,760.—JAMES H. LOOMIS, Attica, N. Y.—*Ventilating and Heating Rooms.*—January 1, 1867.—The induction and eduction pipes pass to and from the heating drum, which is traversed by vertical flues and has a diaphragm with circular series of perforations around the said flues.

Claim.—The pipes G H, in combination with the stove-pipe heater B, constructed as described, for conveying cold air from and returning warm air to another apartment, arranged and operating substantially as set forth.

Also, constructing the heater B, with the diaphragm *f*, provided with annular perforations *i i* around the flues *d*, substantially in the manner and for the purpose described.

Also, the damper *n o*, in combination with the drum-heater B, air induction pipe G, and stove A, arranged and operating, substantially as and for the purposes set forth.

60,761.—C. E. GAGE, Fond du Lac, Wis.—*Wringer for Clothes and Mops.*—January 1, 1867.—The upper roller has movement in a slot to or from the lower one by means of a foot bar on its frame, and is rotated by a hand crank on its shaft.

Claim.—The frame composed of the slotted side bars A A, foot piece D, with roller D², in combination with the frame C carrying roller E, when arranged together, substantially in the manner and for the purpose described.

60,762.—CEPHAS MANNING, West Albany, N. Y.—*Tempering Steel Springs.*—January 1, 1867.—A composition of linseed oil and common salt is used for

tempering, to prevent cracking of the steel and to produce a tougher spring.

Claim.—The use of the combination of linseed oil, raw or boiled, with as much common salt as the oil will take up, in the manner and for the purpose specified.

60,763.—EDWARD A. MARSH and JARVIS P. KELLY, Chicopee, Mass.—*Machinery for Punching Steel Pen Blanks.*—January 1, 1867.—The plate is clamped to a sliding carriage and intermittently fed beneath the punch by an eccentric, connecting by pitmans and bell crank to a collar carrying spring pawls, which act on a ratchet wheel of the carriage-driving shaft.

Claim.—In combination with the die, reciprocating punch, stripper, and carriage, the jaws *t*, when arranged to clamp or grasp the plate at the centre line thereof, and draw it progressively and intermittently to the action of the punch, substantially as set forth.

Also, in combination, the subjects of the first claim, the guides *w* and *x*, and guide rolls *y* and *z*, arranged to operate substantially as set forth.

Also, the arrangement of mechanism for tripping or disengaging the series of ratchet pawls, substantially as described.

60,764.—HENRY D. MARTIN, Ypsilanti, Mich.—*Machine for Cutting Fly Nets.*—January 1, 1867.—The leather is passed over the table, and is slit by two sets of knives which are alternately projected up through the table by cam rollers beneath.

Claim.—The combination of the bar knives and springs D D and the cam roller C C, substantially in the manner and for the purpose set forth in this specification.

60,765.—WILLIAM M. C. MATHWES, Summer Hill, Pa.—*Sleigh.*—January 1, 1867.—The box is carried on bolsters similar to those of a wagon. The rear bolster is pivoted to the raves and the fore bolster is connected by a king bolt to a transverse bar, reinforced by upper and under metal plates, and also pivoted to the raves.

Claim.—First, pivoting the bolsters of a bob sleigh to the bobs, substantially as herein shown and described.

Second, the combination of the bars F, iron bar N and bar or plank L, with each other and with the beams E and bolsters G of the forward bob of the sleigh, substantially as herein shown and described.

Third, the combination of the bars F and iron bar N with each other and with the beams E and bolster H of the rear bob of the sleigh, substantially as herein shown and described.

60,766.—GEORGE W. McCANN, Springfield, Ohio.—*Water Wheel.*—January 1, 1867.—The water has an upper entrance and an exit beneath. The port gate-plates are connected to the upper inclined deflecting plates so that their position may correspond with the amount of water admitted. The buckets are in two or more annular series, of which either one or both may be used.

Claim.—First, the wheel D with two or more series of buckets, substantially as described, in combination with the independent gates H H', for the purpose set forth.

Second, in combination with the gates H H', the springs N N, substantially as and for the purpose set forth.

60,767.—ANNE S. McLEAN and JAMES P. McLEAN, Brooklyn, N. Y.—*Breast Pad.*—January 1, 1867; antedated December 12, 1866.—A quilted padding next the person is secured to an outer covering of straw matting, upon which there may be a spiral spring to give prominence to the dress.

Claim.—A pad having a mat A and cushion N combined therein, whether with or without a spring or springs, all substantially as described.

60,768.—M. MELLINGER, Dayton, Ohio.—*Cane Stripper.*—January 1, 1867.—The outer stripper knives spring outward and allow the canes to fall into the circular stripping opening. The latter is adjustable in size vertically by a slot in its lower limiting plate.

Claim.—The shoulders *i* in stationary blade D and spring blades E, operating in combination with the

slotted spring blades G, as and for the purpose specified.

60,769.—M. H. MERRIAM, Charlestown, Mass., assignor to himself and E. L. NORTON.—*Feed Mechanism for Sewing Machines.*—January 1, 1867.—The ratchet segments on each side of the needle unite in one frame, which receives vertical and oscillating motion from two rocker shafts.

Claim.—First, the eccentric and its motor, the crank, link, and their motor, when combined and arranged with a feeding device, so as to operate it, substantially as described.

Second, a feeding device for sewing machines, in which a reciprocating shuttle moves at right angles, or nearly so, to the path of the vibrating feeding movements of the feeding device, when constructed substantially as set forth, and arranged to operate as specified.

60,770.—PHILIP P. MEYER, New York, N. Y.—*Making Sheet-metal Vessels of Two Thicknesses.*—January 1, 1867.—The inner-plating metal is spun on a chuck and the outer case of metal spun on over the plating metal, with or without strengthening rings between.

Claim.—First, the process described for forming a vessel of two or more metals by spinning them, one upon the other, for the purpose set forth.

Second, the combination with a vessel constructed of two or more metals, spun together as set forth, of strengthening bars or rings, substantially as herein set forth.

60,771.—WILLIAM J. MILLAR, McKeesport, Pa.—*Apparatus for Steering Vessels by Steam.*—January 1, 1867.—The steering wheel has gear connection with the crank shaft of the "nigger" (or freight) windlass engine, and is rotated in different directions by the reversal of the action of this engine.

Claim.—First, the combination of the levers *p* and *r* and the cut-off lever *h* of the nigger engine with the steering wheel *d* and the gear wheels *n*, *n'*, *o*, and *o'*, connecting it with the engine, constructed and arranged substantially as and for the purposes hereinbefore described.

Second, the check lever *t*, operated by means of stops or buttons on the tiller rope, in combination with the cut-off lever of the steam engine, constructed and operating substantially as hereinbefore described, for the purpose of stopping the steering engine when the tiller is turned to its utmost limit in either direction.

60,772.—MAX MILLER, Brooklyn, N. Y.—*Toy Wind Wheel.*—January 1, 1867.—The helical plate is rotated by the breath issuing from the holes in the chamber beneath.

Claim.—An improved toy wind wheel, formed by the combination of the mouth piece A, air tube B, air chamber C, pivoting post D, and revolving wheel E, or equivalent, with each other, substantially as herein described, as a new article of manufacture.

60,773.—MATTHEW MITCHELL, Crown Point, Ind.—*Hay Elevator.*—January 1, 1867.—The derrick is supported on a sled. The rotary post is pivoted in one of the benches and supported by a frame. The elevating rope passes over pulleys on the post and the compound lifting lever.

Claim.—First, the shaft D, lever E, provided with the friction roller *a*, in combination with the lever F and rope R, for the purposes and substantially as described.

Second, the side pieces or frame A and posts B, in combination with the levers E and F and shaft D, substantially as herein described.

60,774.—JAMES MOLYNEUX, Bordentown, N. J., assignor to the BORDENTOWN MACHINE COMPANY, same place.—*Excavator.*—January 1, 1867.—The buckets are carried on an endless chain and pass around a frame which has an oscillating adjustment. The main frame may be rotated or moved either longitudinally or laterally.

Claim.—First, a frame H, carrying an endless chain of buckets and hung to a frame capable of being turned on a platform or truck, all substantially as described, for the purpose specified.

Second, the bucket frame H, hung to a bolt or shaft arranged to slide in slots in the frame and controlled by screw rods N and N', or their equivalents, substantially as and for the purpose herein set forth.

Third, the combination of the tubular shaft G, chain pulley I, driving pulley or wheel *e*, bolt F, and slotted plates E and E'.

Fourth, the combination of the tubular shaft G, its nuts *l*, and the screw rods N and N'.

Fifth, the framework carrying the bucket frame H and endless chain of buckets, in combination with the truck P, on which the said framework turns, and the platform R, on which the truck and the entire machine are arranged to traverse—all substantially as described.

60,775.—THOMAS C. MOORE, Wilmington, Ohio, assignor to himself and WM. A. FALLIS, same place.—*Smoothing Iron.*—January 1, 1867.—A round lug with side projections at its top is cast on the body of the iron. The said lug enters a hole in the base piece of the handle, and is tightened by giving the same a turn of 90°. Heel-like projections on the body of the iron sustain it in its vertical position when the handle is detached.

Claim.—The pin *a*, with its projections *c c*, on the body A of the flatiron, in combination with the hole and its side notches *d d*, in the handle B, substantially as and for the purpose herein specified.

Also, the heel projections *g g*, in combination with the device for coupling the handle B to the body A, for the purpose set forth.

60,776.—DAVID MORRIS, Bartlett, Ohio.—*Rotary Harrow.*—January 1, 1867.—Explained by the claim and illustration.

Claim.—The rotary harrow, having a bent post, upon which a spade wheel is so journaled that the spades, by contact with the soil, shall arrest the spokes and rotate the harrow without the intervention of gearing, substantially as described.

60,777.—THOMAS NEWELL, Oskaloosa, Iowa.—*Slope-pipe Thimble.*—January 1, 1867.—The shoulders on the stone rest upon cleats fastened to the joists, and the dovetailed groove beneath permits a neat finish to the plastering of the ceiling below.

Claim.—The quadrilateral-shaped stone A, with two shoulders *a a* for resting it upon cleats between the joists, and annular dovetailed grooved ring B, constructed, as described, of one piece of stone, as and for the purposes set forth.

60,778.—NELSON PALMER, Hudson, N. Y., assignor to himself and T. G. Palmer, Schultsville, N. Y.—*Threshing Machine.*—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, arming a threshing cylinder with teeth, which have their opposite faces rough and smooth, as and for the purpose specified.

Second, making the teeth in the cylinder and concave, cone-shaped, or pyramidal, so that by adjusting the concave nearer the cylinder the surfaces of the teeth shall approach nearer to each other.

Third, such a construction and arrangement of threshing machines, having two concaves, as described, that, by the rotation of the threshing cylinder in one direction, the smooth faces of the teeth are caused to act in concert with the smooth faces of the teeth in one concave, and by reversing the rotation of the cylinder the rough faces of the teeth are caused to act in concert with the rough faces of the teeth in the other concave.

60,779.—JAMES L. PATTERSON, Wheeler Station, Ind.—*Broom Hanger.*—January 1, 1867.—The conical ring has a screw socket, by which it is attached to the end of a broom handle.

Claim.—The ring A, in combination with a ball or hook B, arranged and operating substantially as and for the purposes set forth.

60,780.—HENRY PEMBERTON, Allegheny City, Pa.—*Manufacture of Sulphate of Alumina, Alum, and other Aluminous Compounds.*—January 1, 1867.—The acid to be used is obtained by treating the acid residuum from the refining of petroleum, in the manner described in the patent of the same inventor, dated August 2, 1859.

Claim.—The employment, in the manufacture of sulphate of alumina, alum, and other aluminous compounds, of the acid solution obtained from the tarry acid residuum of the treatment for the purpose of refining petroleum, coal oils, and other hydro-carburets.

60,781.—CHARLES H. PERKINS, Providence, R. I.—*Finishing Sheet Metal.*—January 1, 1867.—The plates, after cleaning and brightening, are subjected to the action of heat in a tight flask, the plates being arranged so that their surfaces shall not come in contact with each other. They are afterward rolled or hammered.

Claim.—First, the process herein described of annealing and imparting a blue color to sheet-metal plates, consisting in subjecting such plates, which have been previously suitably cleansed and brightened, to the action of heat applied while the plates are enclosed in a close flask, the plates being so arranged within the flask that their surfaces shall be surrounded by a free air space, substantially as set forth.

Second, the process herein described of finishing sheet-iron plates by first coloring the same in the manner above set forth, and, secondly, in subjecting the plates, after being colored, to the action of pressure rollers, or equivalent means for producing a dense and lustrous surface, substantially as described.

60,782.—GEORGE H. POOL, New York, N. Y.—*Spring Bed.*—January 1, 1867; antedated December 19, 1866.—The main slats rest upon the ends of elastic wooden slats, set at an angle in the sides of the end bed rails, and are held by pins passing through slats in the spring slats.

Claim.—The rails *c c'* resting on the springs *d d'* and *f f'*, and attached thereto by means of the pins *h h'* passing through the slots *g g'*, said springs being made of greater or less elasticity by varying their length or the angle at which they are inserted in *a* and *a'*, or by both of these means, as described and arranged.

60,783.—SAMUEL L. POTTER, Wyandotte, Mich.—*Fagot for Railroad Rails.*—January 1, 1867.—The steel is enclosed by the iron, except on one side, and the pile so rolled as to leave the steel exposed over the wearing surface of the finished rail.

Claim.—A pile or fagot for rolling railroad bars, constituted of iron and steel bars, arranged substantially as herein represented and described.

60,784.—EDWARD POWELL, Conneautville, Pa.—*Spring Crupper.*—January 1, 1867; antedated December 29, 1866.—The spring frame is attached to the loop of the crupper, and operated to raise the tail of the horse.

Claim.—The metal frame A A, in combination with the spiral spring B B and tail supporter C C, substantially as described.

60,785.—GEORGE PURRINGTON, jr., New York, N. Y., and JAMES H. PURRINGTON, Mattapoisett, Mass.—*Carpet Sweeper.*—January 1, 1867.—The brush shaft is rotated by a corrugated pulley driven by contact with the rubber periphery of one of the sustaining wheels. The dust is caught and retained by the receivers.

Claim.—The adjustable axles or bearings K, constructed and arranged substantially as herein described, in combination with the drive wheels J and frame A of the sweeper, as and for the purpose herein set forth.

60,786.—ELIAS RHOADES, jr., and J. W. RHOADES, Clyde, Ohio.—*Spring Fish-hook.*—January 1, 1867.—The hook shanks are attached to one plate and pass through a second. The shanks are bent in such shape that when the plates are drawn together the hook ends will spring out. A spiral plate causes the revolution.

Claim.—The hook and rods A B, having swells D and contraction C, in combination with the ways F F, stationary head E, cross head G, spiral plate H, as and for the purpose substantially as specified.

60,787.—SENECA M. RICHARDSON, Worcester, Mass.—*Planing Machine.*—January 1, 1867.—The segmental pressure plate has guide grooves concentric with the cutter shaft, and is kept forward by a spring.

Claim.—In a tonguing and grooving or other like

machine, the combination with the cutter head of an adjustable mouth piece or presser bar attached to the bed piece of the machine, so that, while separate and distinct from the cutter head, it may be capable of moving concentrically therewith, the whole being constructed and arranged for operation substantially as shown and described.

60,788.—WILLIAM L. RICHARDSON, Reading, Mass., assignor to himself and F. E. NUTTING, Florence, Mass.—*Level.*—January 1, 1867.—The disk plate of the spirit level has a scale upon it, and may be set to any inclination and retained by a pin on its spring, which enters perforations upon it. The pivot stud of the tube plate has grooves upon it by which, in combination with a set screw, the tube can be set at a required angle to its previous position. The upper frame is carried on a ball-and-socket joint, and from the center of the ball depends a plummet line.

Claim.—First, a ball joint having the plummet line attached to the center of the ball, substantially as and for the purpose described.

Second, the stud H, having the grooves *c d e*, arranged with the set screw *b*, substantially as and for the purpose described.

Third, the tube S mounted upon the frame L, and having the reversible level M, arranged as described, and being detachable from the rest of the instrument, so that it can be used as a mason's level and plumb, substantially as described.

60,789.—JAMES C. ROBERTS, Adamstown, Md.—*Grinding Mill.*—January 1, 1867.—The controlling mechanism is regulated by a governor which effects the adjustment of the millstones, as well as the feed of the grain to the mill, to the speed of the motor.

Claim.—In combination with a governor operated from the mill gear, a regulating mechanism operated through the intervention of a screw shaft, a traveling poise, and scale beam, that will change and adapt both the feed and the set of the stones to the varying speed of the runner caused by changes in the motive power, and thus produce a uniform grade of flour or meal, substantially as described.

60,790.—A. J. ROBINSON, Troy, N. Y.—*Mop Wringer.*—January 1, 1867.—The mop cloth is thrust down into the conical cavity between the spirals, and its handle turned to eject the water.

Claim.—An improved mop wringer formed by the combination of the bar B and wringer C, constructed with a circular rim *c*², two or more descending spiral arms *c*³, lower central part *c*¹, and tenon *c*⁴, substantially as herein described and for the purpose set forth.

60,791.—WILLIAM N. ROWE, Washington, D. C.—*Safety Nipple for Fire-arms.*—January 1, 1867.—The nipple has a turn cap whose hole may be made to coincide with that in the nipple or otherwise; in the latter case to prevent ignition when the hammer falls.

Claim.—In combination with the nipple of a fire-arm, a cylinder shield or cap that can turn thereon, and having an opening through it, that in one of its positions closes, and in its other position discloses the opening through or the powder in the nipple, and so that a cap may be exploded upon it in its closed position without firing the charge in the arm and fire it in its other disclosed position, substantially as described.

60,792.—G. RUSSELL, New York, N. Y., and THOMAS B. HULL, Brooklyn, N. Y.—*Printer's Ink Roller.*—January 1, 1867.—The roller is formed on a tube whose end plugs are prolonged to form journals.

Claim.—First, the construction of a stock on which to cast or form printers' rollers for receiving or distributing ink in such a manner that the journals on which it turns may be removed and replaced at pleasure.

Seco: 1, the use of a cylinder or tube as a stock for a printers' roller.

60,793.—JOHN S. RYAN, Berlin, Wis.—*Means for Rocking Cribs or Cradles.*—January 1, 1867.—The cradle is actuated by connecting a rocker to a crank on a revolving wheel shaft. Power is communicated from a coiled spring.

Claim.—The combination of the platform A, spring B, wheels C D, and crank wheel E, arranged in con-

nection with the shaft G, arm H, and adjustable rod I, in the manner and for the purposes specified.

60,794.—JOHN LEWIS SAMUELS, San Francisco, Cal.—*Composition for Preparing, Hardening, and Preserving Wood.*—January 1, 1867.—Sulphate of iron, 1 lb., and lime, $\frac{3}{4}$ lb., are mixed with 1 gallon of water for injection into the pores of the wood.

Claim.—The use of the above-mentioned composition of sulphate of iron, common lime, and water, in about the above-mentioned proportions, for the purpose of injecting wood and timber to render them impervious to the influence of wet and dry rot and the attacks of worms and insects.

60,795.—BERNARD SCHAEFER, Chicago, Ill.—*Boiler Flue Cleaner.*—January 1, 1867.—Two semi-circular flanges are carried on the expanding spring arms. Inclined guides project from the periphery of the flange at the point of junction with the arms.

Claim.—The construction and arrangement of the springs A A with the disks B B, plate C, and guides D D, as herein described and for the purpose set forth.

60,796.—ELI SECOR, Lawrence, Mich.—*Box for Transporting Small Fruit and Berries.*—January 1, 1867.—A number of trays are connected together vertically and are supported on spiral springs. The trays have a hinged portion at bottom to allow downward discharge.

Claim.—First, a fruit box for the transportation and safe keeping of fruits or berries, constructed and arranged substantially as herein shown and described.

Second, the tray C, either separately or in combination, constructed and arranged substantially as herein shown and described and for the purposes specified.

60,797.—MARTIN L. SENDERLING, Jersey City, N. J.—*Apparatus for Mixing Sugar.*—January 1, 1867.—The various qualities of sugar pass between rollers beneath the hopper and fall on the revolving mixer.

Claim.—First, the process, substantially as herein described, of mixing sugars through centrifugal force by means of a wheel receiving upon it sugars of different grades or qualities.

Second, the mixing wheel, acting by centrifugal force, constructed with vanes inclining on their faces upwardly in a backward direction in relation to the run of the wheel, essentially as specified.

Third, the combination with the centrifugal mixing wheel of a crushing mill arranged to deliver the crushed sugar directly upon said wheel, substantially as herein set forth.

Fourth, the combination of a divided hopper, crushing mill, and centrifugal mixing wheel, essentially as specified.

60,798.—JAMES W. SINGLETON, Quincy, Ill.—*Gate.*—January 1, 1867.—Levers in the wheel tracks are connected to segmental blocks whose arcs carry ropes so coiled and connected to the gate as to open and close the same by the passage of a carriage.

Claim.—The apparatus constructed and arranged substantially as herein described for the purpose of opening and closing gates and fastening and releasing them when either open or closed, as herein set forth.

60,799.—FRANCIS SMITH, Boston, Mass., assignor to EDWARD WARD WILDER, same place.—*Caster for Furniture.*—January 1, 1867.—The roller arm carries a transverse roller which has bearings in the concavity of the bottom of the table leg.

Claim.—The formation of the lower end of the leg E with the curved concavity *d*, and the formation of the roller C and its arrangement with respect to such concavity and the shank B of the roller frame A, substantially as set forth.

60,800.—HIRAM SMITH and THOS. J. LUMIS, Norwich, Conn.—*Machine for Tenoning Blind Slats and Boring the Stiles.*—January 1, 1867.—The tenons are cut simultaneously by revolving hollow cutters, and the slat presented while it is held upon the cutters to two circular saws that form the shoulders. A spring gauge-pin determines the distance for boring the holes in the stiles.

Claim.—First, the use of the vibrating centering cutters *d' d'* in combination with circular saws *c c*, the

said cutters and saws being brought into action by means such as described, or the equivalent thereof, and operating substantially as described, for the purpose of forming tenons on slats.

Second, constructing the tenon cutters *d' d'* in such manner as to compress and taper the extreme outer ends of the tenons on the slats, substantially as described.

Third, the combination of tubular longitudinal cutting and centering tenon cutters *d' d'* with slat rests *g g*, which are constructed and arranged substantially as described.

Fourth, the combination of the shafts C C', adjustable standards D D and E E, with the slat supports H H, which are also adjustable, the said parts being brought into action by means such as described, or the equivalent thereof, substantially as described for the purpose set forth.

Fifth, the spring pin *n* applied to adjustable arms *m m'*, in combination with the stile support K and boring tool *o o'*, substantially as described.

Sixth, holding the slats by means of the tubular cutters, cutting the shoulders of the tenons with the saws, and then finishing the tenons by means of the same tubular cutters, which hold the slats while the saws are operating, all substantially in the manner herein described.

60,801.—R. S. STENTON, Brooklyn, N. Y.—*Wrench.*—January 1, 1867.—Explained by the claim and illustration.

Claim.—Making the inclining jaws A and B at such an angle with the straight shank C¹ as to embrace four sides, and to grasp in parallel contact three sides of a hexagon nut, in combination with a sufficient elongation of the lower jaw, so as to grasp two sides of a square nut as set forth.

60,802.—FRANCIS A. STERRY, Canton, Mass.—*Adjusting Spindles in Ring Spinning.*—January 1, 1867.—The bolster and step are adjustable laterally to restore the spindle to position after becoming worn.

Claim.—Adjusting the spindle E by the bolster F and the step G, nuts *f g*, and openings O O, substantially in the manner and for the purposes herein set forth.

60,803.—CHARLES L. STEVENS, Galesburg, Ill.—*Water Elevator for Railroad Tanks.*—January 1, 1867.—The frame has inclined rails by which it is depressed by the passage of cars, giving by the pivoted levers the up stroke to the pump pitmans. Weights on the levers cause the down stroke.

Claim.—First, the arrangement of the three levers C C' C, constructed with friction rollers *f* on their ends, for operating the pumps by the depressing and elevating movement of the platform beams *b* resting directly thereon, and weights E connecting therewith substantially in the manner and for the purpose as set forth.

Second, weather-tight planked rail platform, resting directly on the friction rollers *f* of the ends of the levers C, substantially in the manner and for the purpose as set forth.

Third, the platform beams *b* having shaft rods constructed with friction rollers *c* on their ends, and operating in vertical openings *g* in the bed sills D, and under the rails, substantially in the manner and for the purpose as set forth.

Fourth, the friction rollers *h* as arranged on the corners of the ends of the platform, to serve as lateral guides in the depressing and elevating movement of the platform, substantially in the manner and for the purpose as set forth.

Fifth, the weights E, as arranged in their connection with the levers, substantially in the manner and for the purpose as set forth.

Sixth, the side plates *a* on the sides of the rails A of the platform, substantially in the manner and for the purpose as set forth.

60,804.—ALBERT STUCKENRATH, New York, N. Y.—*Cut-off for Steam Engines.*—January 1, 1867.—Improvement on his patent of May 1, 1866, (No. 54,439.) The cut-off is regulated by levers from the governor which, by a rack and pinion, turn a shaft within the steam chest. A pointer attached to the shaft in combination with a scale indicates the pressure of steam and point of cut-off.

Claim.—The lever L, adjustable ring R, constructed substantially as and for the purpose set forth, and shown in the accompanying drawings.

Also, the combination of the pronged lever L, adjustable ring R, levers *u*, and index of the graduated dial D, substantially as set forth.

60,805.—WILLIAM TOSHACH, New York, N. Y.—*Car Spring.*—January 1, 1867.—The spring has plates of gradually increasing lengths upward and downward from the middle diaphragm, and are inclosed in a case whose top and bottom plates are movable and have bearings on the ends of the longer and outer spring plates. Rubber springs are interposed between the movable plates of the case and the spring plates.

Claim.—A series of thin, elastic, rectangular metallic plates, either straight or curved, of graduated lengths, in combination with compensating rubber springs, and a suitable casing when so arranged as to be deflected if made straight, or straightened if used in a curved form, by means of flanged pressure plates, the whole constructed and operating substantially in the manner and for the purpose herein set forth.

60,806.—JOSEPH TRENT, Millerton, N. Y.—*Liquid Measure.*—January 1, 1867.—The funnel is so hinged to the nozzle of the measure that it can be applied to its general use or as a cover. A cylindrical portion at its larger end enters the measure and directs the drip thereinto when the funnel is inverted.

Claim.—The combination of the can A, and the funnel B, and the double-jointed hinge H, substantially as arranged and described.

60,807.—HENRY S. VROOMAN, Hoboken, N. J.—*Channeling Machine.*—January 1, 1867.—An improvement on the "McKay channeler." The arm carrying the channelling cutters and the upper feed-roller is removable without removal of its pivot pin. The operating parts are adjustable to cut the channels to the required depth and distance from the edge.

Claim.—First, so applying the arm L to the machine that it may be removed from the frame or standards without withdrawing the pin *a*, upon which it swings.

Second, the provision for longitudinal movement of the arm to adjust the cutters with reference to the edge guide wheel, substantially as set forth.

Third, in combination with the arm L the block N, or the auxiliary block O, carrying the cutters, and made capable of vertical adjustment to simultaneously regulate the depth of cut of the knife, and grooved substantially as described.

Fourth, the slotted construction of the knife-stock Q, in combination with a groover stock and other parts of a channelling machine, to permit its removal without withdrawing the screw *h*, substantially as set forth.

Fifth, in combination with the stock Q the gange plate P, for determining the position of the knife when replaced substantially as described.

60,808.—JAMES T. WATSON, Richmond, Ind.—*Gate Hinge.*—January 1, 1867.—One of the wings has a sliding adjustment in its attaching bracket so as to be regulated in distance from the pintle, for the purpose of adjusting vertically the outer end of the gate.

Claim.—The combination and arrangement of the butt A, bar or wing B, bracket C, and thumb-piece and screw-bolt D, when constructed and operating as and for the purposes set forth.

60,809.—ISAAC P. WENDELL, Philadelphia, Pa.—*Mode of Lubricating Journals.*—January 1, 1867.—The oil box has tubes communicating with the lower face of the journal, and contains spiral wires to conduct the oil to the journal on the exhaustion of air at the upper ends of the tubes.

Claim.—An oil box A, having a tube D, in combination with plate B, having orifices *b b*, and journal E, substantially as described.

60,810.—WILLIAM WESTLAKE, Brooklyn, N. Y., assignor to CROSS, DANE & WESTLAKE.—*Lantern.*—January 1, 1867.—A zone of colored glass is placed over the glass globe for use as a signal. The cap is held on by catches which are released by thumb pins. The usual top plate is perforated at the mar-

gin, and an additional top is attached outside the perforation.

Claim.—First, converting the "conductor's" lantern into a "signal" lantern, by the means and substantially as herein recited.

Second, accommodating the globe, or glass of the lantern, by means of the screw plate connected to the part *c*, substantially as herein described.

Third, the cap *h* above the plate *g*, for preventing the escape of the oil as herein named.

60,811.—MARTIN V. B. WHITE, Ballston, N. Y.—*Ice Spur.*—January 1, 1867.—A plate having two end loops projecting forward is attached to the front of the heel, and a bar with a spur attached is slipped under these loops and retained by a spring and a projecting lip.

Claim.—The combination of the detachable and adjustable ice spur A with the metallic piece B, or its equivalent, operating in the manner and for the purposes substantially as herein fully described and set forth.

60,812.—BAXTER D. WHITNEY, Winchendon, Mass.—*Planing Machine.*—January 1, 1867.—The pressure feed-roller on the planed part runs at different speed from the other feed-rollers to keep its face clear by slight friction upon the board.

Claim.—Having the size of the back pressure feed-roller, or rolls, or the size of the gear wheels that drive them, such as will give the surface of the roll or rolls a trifle greater or less motion than the front feed-rolls and lumber to be planed have, thus causing the back roll or rolls to slide a trifle on the planed surface, thereby preventing any substance from adhering and accumulating on the rolls.

60,813.—MARK WILDER, East Princeton, Mass.—*Threshing Machine.*—January 1, 1867.—The concave is radially adjustable. The dust is drawn in from the mouth of the machine by a rotary fan, and is discharged through a spout at the tail end by another fan. The object is to prevent the diffusion of dust among the operators.

Claim.—First, the combination of fan D with the separating parts of the machine, substantially as and for the purposes stated.

Second, the combination of fan C with the threshing parts of the machine, substantially as and for the purposes stated.

Third, the combination and arrangement of fans C and D with cylinder B, substantially as set forth.

Fourth, the combination and arrangement of fans C and D and threshing cylinder B with frames O and K, as and for the purposes set forth.

Fifth, the combination with the front of box E of the guards *o* and adjustable frame *p*, substantially as and for the purposes set forth.

Sixth, supporting bed piece H by means of hinged supports I and J, for the purposes stated.

Seventh, the combination of the adjustable damper R with the fan D, substantially as and for the purposes set forth.

60,814.—O. F. WINCHESTER, New Haven, Conn.—*Metallic Cartridge.*—January 1, 1867.—The cartridge shell has a cap over the rear front, and a cushion interposed between the two rear disks to prevent accident and relieve the breech-pin when firing.

Claim.—A cartridge case consisting of the case A and cap B, with the intervening disk or cushion *b*, arranged to operate substantially as and for the purpose set forth.

60,815.—EMANUEL ZORGER, Greensburg, Ind.—*Car Coupling.*—January 1, 1867.—The coupling is self-attaching, the entering link raising the lever catch, an angular part of which drops into a complementary slot in the catch plate of the draw-head. The draw-head is held in place for attachment by friction plates backed by springs. A groove in the catch receives the link when coupled.

Claim.—First, the hinged gravitating catch D, when constructed with the concavity I and chamfered faces *g g'*, and with the slot *f*, and used in combination with a draw-head, with converging throat and V-shaped pocket I, and also in combination with the hinged bar *k*, said parts being constructed sub-

stantially in the manner and employed for the purpose set forth.

Second, in combination with the draw-bar *a'* and draw-head A, constructed and arranged to act automatically, substantially as set forth, the friction plates N N' and tension springs O P for holding the draw-head in any required position when coupling the cars, substantially as set forth.

60,816.—E. H. ASHCROFT, Lynn, Mass.—*Globe Valve for Steam Engines.*—January 1, 1867.—The valve stem is hollowed axially, and the hollow has raised radial continuations above the valve for the passage of grinding material. The stem admits of free rotation for grinding by disconnecting the upper nut from the body.

Claim.—First, the hollow valve stem D, constructed in the manner substantially as described and for the purpose set forth.

Second, the combination of the said stem with the globe valve B and screw nut F.

60,817.—E. H. ASHCROFT, Lynn, Mass.—*Boiler Gauge Cock Handle.*—January 1, 1867.—The wooden handle disk is secured to the stem between two metal plates by traversing rivets.

Claim.—A handle for gauge or water cocks for steam boilers, constructed in the manner substantially as shown and described and for the purpose set forth.

60,818.—STEPHEN L. AVERY, Norwich, N. Y.—*Pump.*—January 1, 1867.—The wrist pin of a crank upon the driving-pinion shaft has play in the slide slot of the inclined cross-head of the pitman. A spiral spring counterbalances the pitman rod and buckets.

Claim.—Improved pump, constructed of the sliding plate *g*, compensating spring *z*, metallic plunger or piston *d*, and suitable valve and valve seats *j*, arranged in combination with the tubing of a well A, and operating substantially in the manner hereinbefore described.

60,819.—DAVID M. AYER, Lewiston, Maine.—*Preparing Sole Leather for Boots and Shoes.*—January 1, 1867.—The leather when damp is run between a fluted and plain roller, and afterward dried between heated plates of similar conformation.

Claim.—First, the method herein described of preparing sole leather for the construction of boots and shoes, with air cells between the outer and inner soles.

Second, as an article of manufacture and sale, sole leather corrugated or fluted, and hardened, substantially as described.

60,820.—FREDERICK G. BAKES, Vevay, Ind.—*Hillside Plow.*—January 1, 1867.—The plow has right and left wings as upward additions to the mold boards; these are adapted to be used alternately; they have devices for securing them in their places to the beam or mold board.

Claim.—First, the provision in a hillside plough of right and left wings, or mold boards G G', adapted to be alternately secured in the active and inactive positions substantially as set forth.

Second, in the described combination with the reversible share F, and wings G G', the latch K, lips P, lugs L L', M M', eye N, and hook O, or their mechanical equivalents, for the purpose explained.

Third, the arrangement of duplicated wings G G', pivoted near their front ends to the sheath, and secured alternately to their upper or inactive positions by the hook Q, and the eye R, or their equivalents.

60,821.—GEORGE BALDWIN and ALLEN B. CHASE, Italy Hill, N. Y., assignors to ALLEN B. CHASE.—*Wool Press.*—January 1, 1867.—The table has three sections; those at the side hinged to the central one. The fleece is placed on the table and the side leaves raised to fold in the sides. The hinged ends of the central section are then raised, folding in the ends of the fleece. The underlying cords are then tied over the fleece. A treadle releases the catches which hold up the folded leaves.

Claim.—The latches D and D, rolling catch E, provided with the weighted arm G, and treadle F, when constructed and arranged substantially as specified and used for the purpose set forth.

60,822.—E. D. BARRETT, New Haven, Conn., assignor to himself and JULIUS B. SAVAGE.—*Die for Cutting Screws.*—January 1, 1867.—The cutters are lodged in a recess in the cutter heads, and are adjustable tangentially to the article being turned by set-screws on one side and a wedge-shaped piece operated by set-screws on the other; the different positions to which the cutters may be adjusted remain always in planes parallel one with another.

Claim.—The combination of the lever E, the wedge I, cutter *e*, and set-screws *g* and *c*, so as to operate substantially in the manner herein set forth.

60,823.—THOMAS J. BARRON, Brooklyn, N. Y.—*Converting Iron into Steel.*—January 1, 1867.—The iron, after fashioning to any form, is confined in a retort with hydrogen, carbon and nitrogen in stated proportions, and subjected to heat.

Claim.—First, the use and application, for converting iron into steel, of the compound gas composed of carburetted hydrogen with nitrogen and cyanogen, or with nitrogen and carbonic oxide, and either with or without ammoniacal and chlorine gases, applied substantially as described.

Second, the use, in combination with the process of converting iron into steel by the application of such gases, of chlorine gas, preliminary to such process, for the purpose and in cases as set forth.

Third, protecting the metal after it has been steeled or converted into steel, and when the same is to be hardened while being transferred to the hardening bath, from contact with the atmosphere, for the purposes set forth.

60,824.—WILLIAM BATTY, Cincinnati, Ohio.—*Powder for Facing Molds.*—January 1, 1867; antedated December 23, 1866.—The facing powder is made from the crusted residuum of petroleum stills or coal-gas retorts. The cinder is pulverized and bottled to prepare it for use.

Claim.—The molder's facing powder, composed and prepared in the manner described.

60,825.—CHARLES BEACH, Penn Yan, N. Y.—*Corn Sheller.*—January 1, 1867.—The hopper has inclined ribs within. The concave shelling face consists of narrow pendent plates confined by a ring made vertically adjustable to limit the space between the grinding surfaces. The corn and cobs are swept over the sieve bottom, and the cobs pass over an inclined riddle. The corn is delivered on one side and the cobs on the other. A blower disperses the chaff.

Claim.—First, the adjustable ring D, in combination with the shelling bed composed of the spring sections *b b*, operating substantially in the manner and for the purpose herein specified.

Second, the combination of the inclined wings *a a*, with the hopper B, shelling bed C, and cylinder or cone E, arranged and operating as herein set forth.

Third, the combination of the curved arms G G, with the perforated floor H, and cob outlet *f*, when arranged in connection with the shelling mechanism C E, substantially as described.

Fourth, in combination with the subject matter of the preceding claim, the arrangement of the perforated chute L, with hinged valve N, and the reverse discharge board M, the whole arranged and operating as described.

Fifth, the special construction and arrangement of the machine, consisting, essentially, of the bed C, cylinder or cone E, arms G G, perforated floor H, discharge board L, exhaust fan P, and the inclined chutes L M, operating substantially as set forth.

60,826.—JOHN H. BEAR, York, Pa.—*Horse Hay Rake and Seeder Combined.*—January 1, 1867.—Seed hoppers are attached to the rake axle for distribution of seed or fertilizers. The rake lever will either raise the rake for the discharge of hay, or depress it to act as a harrow.

Claim.—First, securing one or more seed hoppers, which are provided with seed-dropping devices or guano distributors to the axle-tree of a hay rake, the teeth and driver's seat of which are applied to said axle, substantially as described.

Second, the combination of the hopper box G, axle-tree A, driver seat D, and a lever for enabling the

driver to hold the rake teeth down for harrowing in the seed, substantially as described.

60,827.—ASA BEE, White Oak, West Va.—*Saw.*—January 1, 1867.—The planing bits are attached to the sides of the saw to plane both sides of the kerf. The lower sides of these bits are grooved to an edge and set at an angle with the plane of the cutting line of the saw.

Claim.—The plane bit or iron *a*, when constructed with a groove or gutter *a'*, and secured to the blade of a saw, substantially as and for the purpose specified.

60,828.—EDWIN L. BERGSTRESSER, Sunbury, Pa.—*Gate.*—January 1, 1867.—The gate is centrally pivoted on a longitudinal arm supported by rollers at the rear gate post. The gate is opened by being turned 90° and then moved backward with its supporting arm to the rear post.

Claim.—First, pivoting the gate centrally to an overhanging sliding bearer, arranged substantially as and for the purpose specified.

Second, the sliding bearer to which the gate is pivoted, arranged to operate substantially as and for the purpose specified.

Third, the arrangement of the friction rollers, in the described relation to the post, and to the sliding bearer passing through said post, for the purpose specified.

Fourth, the employment of a weight or counterpoise upon the outer end of the sliding bearer, which has the gate pivoted to its inner end, substantially as and for the purpose specified.

60,829.—JOHN F. BOYNTON, Syracuse, N. Y.—*Anti-friction Oil.*—January 1, 1867.—Vegetable oils and gums are placed in a closed vessel with hydrocarbons to be oxidized under heat in the presence of sulphur. The ingredients used are noted in the claims.

Claim.—First, a material for lubricating machinery, formed by combining sulphur with hydro-carbon oils, tars, or their equivalents, substantially as described.

Second, the combination of linseed oil with the products of gas tar and sulphur.

Third, the combination of any of the petroleum series of hydro-carbons with the gas tar series, as herein described, for the purpose set forth.

Fourth, the combination of the petroleum and gas tar series of the hydro-carbons with sulphur, for the purpose set forth.

60,830.—JOHN F. BOYNTON, Syracuse, N. Y.—*Roofing Material.*—January 1, 1867.—Composed of gas tar, 40 gallons; pitch, 20 gallons; distillate from gas tar, 10 gallons; clay, 20 pounds; carbonate of lime, 20 pounds; sulphate of iron, 3 pounds; sulphur, 2 pounds; and chloride of calcium, 1 pound. These are mixed with peat, muck, or proper fibrous or ligneous material.

Claim.—First, the combination of peat with gas tar or gas tar products, as and for the purpose described.

Second, the combination of muck with gas tar or gas tar products, as and for the purpose described.

Third, the combination of ground ligneous and fibrous materials, peat and muck, with gas tar or gas tar products, for the purpose described.

Fourth, peat, muck, and disintegrated ligneous and ground fibrous materials combined with asphaltums, gas tar and its products, substantially as set forth and for the purposes herein described.

Fifth, the combination of the silicate of soda, silicate of magnesia, and the chloride of calcium, for the purposes above specified.

60,831.—C. H. BUTTERFIELD, Sturbridge, Mass., assignor to J. E. TAYLOR, Sutton, Mass.—*Carriage Spring.*—January 1, 1867.—The spring plates are bolted to the perches, and pass through loops thereon with a longitudinally extended top. The springs are jointed to the body loops, and these latter have slots for the passage of screws for their attachment to the frame.

Claim.—First, the clasp D, constructed as shown, in combination with a single leaf spring C, as described.

Second, securing the spring C to the bearing H B, by means of the close joint E, in combination with the clasp D, as and for the purpose set forth.

60,832.—A. ALPHONSE CHASSFQOT, Paris, France.—*Needle Gun.*—January 1, 1867.—The needle is attached to the end of the hammer rod, which is enveloped in an oscillating sleeve having a projection on it that enters a suitable cavity in the barrel, when the gun is charged. The hammer rod and sleeve have such projections and slots that the gun must be cocked, and the sleeves so turned as to retain the parts in that position before the needle mechanism can be drawn back for the insertion of the cartridge. After the replacement of these parts the turning of the sleeve to the position for firing transfers the onus of retention of the hammer to the tumbler, which is operated by the trigger. An annular packing of vulcanized rubber is confined between the end of the sleeve and a flange on the needle case, so that the pressure of the discharging cartridge shall pack the barrel. The fore end of the needle case has an annular chamber around it for the reception of the residuum of the cartridge.

Claim.—First, in a breech-loading fire-arm, the rigid connection between the needle-carrying rod and the cock or hammer by which the said rod is operated and withdrawn from the breech bolt, substantially as shown and set forth.

Second, the combination with the tubular breech bolt of the needle rod and its rigidly attached cock or hammer and actuating spring, under such an arrangement that by the retraction of the said rod from the breech bolt the spring shall be compressed, and the gun cocked, substantially as herein shown and described.

Third, in combination with the needle-carrying rod, and the cock to which it is rigidly secured, supporting and holding the spring which surrounds the needle rod, between the front end of the said rod and the rear end of the breech bolt, substantially as shown and described.

Fourth, the combination of the needle rod and cock or hammer for operating the same, with a sliding and rotary breech bolt, provided with slots, grooves, or equivalent devices for limiting and determining the forward movement of the said hammer and rod, as herein set forth.

Fifth, the combination of the needle-carrying rod and its tenon *l*, with the plug or bolt screwed in the rear end of the breech bolt, and perforated and recessed for the reception of the said rod and tenon, substantially as and for purposes described.

Sixth, in a breech-loading fire-arm, as herein described, the combination with the tubular bolt or breech sliding in the breech receiver as specified, of the movable sheath or tube for receiving the needle, capable of a sliding and rotary motion upon the axis of the said breech, substantially as shown and set forth.

Seventh, interposing between the head of the breech bolt and the flange formed on the movable needle sheath, a cylindrical disk or tube of vulcanized india-rubber, whose diameter is such as to allow it to slide freely in and out of the charge chamber; but at the same time to cause it to hermetically close the said chamber when compressed between the needle sheath and the breech bolt by the action of the gases generated by the ignition of the charge, as herein shown and set forth.

60,833.—ALVIN B. CLARK, Richmond, Ind.—*Apparatus for Turning the Leaves of Music.*—January 1, 1867.—The clips are attached to the leaves, and carried along the curved bar in such a manner as to detach them from the magnet at the proper time. The magnet arm is actuated by a treadle.

Claim.—First, the swinging magnet D, in combination with the clip B attached to the leaf, when operating substantially in the manner and for the purpose set forth.

Second, in an apparatus for turning the leaves of sheet music, suspending a magnet upon an oscillating arm, and so connecting the arm with a pedal, by intermediate mechanism that the leaves may be turned successively by the action of the foot of the player, substantially as described.

Third, in combination with the swinging magnet D, the clips B, attached to the rod C, when the latter is so arranged in relation to the centre of oscillation that the magnet shall be detached as the leaf is turned, substantially in the manner set forth.

60,834.—AMASA COBBS, Pittsburg, Pa.—*Photographic Bath.*—January 1, 1867; antedated December 19, 1866.—The plate is laid on the dipper rod, which is then introduced through the opening in the box, and laid on the pivoted oscillating bottom.

Claim.—The combination of the oscillating bottom F with the box A in a nitrate bath, substantially as described and for the purposes set forth.

60,835.—JOHN F. COLLINS, New York, N. Y.—*Manufacture of Alcohol and other Pure Distillates.*—January 1, 1867.—Phosphate of lime or equivalent is added to the wash or mash in heating, to neutralize or prevent the formation of acids. The distillation is carried on below 177° Fahrenheit, to prevent formation of acid. A current of gas is driven into the still to aid the escape of volatile parts.

Claim.—First, the products derived from hydrocarbon, coal, or mineral oils, petroleum or turpentine, distilled substantially as described.

Second, spirituous liquors, alcoholic substances and essential oils, distilled from wash, mash, or other substances, in the manner substantially as described and set forth.

60,836.—E. P. CONNOR, Jeffersonville, Ohio.—*Detaching Runaway Horses.*—January 1, 1867.—The hinged plate upon the back of the doubletree is thrown off its detent by a cam upon the tongue, worked by a lever on the fore axle. Raising the plate frees the doubletree.

Claim.—The arrangement of cap E e G, notch c, detent F, and cam H, or their equivalents, constructed and operating as set forth.

60,837.—JOHN CUPS, Chicago, Ill., and AMOS R. HARPER, Grandville, Mich.—*Converting Reciprocating into Rotary Motion.*—January 1, 1867.—The segmental racks engage spur-wheels so coupled by ratchet spring collars to the driving shaft as to produce continuous rotary motion.

Claim.—The employment of two rack wheels, or segmental circular racks, in combination with two pinions on the driving shaft, arranged so as to be coupled alternately thereto, in such a manner as to produce continuous rotary motion in one direction, substantially as and for the purpose herein specified.

60,838.—JONATHAN DAVIDSON, Edinburgh, Scotland.—*Apparatus for Reefing Sails.*—January 1, 1867.—The sail is sustained on the upper cross-shaft, to whose ends are hung the swinging arms, carrying at their lower ends the revolving yard on which the sail is wound. The upper yard is fixed to the two chains passing over pulleys on the upper shaft and sprocket wheels on the lower yard. The pressure of the wind, if extreme, causes the lower yard to swing forward, and spur wheels upon its ends engage a rack to wind the sail upon the yard. This action of the wind is partially counterbalanced by a spring or weight connected by a cord to the revolving yard.

Claim.—First, effecting the automatic reefing of sails by means of spring, lever, or equivalent mechanism, arranged and applied to the sails, substantially as described, so that the extent of surface of the sails exposed to the action of the wind shall always be inversely proportionate to the pressure of the wind upon the said sails, substantially as herein shown and set forth.

Second, the herein described apparatus for effecting the self-reefing of sails, the same consisting of a shaft or roller connected with a spring lever or equivalent mechanism, and engaging with one or more racks or guiding arms, projecting out from the mast, the said apparatus being so combined with the sail that the movement of the roller along its rack or guiding arm shall cause the sail to increase or diminish in size in inverse proportion to the force or pressure of the wind, substantially as herein specified.

60,839.—ELIJAH F. DUNAWAY, Indianapolis, Ind.—*Machine for Wiring Blind Slats.*—January 1, 1867; antedated December 19, 1866.—The upward movement of the hand lever operates the feed lever by a cord. The feed lever acts on the ratcheted slide, to which the rod is connected to feed it forward the length of one ratchet tooth at each movement.

Claim.—The arrangement of the cord T, with the

lever C and J, and pulley S, as herein described and for the purposes set forth.

60,840.—B. WELLS DUNKLEE, Boston, Mass.—*Coal Stove.*—January 1, 1867.—The air tubes have downward extensions nearly reaching the floor of the cold-air chamber. The caloric current may have direct exit or be made to pass out through a diving flue.

Claim.—The arrangement of the combustion chamber B, with its smoke exits E F and H, with respect to the air tubes D D, &c., of the furnace, substantially in manner and for the purpose as above described.

Also, the combination and arrangement of the flues E F and J, and their relative position with respect to the fuel supply door of the furnace, essentially as set forth and explained.

60,841.—J. E. DUST, Hyattsville, Ohio.—*Table.*—January 1, 1867.—Two of the legs are so jointed to the others as to permit their approach when the leaf is lowered. The moving legs are connected to the top by a dovetail slide. A waiter board of smaller diameter than the top is centrally pivoted upon it.

Claim.—The folding table A B, stationary legs C C', sliding legs D D', rotary waiter G, forming a convertible self-waiting and folding table and side-board.

60,842.—JOHN ALEXANDER, Greenpoint, N. Y.—*Grate for Furnaces.*—January 1, 1867.—The furnace is intended for burning slack. The grate bars have rounded grooves and small holes flaring downward. The two end sections of the grate interlock over a central lateral support.

Claim.—First, in grate bars, the grooves e and tapering holes e', arranged in the manner and so as to perform the functions herein specified.

Second, in combination with the above the locking parts E² E³ on the ends of the perforated and grooved sections E¹, and adapted to serve in combination therewith, as herein specified.

Third, in combination with the perforations e' and grooves e, the continuation of the webs E¹ over the bearers, so as to provide free access for the draft to the holes and grooves located in that part of the grate.

60,843.—JUAN S. L. BABBS, New Albany, Ind.—*Dovetail Machine.*—January 1, 1867.—An improvement on the Hartwell patent. The two platforms receive respectively the match sides to be dovetailed. The adjustable clamps may be used with either platform, having screw attachment in each case to the other platform. The gauge teats are adjustable in prominence.

Claim.—First, the construction and arrangement of the two platforms A A, when applied in combination to the Hartwell patent dovetail machine, or its equivalent, substantially as and for the purposes herein described.

Second, the use of the holdfasts or clamps in combination with the adjustable blocks C C, as applied to the combined platforms A A, when arranged and operating as and for the purposes herein described.

Third, the use of the four spring check gauges D D D D, in combination with the platforms A A, substantially as arranged and for the purposes as herein described.

Fourth, the construction and arrangement of the two graduating gauge teats E E, in combination with the combined platforms A A, operating substantially as arranged and for the purposes as herein described.

60,844.—WILLIAM A. BARLOW, Elkhorn, Wis.—*Heating Stove.*—January 1, 1867.—The chimney descends into the smoke chamber, which is surrounded by an annular air chamber and has a tilting bottom or damper. The annular air chamber has perforations at its lower edge for the introduction of air to the combustion chamber, and is surrounded by a flue space. The air has exit holes in the stove crown.

Claim.—The interior chamber C, provided with a tilting or otherwise opening bottom H and a downwardly projecting pipe or flue D, substantially as and for the purpose herein specified.

Also, the combination of the chamber C, constructed and arranged as above specified, and chamber B, substantially as and for the purpose herein set forth.

Also, the combination of the air-circulating cham-

ber G with the chambers B and C, constructed and arranged as above specified, substantially as and for the purpose herein specified.

Also, the air-supplying openings or passages *d d* at the base of the chamber C, constructed and arranged as above specified, substantially as and for the purpose herein set forth.

60,845.—WILLIAM A. BARLOW, Elkhorn, Wis.—*Heating Stove.*—January 1, 1867.—Air is introduced to the combustion chamber by a pipe whose exit is at the center of the deflecting plate above the grate. The calorific current passes around the edge of the deflector and up through a central flue, which is surrounded by an air chamber having holes at top.

Claim.—A deflecting plate B, in combination with one or more air-supplying pipes C, arranged and operating substantially as and for the purpose herein specified.

Also, in combination with the foregoing, the interior downwardly extending pipe or flue D, and an air-circulating chamber E surrounding said pipe or flue, substantially as and for the purpose herein set forth.

60,846.—D. C. BAUGHMAN, Föft Seneca, Ohio.—*Seeding Machine.*—January 1, 1867.—The machine has a drill hopper for grain and a broadcast hopper for grass seed or fertilizers. The seeding wheels in the drill hopper are operated by a belt from the agitator shaft of the other hopper. The seed apparatus may be thrown out of gear by a lever and a ratchet clutch upon the axle.

Claim.—First, the combination of the two hoppers G and J with the shafts *g h*, spur wheels *a a'*, pulleys *g' g''*, or their equivalents, and clutch *b b'* upon the axle C and lever *e*, which is acted upon by the bar E, to which the drill teeth are attached, all operating substantially as described.

Second, adapting the shaft *h* of the hopper J to serve as an agitator for this hopper, and also as a means for transmitting motion from the axle C to the shaft *g* of the hopper G, substantially as described.

Third, the construction of the seed guards *l* with openings *m* in their sides, in combination with the rotary seed dischargers, substantially as described.

Fourth, making the openings through the sides of the seed guards *l* larger at their upper ends than at their lower ends, substantially as described.

Fifth, constructing the rotary seed dischargers *k* with discharging wings on each side, substantially as described.

60,847.—A. M. BEARD, Hillsborough Bridge, N. H., assignor to himself and SOLOMON MCNEIL, same place.—*Head Block for Saw Mills.*—January 1, 1867.—The log rest has lateral movement by a double pawl actuated by a lever. The pawl is held to the advancing or retracting action by a slide bar which engages a notch upon it. The pawl engages a spur wheel which revolves a shaft carrying spur wheels gearing in mortise racks. Two adjustable end rests are provided for tapering or crooked logs. A rack upon the log-rest engages a wheel on a shaft carrying index disks which indicate the lateral movement.

Claim.—First, the rotating index 4, supported on and carried by the log-rest B, and operated by a fixed rack 1 and pinion 2, substantially as and for the purpose herein specified.

Second, in connection with the graduated indicating disk or index 4, pinion 2, rack 1, and log-rest or head block B, an adjustable secondary index or graduated disk 3, arranged and operating substantially as and for the purpose explained.

Third, a hand lever D having a double pawl *d*, which is controlled by an eccentric G and sub-lever I pivoted thereto, and having a second eccentric or cam *j* and rod J for lifting the head block or rest pawl *g*, in connection with a spur wheel E, pinions *c c*, racks *a a'*, and rest B, as and for the purpose shown and explained.

Fourth, the balanced elbow-shaped pawls *z*, in connection with the stands O and sliding dogs T, as and for the purpose described.

Fifth, the rollers *q* pivoted to the tops of the stands D, as and for the purpose set forth.

Sixth, the stands D, in combination with the movable rest B, when the said stands are adjustable on the said rest B, substantially as and for the purpose set forth.

60,848.—EDMUND BECKER, Cincinnati, Ohio.—*Roofing.*—January 1, 1867.—Narrow strips are secured centrally over each rafter by cords or wires, and side pieces are fastened to these strips. The side pieces have grooves in their lower sides to contain the up-turned side edges of the roof sheets. The strips and their side pieces are covered by metal, and the metal cover and the up-turned edges of the sheets are traversed by horizontal pins, which attachment allows the expansion or contraction of the sheets.

Claim.—First, the bars B, constructed substantially in the manner and secured at their base to the rafters of the roof, as and for the purpose described.

Second, the pins *k* driven into the bars B, in combination with the notched plates A, substantially as described and for the purpose specified.

Third, the construction of the metallic sheets A, provided at their upright sides with notches *h*, and secured to the roof by the bars B so as to have full liberty to expand and contract in all directions, as and for the purpose set forth.

60,849.—OTIS T. BEDELL, New York, N. Y.—*State Washer.*—January 1, 1867.—Explained by the claim and illustration.

Claim.—A slate washer composed of a compressible water vessel A and absorbent wiper B, combined substantially as herein set forth.

60,850.—CHARLES BEMIS, Mishawaka, Ind.—*Car Brake.*—January 1, 1867.—The lever and the chain connected thereto actuate the oscillating block by which the brakes are operated.

Claim.—The arrangement of the lever *n*, the chain *k*, the pulleys *m m*, and the shaft *e*, connected with the shoes *a a* by the arms *e e* and the rods *g g*, to operate as a railroad car brake as herein described.

60,851.—FREDERICK BENNETT, Watford, England, assignor to JOHN S. GEORGE, Nassau, New Providence.—*Manufacture and Coating of Lead Pipe.*—January 1, 1867.—The pipe is made over a fixed mandrel, which is made hollow for the passage of the tin when the pipe is to be lined.

Claim.—First, the within described process of manufacturing lead pipe by the use of a stationary mandrel in contradistinction to the mandrel generally used, which moves with the piston of the hydraulic ram, substantially as and for the purpose described.

Second, the within described process of coating the interior of lead pipes with tin or other suitable material during the process of manufacturing the same, by means of a hollow stationary mandrel, substantially as set forth.

60,852.—GEORGE F. BLAKE, Boston, Mass.—*Direct Acting Engine.*—January 1, 1867.—The tappet rod extends through stuffing boxes into the steam and pump cylinders, and the pistons impinge on its ends to work a slide valve, which directs the steam to an upper valve cylinder to operate the valve plunger therein.

Claim.—First, the tappet rod F, arranged as described, for the purpose specified.

Second, the combination of the rod F, lever G, and valve rod H, substantially in the manner described.

Third, the auxiliary exhaust, arranged and operating substantially as specified.

Fourth, so controlling the supply ports of the main cylinder by the conjoint action of valves M and N that those valves shall together constitute a cut-off to arrest the supply of steam to either end of the main cylinder while that end is exhausting, substantially in the manner and for the purpose set forth.

60,853.—JAMES BOWDEN, New York, N. Y., assignor to himself, WILLIAM H. COLBANKS and HORACE THEALL, same place.—*Fastening Boiler Tubes.*—January 1, 1867.—The tube holes are bushed with inward flaring ferrules, and the tube end is surrounded with a ferrule whose outward surface is brought in contact with the inner surface of the bushing by a nut screwing on its outer end.

Claim.—The wedge-shape ferrule C D, in combination with the nut E, tube B, and tube-sheet A, substantially as set forth.

60,854.—HENRY P. BRADBURY, Springfield, Ohio.—*Water Wheel.*—January 1, 1867.—The water is re

ceived at the side and discharged at bottom. The upper stream passes horizontally between vertical buckets and then acts while descending upon inclined buckets. The lower flow descends over the inclined buckets at the periphery of the wheel. The balanced gates for admittance of water are opened by segmental racks on their shafts, which engage with similar racks on an upper wheel.

Claim.—First, the combination of the three sets of buckets, C E F, substantially as and for the purpose set forth.

Second, the horizontal buckets C, in combination with the vertical buckets F, and the annular chamber G, substantially as and for the purpose set forth.

Third, in combination with a wheel receiving its water horizontally, the post M and balanced gates R, operated by the segment S and geared ring T, substantially as and for the purpose set forth.

60,855.—SAMUEL BRISTOW, Bedford, Ind.—*Saw Mill.*—January 1, 1867.—The actuating chain passes around pulleys on the driving shaft and rope drum. The pulley end of the drum has vertical movement by means of a lever to tighten the chain sufficiently to rotate the drum and adjust the log.

Claim.—The grooved pulley E on the drum shaft D, one end of said shaft having bearings in a movable standard, grooved pulley C on the driving shaft A, chain h, and lever F, when constructed and arranged as herein set forth.

60,856.—N. H. BRUCE, Forge Village, Westford, Mass.—*Tag or Label.*—January 1, 1867.—The cord passes under a metal plate secured underneath by the folded end of the tag.

Claim.—A tag having a cord or string, or its equivalent, secured to it by passing such cord through a metallic tube or casing, or its equivalent, attached to the tag, substantially as and for the purpose described.

60,857.—W. H. BURRIDGE, Cleveland, Ohio.—*Apparatus for Charging Gas or Air with Hydrocarbon Vapor.*—January 1, 1867.—The gas enters the chamber through a tube and is discharged near the bottom of the vessel into a tortuous passage forming a volute of cloth or wood, and then passes over the stepped plates of absorbent material so as to be fully charged with vapor.

Claim.—First, the stepped or shelved partitions provided with basins or cups and flocculent material, in combination with the case A, substantially as and for the purpose set forth.

Second, arranging the steps or pans so as to enlarge the area or surface of the same from top to bottom, and so that the evaporating capacity will be increased in proportion to the increasing density of the fluid by the elimination of the lighter portions.

Third, the plate C', volute chambers C, in combination with the partitions B', arranged substantially as and for the purpose set forth.

60,858.—BENJAMIN CHURCHILL, Wareham, Mass.—*Weighing Apparatus.*—January 1, 1867.—Two beams are employed, each furnished with a sliding scale and weight capable of being passed across the axis of the beam. Nearly all the mechanism is enclosed in a box.

Claim.—Connecting the auxiliary rod or beam F to the main beam by means of the arms F' P', each side of the axis of motion of the beam, so that the poise on the auxiliary beam may be traversed across the axis of the beam, outside of or beyond the axis of the beam, substantially as described.

60,859.—ROBERT J. CLAY, Williamsburg, N. Y., assignor to J. H. CLARK, E. WALSH, J. DONALDSON, and T. H. WALSH.—*Machine for Cleaning Cotton, &c.*—January 1, 1867.—The matted cotton passes between feed rollers to a cylinder armed with pyramidal-ended pickers, and is then carried over endless and circular screens and repicked. A blast of air carries off the dust during the operation.

Claim.—First, the machine for cleaning and relinting damaged cotton, constructed and arranged substantially as herein described.

Second, the footed revolving cylinders E E' and the rubber-sheathed rollers e e' f f' and g g', in combination with the fan-blower G, the travelling screens B B', and the revolving wire cylinders D D', con-

nected and operated substantially as and for the purposes herein described.

Third, the cylinder teeth e e, chamfered on four sides to form a pyramidal-pointed picker, in the manner and for the purposes herein described.

60,860.—WILLIAM F. COCHRANE, Springfield, Ohio.—*Flour Bolt.*—January 1, 1867.—The meal is fed to the bolt by the action of a plunger operated by connections from the bolt shaft.

Claim.—First, the combination with the reel, reel spout, and pump, of the ventilating valve E', as and for the purpose described.

Second, the arrangement of the feed spout, pump barrel, packed piston, and reel spout, with relation to each other and to the reel, as and for the purpose described.

Third, the combination with the feed spout and pump barrel of a flour pump, of the piston-packing blocks, spring blocks, spring boxes, and woollen packing, as and for the purpose described.

60,861.—STEPHEN F. DAVENPORT, Hallowell, Me.—*Steam Engine.*—January 1, 1867.—The outer piston is a cylinder whose two heads are packed in the main cylinder. The steam is received through a hollow fixed piston within the larger piston. An axial pipe conducts the steam thereto. The steam first acts on the inner side of the outer piston head, and exhausts to act expansively on the outer end of the outer piston. It then passes through the annular space between the side of the outer piston and the main cylinder to the exhaust ports.

Claim.—Improved steam engine, made substantially as described, viz: of the cylinder A, the internal piston cylinder B, the piston C, and their steam passages, ports, and valves, arranged in manner as represented, and so as to operate as described in order to cause the piston head B to be moved by the unexpanded and expanded steam, substantially as explained.

60,862.—CHARLES A. DEMLING, New York, N. Y.—*Target for Air Guns.*—January 1, 1867.—The different objects are carried on rods hinged to a bar, and lean toward the marksman. The blow of the bullet swings them over their balance and out of sight. A rear hinged bar is operated by a cord to restore all to the upright position.

Claim.—Dividing a target into a series of parts C, each of which is acted upon separately by the ball or projectile, but all of which are readjusted at the same time by a combination of the rail e, springs or weights f, and rope g with the bar B, rails d, and post A, substantially in the manner and for the purpose herein specified.

60,863.—CHARLES R. DUMMER, New York, N. Y.—*Toy Gun.*—January 1, 1867.—The ball is held in the barrel by the trigger, and upon its release is ejected by the elastic cord which lies in the groove of the barrel.

Claim.—A toy gun, constructed substantially as described, to project a ball secured to the end of an elastic cord, which is stretched between the ends of the barrel portion.

60,864.—SIDNEY S. DURFEE, Chicago, Ill., assignor to himself and CHARLES A. GREGORY, same place.—*Removing Bars from Rivers and Harbors.*—January 1, 1867.—Chains bearing conical blocks and concave-convex anchors are laid on bars beneath the water to cause the removal of the sand and soil by the counter-currents produced.

Claim.—The method of removing bars of sand, or mud, or gravel, in the beds of rivers, or at the mouths of ports and harbors, or similar places, by placing obstructions or agitators upon said bars for the purpose of breaking up the current and thereby causing it to cut into and wash away the bar, all substantially as above shown.

60,865.—RICHARD EATON, Montreal, Canada.—*Railroad Freight Car.*—January 1, 1867.—The axle housings are of wrought iron. The car body has side rests on anti-friction rollers upon the frames of the six-wheeled trucks.

Claim.—First, the truck for freight cars with six wheels and wrought-iron housings H, constructed and

arranged substantially as and for the purpose described.

Second, the cogged friction rollers *f f*, placed between bearing plates on the ear bed and truck frame respectively, and operating substantially as described.

60,866.—CHARLES EDDY, Grass Lake, Mich.—*Scaffold Bracket.*—January 1, 1867.—The divaricating arms of the upper end of the bracket have upwardly-projecting spurs upon their extremities, and there is a similar downward spur upon the heel. From the heel ascends the perpendicular bar to hold the scaffold.

Claim.—The bar *A*, provided with the arms *B B*, the said arms being provided with spurs *a a* and *e e*, either or both, for the purposes and substantially as shown and described.

60,867.—WILLIAM ENNIS, Hudson, N. J.—*Furnace.*—January 1, 1867.—The sides of the grate consist of broad longitudinal bars, overlapping each other in ascending series toward the sides. An arched furnace top forms the bottom to a fuel chamber, and has openings near the side for the admission of fuel to the furnace.

Claim.—The combination of the basket grate with its sides made of overlapping slats, as described, air chambers *G*, and supply apertures *a a*, constructed and arranged substantially as and for the purpose or purposes herein specified.

60,868.—JOSEPH S. FAIRFAX, Wheeling, West Va.—*Railroad Car.*—January 1, 1867.—This relates to street railroad cars. The trucks have a king-bolt attachment to the framework of the body, and are turned at curves in the track by connections to the splinter bar.

Claim.—The arrangement of the vibrating pedestals *B B*, connected with and supported by the cross braces *b b* and the centre block *c*, combined with the rods *e e*, the splinter bar *f*, and the spring *g g*, when applied to a street railroad car, constructed and operating substantially as and for the purposes herein described.

60,869.—D. P. and M. P. FARNHAM, Janesville, Wis.—*Combined Foot Stove and Lantern.*—January 1, 1867.—The heat chamber has a double top to equalize the temperature of the upper plate. This chamber has a telescopic arrangement for elongation when used as a lantern; the upper parts of the sides are perforated to allow passage of light.

Claim.—First, plate *s*, heat distributors *t t t t*, and lid *A*, when constructed and combined substantially as and for the purposes described.

Second, the foot stove *A B*, lamp and lantern *E F*, when constructed and combined substantially as and for the purposes described.

60,870.—HENRY FEYH, Columbus, Ohio, assignor to himself and GEORGE T. EMERY.—*Steam Generator.*—January 1, 1867; antedated September 13, 1866.—The water is conducted from the main water chamber through the fire box by horizontal pipes, and re-passes through lower pairs of pipes of smaller diameter to an inner water chamber having an upward discharge.

Claim.—First, pipes or tubes leading from the main water chamber through the fire box, communicating with pipes or tubes which also lead through the fire box, but which enter a water chamber *E* that extends above the water level, for producing a forced circulation of water in steam boilers, substantially as described.

Second, pipes or tubes of different diameters, the smaller of which lead through the fire box and into a chamber that extends above the water level, for conducting the water from the main water chamber of a boiler, substantially as described.

60,871.—NEHEMIAH T. FOLSOM, Laconia, N. H.—*Atmospheric Dental Plate.*—January 1, 1867.—A slight continuous ridge is formed on the inside of the plate to form a chamber between the plate and the gum, from which the air is partially exhausted to retain the plate in position by atmospheric pressure.

Claim.—First, a packing ridge applied to the surface of the atmospheric plates of artificial teeth, substantially as and for the purpose herein specified.

Second, this invention, whether as a single ridge or

more, whether entirely encircling the plate or partially only, whether close to the edge or further from it, and in different directions, and with any materials, as set forth.

60,872.—CHARLES B. FRANCIS, Newark, N. J.—*Window Blind Fastener.*—January 1, 1867.—One of the slats has a strap plate which engages the pin of the slotted arm. A friction screw traverses the slot and holds the slats to any adjustment.

Claim.—The metallic strap *D* and slotted bar or lever *E*, for the purpose of holding the slats of window blinds at any desired angle, substantially as and for the purposes herein described.

60,873.—JACOB J. FRIEND, Altona, Ill.—*Portable Field Fence.*—January 1, 1867.—The foundation board is secured by stakes driven through it into the ground, and the panel posts and braces are attached to it by traverse pins. The rails overlap their posts sufficiently to have a bearing on the posts of the panels on each side. The adjacent posts are attached together by a keyed pin. Wires extend from post to post to keep cattle from contact with the fence.

Claim.—The rails *B*, so arranged as to have their ends project from the panels *A* of one section on to the back edges of the panels of another section, and intervene between the rails of the panels thereof, and the bolt *E* and key *F*, in combination with the panels, brace, and foot-board, substantially in the manner and for the purpose as herein set forth.

60,874.—E. L. GAYLORD, Terryville, Conn.—*Drawer Lock.*—January 1, 1867.—The wards consist of a set of pivoted plates, which have a set screw by which their relative prominence may be varied.

Claim.—The adjustable wards *D*, in combination with the bolt *B* and one or more tumblers *C*, arranged substantially in the manner as and for the purpose herein set forth.

60,875.—P. M. GILBERT, Kewanee, Ill.—*Plow.*—January 1, 1867; antedated July 1, 1866.—The adjustable standard of the subsoil plow is attached to the beam and braced to the mold board of the upper plow.

Claim.—The arrangement and combination of the subsoil plow *F*, the bar *D*, loop *H*, and clasp *E* with the beam of any ordinary mold board or gang plow, as and for the purpose specified.

60,876.—A. W. GILLET, Sparta, Wis.—*Axle for Vehicles.*—January 1, 1867.—The bushings of brass are slipped on the spindle and confined by punching down the brass into countersinks in the spindle. The inner bushing carries a butting collar.

Claim.—The employment of the bands *B B'* in combination with the axle *A*, the said bands being constructed of soft metal and confined to the axle in the manner and for the purpose herein set forth.

60,877.—W. A. GOODHER, Burlington, N. J.—*Cooking Range.*—January 1, 1867.—The range has air casings surrounding certain parts intended to keep its outer jacket cool, and to supply warm air to the room in cold weather. The heated air may be turned directly up the chimney when desired.

Claim.—The ovens *e e'* and fire place *D*, in combination with the casings *A* and *B*, and pipes *G G* and *J'*, or their equivalents, the whole being constructed and arranged substantially as and for the purpose described.

60,878.—ISAAC GOODSPEED, Norwich, Conn.—*File Cutting Machine.*—January 1, 1867.—The pivoted hammer-block is raised by the catch lever. The cutter-head is raised by the sliding cam rod, and is drawn forward by a pin on the same to feed the blank by means of the cutter after each stroke.

Claim.—First, the swinging hammer *H* operated through the medium of the arm *E* and crank pulley *D*, in combination with the cutter-stock *I*, substantially as and for the purpose set forth.

Second, the arm *F* provided with the pins *O O'* and the upper curved edge *i*, in combination with the cutter-stock *I* provided with the springs *N N'*, the pin *o*, and slot *f*, to receive the shaft *L* on which the cutter-stock works, substantially as and for the purpose set forth.

Third, the taper screw *P*, in combination with the

slotted cutter-stock I, substantially as and for the purpose specified.

Fourth, the spring T attached to the sliding bed Q, in combination with the spring clamp or pressure plate R attached to the base A by the screws *q*, substantially as and for the purpose set forth.

60,879.—NICHOLAS GOTTON, Union Depot, Tenn.—*Cotton Cultivator*.—January 1, 1867.—The mold board is adjustable by vertical and horizontal slots in its supporting post.

Claim.—First, the frame A, provided with the slots *a*¹, being at right angles in combination with the scraper B, so that the scraper B may be adjusted and secured at different angles to the frame A, substantially as shown and described and for the purposes set forth.

Second, the peculiar construction of the frame A with the lower portion running upon the ground, so as to form a gauge for the scraper, substantially as shown and described.

60,880.—FRANCIS GRANGER, Homer, Ill.—*Machine for Raking and Cocking Hay*.—January 1, 1867.—The hay is gathered by a rake, carried up by an endless elevator, and received in a conical receiver which is inverted when filled, leaving the hay cock upon the ground.

Claim.—The elevator *l* carrying by its own gravity the hay up the rake teeth *g*, in combination with the rake *g*, the adjustable frame *m*, and the hinged receiver *d*, substantially as described.

60,881.—GEORGE F. GRAVES, Mount Upton, N. Y.—*Lifting Jack*.—January 1, 1867.—Explained by the claim and illustration.

Claim.—The thumb-piece *d*, of the toothed locking bar C, in combination with the lever B arranged with the standard A, substantially as described for the purpose specified.

60,882.—A. B. GREENWALT, Baltimore, Md.—*Tatting Shuttle*.—January 1, 1867.—A pin can be projected when required to pass a thread through a loop. The pin is projected by a thumb-piece and withdrawn by a spring.

Claim.—The tatting shuttle as an article of manufacture provided with a pin thumb knob and retracting spring, substantially as described.

60,883.—GEORGE HADFIELD, Cincinnati, Ohio.—*Medical Vacuum Apparatus*.—January 1, 1867.—A rigid framework is so arranged as to receive any part of the person, and covered where necessary with an air-tight envelope. The surface operated on is relieved from part of the pressure of the atmosphere for hygienic purposes.

Claim.—First, the medical vacuum chamber or receiver composed of several separable parts, A B and C, so as to be accessible from the ground level, in the described combination with an impervious and flexible envelope L N adapted to tightly invest the receiver and the head of the patient, substantially as set forth.

Second, the receiver proper, consisting of the circumferentially grooved base A, through which the exhaust tube passes, a side portion B fixed to said base, and a movable side portion C hinged to the fixed side as described.

Third, in the described combination, the circumferentially grooved base A and elastic band M, for securing the lower edge of the cloak or envelope, as set forth.

Fourth, the flexible air-tight envelope consisting of the cloak L, cap or hood N, and elastic band M, for the purpose explained.

60,884.—O. B. HALE, Chicopee, Mass.—*Converting Wheel Carriages into Sleighs*.—January 1, 1867.—The rim of the wheel enters gains in the pillars on the runner, and is attached by cams. The nose of the runner is attached to the carriage frame by a vertically adjustable arm.

Claim.—The runner A, when the same is attached to the wheel by means of the clamps H K, and to the frame of the carriage by means of the arrangement of the nut B, rod E, and clamp F G, combined and operating substantially as herein set forth.

60,885.—WILLIAM B. HALE, Northampton, Mass., assignor to Northampton Indelible Pencil Company.—*Indelible Pencil*.—January 1, 1867.—The case is made of impermeable material, and the pencil head forms the stopper.

Claim.—The combination by which the head of the pencil becomes the stopper or cap of the case, and thus serves as its own protector, doing away with the necessity which has heretofore existed, of inclosing the pencil in a glass vial with a cork stopper and protecting the vial by a wood, metal, or paper holder.

60,886.—CHARLES HAMILTON, New York, N. Y.—*Shoe Brush and Case combined*.—January 1, 1867.—The handle of the blacking brush slides into the body of the polishing part. Into a space between the bristles of these brushes the blacking box is placed. A lid covers the brush parts and comes in contact with the beveled wooden sides.

Claim.—The combination of a boot and shoe blacking brush, polishing brush, blacking box and case, constructed and arranged in the manner herein substantially set forth and described.

60,887.—BENJAMIN HANDFORTH, Chicago, Ill.—*Propeller*.—January 1, 1867.—The propeller is attached to the sleeve of a shaft with which it reciprocates. A folding propeller for backing is attached to the same sleeve, and the interior shaft carries the valve bottom of the main propeller and a zonal ring for folding the expansible propeller. This sliding movement of the inner shaft is caused by two reciprocal jointed stops which engage a pin on the shaft which projects through a slot in the sleeve.

Claim.—First, in combination with a reciprocating shaft A the buckets B and E, arranged and operating substantially as herein described and for the purposes set forth.

Second, in combination with the shaft A and buckets B E the arrangement of the slide C, valve D, and ring F, substantially as and for the purposes described.

Third, in combination with the above, the arrangement of the alternating stops L M, operating substantially as and for the purposes shown and described.

60,888.—JOHN HANLON, Bridgeport, Conn.—*Feeding Device for Sewing Machines*.—January 1, 1867.—The feed slide has vertical movement in a slot of the T-frame, which has horizontal movement in a groove of the bolt head. Both movements are caused by a lever pivoted to the T-frame, and operated by cam surfaces on a single head.

Claim.—First, the slotted T-frame or cross D D', so constructed and arranged as to contain within its vertical slot the feed-bar E, substantially as described.

Second, the use of the bolt head C, grooved substantially as shown, to receive the "cross" or slotted T-frame D D', substantially as described.

Third, the combination of the slotted T-frame or cross D D' with the feed-bar E when the body of the latter is contained within the former, substantially as described.

Fourth, hinging the lever K to the "cross" or slotted T-frame D D' substantially in the manner above described.

Fifth, combining the lever K, hinged to the slotted T-frame or "cross" as above shown, with the feed bar E, substantially as described.

Sixth, combining the "cross" D D', the feed bar E, and the lever K, which communicates motion to both the slotted T-frame or "cross" and the feed bar, substantially as described.

60,889.—B. S. HAVILAND, Fort Dodge, Iowa.—*Fence Post*.—January 1, 1867.—The part of the post beneath the ground is bent into the form of angle-iron. A brace piece slides on the post and is attached by a keeper.

Claim.—First, an improved cast or wrought iron fence post A, constructed as herein described, having a portion *a*¹ of the lower part which enters the ground bent over at right angles to the plane of the post, substantially as described and for the purpose set forth.

Second, the combination of the slide bar C, constructed as described, with the post A, substantially as described and for the purpose set forth.

Third, the combination of the key D with the post

A, substantially as described and for the purpose set forth.

60,890.—CHARLES W. HERMANCE, Albany, N. Y.—*Manufacture of Soap.*—January 1, 1867.—The ingredients and their proportions are as follows: Tallow, 100 pounds; rosin, 25 pounds; palm oil, 15 pounds; cocoa-nut oil, 10 pounds; borax, 15 pounds; and caustic-soda lye, of 20° B, 73 pounds.

Claim.—First, combining and saponifying the tallow, rosin, and oils, herein specified, by the process and in the proportions stated.

Second, the combination of borate of soda with the saponified tallow, rosin, and oils, in the proportions stated and in the manner set forth.

60,891.—HENRY HISE, Ottawa, Ill.—*Conductors' Ticket Box.*—January 1, 1867.—The tickets have duplicate ends partially separated. The conductor has free access to one-half of the tickets, but only partial access to the duplicate for the purpose of marking. After marking both ends alike the free end is separated from the other and handed to the passenger to be dropped into a box. The remaining half is thrust aside into another sealed division of the box.

Claim.—First, the box A, provided with the apartment F, spring *m*, lid C, and chamber D, arranged and combined and operating in the manner shown and described and for the purpose set forth.

Second, the secondary box E, when used in connection with the box A, and constructed of the two parts as described, box proper and lid, the latter (provided with a slot *l* and lip *f'*) as shown and described and for the purpose set forth.

Third, the tickets B having the slots *i j* and *j'*, for the purpose set forth.

Fourth, the combination of the tickets B with box A, constructed and arranged as described.

Fifth, as a complete method of detection or as a safety guard, the combination of box A, tickets B, and deposit box E, constructed, arranged, and operating substantially in the manner described and for the purpose set forth.

60,892.—J. C. HOFFEDITZ, Mercersburg, Pa.—*Cultivator.*—January 1, 1867.—The standards are laterally adjustable on their supporting bar, or removable from it. The plows are removable. The standards are pivoted and have a forward projection connecting with a spring allowing of backward oscillation. The handles are adjustable in height.

Claim.—The arrangement shown and described, consisting of the adjustable and pivoted spring standard C, removable shares I J, and adjustable handles E.

60,893.—J. C. HOFFEDITZ, Mercersburg, Pa.—*Attaching Cultivator Teeth.*—January 1, 1867.—The standard has an iron back pivot and a forward holding pin of wood. When a dangerous amount of strain is applied to the tooth the wooden pin relieves it by breaking, and a new pin is substituted.

Claim.—The arrangement of the cultivator standard C, hanger B, and wooden pin *c*, as described and represented.

60,894.—H. W. HOPKINS, Milford, N. H.—*Butter Mold.*—January 1, 1867.—The sections of stearite are polished and then attached together by a cement composed of glue, 4 oz.; Russia isinglass, 2 oz.; and boiled linseed oil, 2 oz.

Claim.—Constructing butter molds of stearite or soapstone, substantially as herein described.

60,895.—HENRY HUFENDECK, St. Louis, Mo., assignor to S. R. FOX, E. G. PRATT, and E. W. FOX, same place.—*Drill.*—January 1, 1867: antedated December 12, 1866.—The actuating shaft has upon it a larger and smaller bevel cog wheel, and its journal frame is shiftable so as to engage the larger wheel with a smaller pinion on the drill shaft, or its smaller wheel with the larger pinion upon the shaft. The table is adjustable vertically in side grooves.

Claim.—First, the combination of two or more sets of corresponding bevel gear wheels, arranged substantially as shown by C and D C' and D', with the changeable shaft support, when used as set forth.

Second, the combination of the feed screw B and its actuating hand wheel b', or their equivalents, with the

drill shaft B, all supported in the bearings *a a'* and *a''* of A, in combination with the several sets of corresponding bevel gear wheels C and D, C' and D', &c., the changeable shaft support G, and the work table H, as set forth.

60,896.—HENRY A. HUTSON, Newburgh, N. Y.—*Penman's Assistant.*—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, the rings 1 2 3 and 4, constructed and arranged in such peculiar manner as substantially described, for compelling the fingers to assume their respective positions, and to strengthen them in supporting the hand and forearm while writing.

Second, the stem B for preventing a cramped position of the hand, by affording a prop or support to the fingers, with screw H for adjusting to different-sized hands, and for dividing the assistant to secure it in a small case for the pocket.

Third, the stem C for projecting to form a rest at J for the pen-holder, and forming a base for the stem B in the hollow of the hand.

60,897.—ALBERT JOHNSON and SYDNEY E. ALLEN, Raleigh, N. C.—*Alarm Gun.*—January 1, 1867.—The spring carries a hammer which is sustained by a rod; the latter is tripped by the rotation of the gun upon its upright pivot, when the alarm cord is pulled.

Claim.—The base A, gun barrel D, spring hammer and trigger arm J, and arms P and Q attached to the barrel, when all are constructed and combined together substantially as and for the purpose described.

60,898.—JOHN JOHNSON, Saco, Me.—*Obtaining the Precious Metals from the Beds of Rivers.*—January 1, 1867.—The vessel has a circular aperture at its center through which a diving bell is lowered.

Claim.—The system herein set forth for obtaining gold from the beds of rivers, substantially as specified.

Also, the process by the means employed for the purpose intended, substantially as specified.

60,899.—JOHN JOHNSON, Saco, Me.—*Gathering and Treating Auriferous Sands from the Beds of Rivers.*—January 1, 1867.—The dredging machine upon which letters patent were granted to J. Johnson, August 7, 1866, has combined with it an amalgamator and concentrator to separate the gold from the sand.

Claim.—The process of raising and treating auriferous sands found at the bottom of rivers and lakes, substantially as described.

Also, the combination of the pumping apparatus with separators, concentrators, agitators, and amalgamators, when they are operated on board a floating barge, substantially as described.

60,900.—THOMAS J. JOLLY, Versailles, Ind.—*Machine for Making Wooden Pickets.*—January 1, 1867.—The machine saws the pickets and turns them upon edge, in which position they are forced to the planer that finishes their sides.

Claim.—First, the arrangement of the sliding gauge or pattern E, studs G, compound lever I, and fingers J and K, for upturning of the sawn palings, as set forth.

Second, in the described combination, the saw, upturning apparatus, and guides, the double-headed raking planer N N', adapted to operate as set forth.

Third, the arrangement of the segment roller R, checks S S', and planers N N', substantially as and for the purposes specified.

60,901.—I. W. JUDD, New Haven, Conn.—*Sash Fastener.*—January 1, 1867.—The fastener shaft has two projections, one to engage the sash and the other the operating lever on the jamb. The coil spring tends to throw out the catch.

Claim.—The shaft G, bolt F, spring I, and tail piece L, constructed and combined as herein described, in combination with the lever S, as set forth.

60,902.—OLIVER S. JUDD, New Britain, Conn.—*Snap Hook.*—January 1, 1867.—The double wire hook has a double coil spring and hook latch wound upon the pintle between the flanges of the strap loop.

Claim.—As a new article of manufacture, a snap hook, constructed substantially as and for the purpose described.

60,903.—CHARLES T. JULIUS, Philadelphia, Pa.—*Anchor.*—January 1, 1867.—In place of the usual stock-bar are two arms pivoted to the shank and having a limited rearward motion in the plane of their length, when fouled by the chain.

Claim.—The arms *a* and *a'* hinged to and otherwise combined with an anchor, substantially as and for the purpose described.

60,904.—JOHN A. W. IUSTI, Savannah, Ga.—*Truss.*—January 1, 1867.—Explained by the claim and illustration.

Claim.—Constructing a hernia truss with an elastic metal plate A formed by bending in three distinct arches, the two outside arches being twisted and curved, proportioned and arranged with reference to the pads *a a*, substantially as and for the purposes herein specified.

60,905.—GEORGE KAY and JOSEPH KAY, Esopus, N. Y.—*Pocket Knife.*—January 1, 1867; antedated December 20, 1866.—The spring is held between a transverse rivet in front and a back flange attached to one of the side plates.

Claim.—The arrangement of the bent spring B between the rivet *a* and flange *b*, in combination with the side plates A A, constructed and operating in the manner and for the purpose herein specified.

60,906.—MOSES T. KEHOE, Amsterdam, N. Y.—*Cattle Car.*—January 1, 1867.—Chains or cords are passed longitudinally through the cars beneath the cattle as a partial support; they are tightened by a windlass at one end.

Claim.—The attachment to and combination with a railroad car of chains or ropes, with a windlass for operating them in the manner described, and for the purposes set forth in this specification.

60,907.—JOHN B. KINNEY, Yellow Springs, Ohio.—*Washing Machine.*—January 1, 1867.—The roller frame may be inclined against the side of the tub as a washboard, or placed at the bottom to operate in combination with the oscillating rubber.

Claim.—The arrangement of the compound lever D F, vibrating rubber H, and shiftable bottom or washboard J, the whole being constructed and adapted to operate as set forth.

60,908.—A. H. KNAPP, Newton Center, Mass.—*Curtain Fixture.*—January 1, 1867.—The blind is balanced by a coiled spring, so that it may be easily raised or lowered by its stretch rod.

Claim.—The combination of the projecting knob or milled head D with the coiled spring B, cog-wheel and pinion E and F, and roller coupling *d*, substantially as and for the purpose herein specified.

Also, the square, angular, or equivalent form of recess G through the center of the roller, formed in connection with the wedge groove therein, for the purpose set forth.

60,909.—PATRICK W. LAMB, Albany, N. Y.—*Sprue for Molders.*—January 1, 1867.—Explained by the claim and illustration.

Claim.—The toothed sprue pattern C, constructed substantially as described, and applied so that the spaces molded by it communicate with the *hans* forms *e* at their center, over the handle shanks or rods *c*, essentially as and for the purpose or purposes herein set forth.

60,910.—THOMAS W. LANE, Boston, Mass., assignor to THE SPENCER REPEATING RIFLE COMPANY.—*Magazine Fire-arm.*—January 1, 1867.—The cartridges are placed in the body of the stock and forwarded by a spiral spring to the oscillating breech piece by which they are forced into the barrel. An oscillating spring catch plate in this breech piece ejects the shells over a drop bar, which covers the cartridge receptacle on the retraction of the breech piece.

Claim.—An oscillating retractor, working in the body of the rolling breech, and which is depressed during the backward rotation of the breech by a positive movement, and elevated by a spring when the breech is rolled forward into its locked position, as described.

Also, the combination and arrangement of the shaft

t, arm *h*, groove *w*, and pin *z*, in the manner and for the purpose set forth.

60,911.—ROBERT LEAMAN, Hillsborough, Ohio.—*Lounge for Invalids.*—January 1, 1867.—The side rails are jointed and a cord from the head is connected to a windlass to raise the rails along their whole or along half their length, vibrating them on their foot pivot or that at their mid-length respectively.

Claim.—First, the jointed rails *g g*, in combination with cleats P P and buttons *i i*, the whole arranged and operating as and for the purpose herein set forth.

Second, the employment of pulleys *m* and V, cord *a*, and frame R, when used in combination with jointed rails *g g*, the whole constructed and operating in the manner and for the purpose herein specified.

60,912.—J. F. LIGHT, Worcester, Mass.—*Shaft Coupling.*—A longitudinal key occupies seats in the shaft ends; an enveloping split sleeve embraces the rail ends and key; clamping nuts screw on each end of the sleeve.

Claim.—The combination with the ends of two shafts or rods of a friction coupling piece C, tightening nuts D, and spline or splines E, substantially as set forth.

60,913.—CHARLES P. LOESER, Hartford, Conn.—*Bed Bottom.*—January 1, 1867.—The bed frame has a transverse hook joint by which a portion of it may be bent up or removed. A hinged post works in combination with a rack to support this portion at any elevation.

Claim.—The hook and eye plates *d d'*, framework *a*, springs *b*, supporting cord *c*, with the supporter *g* and steps *i*, substantially as and for the purpose described.

60,914.—CHARLES LONG, Paris, Ill.—*Corn Planter.*—January 1, 1867.—The seed slide is operated by cam staples on a cog-wheel, when the latter is engaged to a cog-wheel on the axle.

Claim.—First, the arrangement of cog-wheel J, balanced on yoke I and engaging with pinion K upon the ground wheels axle, at the option of the husbandman, by means of the lever L, rod M, and catch N, substantially as and for the purposes set forth.

Second, the combination in a power corn planter of the frame A, wheels B B', engaging and releasing mechanism E F, the whole being combined with the elements of the preceding clause in the manner set forth.

60,915.—J. ALLEN, New York, N. Y., and S. P. TOWNSEND, New Providence, N. J.—*Finishing Fire-Arms so as to Prevent Oxidation and Corrosion.*—January 1, 1867.—Omitting the usual finishing by polishing, burnishing, &c., the metal portions of the arm are galvanized to prevent oxidation.

Claim.—First, the finishing of fire-arms of all descriptions by the mode and means hereinbefore described, and for the purpose of preserving them from damage by oxidation or corrosion as set forth.

Second, the restoration of damaged arms to good condition by the method and means above set forth.

60,916.—THEOPHILUS F. BERTRAND and PETER SAMES, Rockford, Ill.—*Cultivator.*—January 1, 1867.—The tongue runs back and furnishes a seat support. It is connected to the axle by diagonal bars. The plow beams are pivoted to the tongue, and the plows are vertically adjustable.

Claim.—First, the combination, substantially as described, of the tongue with the axle, arranged as set forth for the purpose specified.

Second, the combination with the tongue of the single cross-piece E, so arranged as that it shall serve as a brace for the segment and a fulcrum for the levers that control the auxiliary frame.

Third, the combination of two spring bolts with two supporting levers and two ratchets and with the axle, arranged and operating substantially as and for the purpose set forth.

Fourth, the combination of the rigid frame with the auxiliary frame, when the former is hinged to the latter, substantially in the manner and for the purpose described.

Fifth, the combination of the auxiliary frame with

the tongue, when the former is hinged to the latter, substantially as and for the purpose set forth.

Sixth, the combination of an adjustable support for the driver's feet with the auxiliary frame, substantially as and for the purpose set forth.

Seventh, the swivelled eye-bolt or double block constructed, arranged, and operating substantially as and for the purpose set forth.

Eighth, the combination of the eye-bolt and standard with the beam of the auxiliary frame, substantially as and for the purpose set forth.

60,917.—ANSON R. BROWN, Litchfield, Mich., assignor to himself and GARNER HERRICK, Albion, Mich.—*Instrument for Acupuncture.*—January 1, 1867.—The puncturers are associated in a cluster to carry the counter-irritant liquid from their enclosing chamber through the perforated block. They are actuated by the pressure of the hand upon their backwardly extending piston.

Claim.—The channeled puncturing point formed by two or more converging points substantially as described.

Also, the perforated block G, for retaining the medicine in the reservoir except at the needle holes, substantially as specified.

60,918.—SAMUEL MARDEN, Newton, Mass., assignor to himself and DUSTIN LANCEY, same place.—*Peat Machine.*—January 1, 1867.—The revolving mold-carrier has a series of followers sliding in radial grooves. The followers are operated by spiral springs and a cam. The peat is fed into the machine upon the apron, above which is arranged a tearing roller. From thence it passes into the hopper and upon the sieve, to which an intermittent motion is given by a cam. From this sieve it passes into the hopper and thence into the mold.

Claim.—First, the tearing apparatus composed of metallic plates, notched in the manner of saw-plates, set and arranged at different angles in the drum-beater B, in combination with the flexible apron A.

Second, the vibrating sieve operated upon by the cam *d*, as applied to or in combination with peat machines, substantially as described.

Third, the cam *d*, arranged and operating upon the sieve arm *e*, so as to sift the reduced peat substantially as described.

Fourth, the cam *l*, so constructed and arranged with respect to the sliding molds *m m*, &c., and the guard *n*, that the pressure on the guard by the sliding molds ceases for a space equal to the width of the sliding molds as they emerge from the guard.

Fifth, the circular mold carrier E revolving about the fixed cam *l*, as combined and arranged with the compressing guard *n*, it being also provided with a radial groove *i i*, &c., converging towards its center and supporting sliding molds *m m*, &c., operated upon by the cam *l* and the spiral springs *p p*, &c., which keep the sliding molds in proximity to the cam, all combined and arranged for the purpose of compressing peat, and as applied to peat machines substantially as described.

60,919.—REUBEN A. McCAULEY, Baltimore, Md.—*Pump.*—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, the pump A, with its side chambers E and F, piston chamber B, openings *o* and *r*, receiving and discharging ports *e f j* and *k*, arranged, constructed and operating in the manner substantially as shown and described, and for the purpose set forth.

Second, in combination with said pump, the pipe J, and the connecting guide-sleeves *n*, constructed, arranged, and operating in the manner substantially as shown and described, and for the purposes set forth.

60,920.—JAMES McLAUGHLIN, Duncannon, Pa.—*Car Coupling.*—January 1, 1867.—The pin is supported by a slide which is forced forward by a weighted lever. The link comes in contact with a depending pin of the slide and pushes it back, which allows the coupling pin to fall into its place within the link.

Claim.—The slide D, provided with the pendent pin *c*, and connected with the suspended weight F, in connection with the coupling pin B and link or shackle C, all arranged to operate substantially as and for the purpose herein set forth.

60,921.—ABNER MCOMBER, Schenectady, N. Y.—*Artificial Arm.*—January 1, 1867.—The hand is detachable at the wrist. The clasps issuing from the artificial stump have sliding motion to clamp any article placed between their claws. These clasps enter slots in the wrist plate of the hand. The thumb is adjustable in two positions by means of a spring and catch, the latter being freed by a trigger.

Claim.—First, the permanently attached clasps, *g g'* on the stump section of the arm in combination with the slotted plate *a e e* of the opposite section, substantially as and for the purpose set forth.

Second, the application to a spring thumb of an artificial hand, of a latch, or its equivalent, for holding said thumb open when desired, and means for releasing the thumb from the latch, substantially as described.

60,922.—ANDREWS T. MERRIMAN, Rutland, Vt.—*Machine for Squaring Tiles.*—January 1, 1867.—The tile is clamped on a vertically adjustable, horizontally oscillating frame, and its edge is ground by a horizontally rotating grinding disk.

Claim.—First, the vertical pin *e*, in combination with the plate *c* to which the tiles are clamped, substantially as herein described, so that the plate can rise and fall and sweep over the grinding disk in a circular or oscillating motion.

Second, the adjustable collar *g*, in combination with rising and falling swinging plate *e*, constructed and operating substantially as and for the purpose set forth.

Third, the clamp *i*, composed of a hinged lever with thumb screw and elastic pad, as and for the purpose described.

Fourth, the adjustable gauge *m*, in combination with the clamp *i* and plate *e*, constructed and operating substantially as and for the purpose set forth.

60,923.—F. H. MEYERS, Wilmington, Del.—*Car Coupling.*—January 1, 1867.—The coupling pin is sustained by a pivoted plate retained by a spring catch. The entrance of the coupling links throws back the catch and allows the coupling pin to drop into engagement.

Claim.—The combination of the lever H, spring catch G, the sliding rod C, and coiled spring D, with each other and with the bolt I and bumper A, substantially as herein shown and described.

60,924.—ELI MORRIS, Jr., New Haven, Conn.—*Handle for Saws.*—January 1, 1867.—The handle is made hollow; one portion is formed from a continuation of the shank or frame, and the other portion of counterpart form is riveted thereto.

Claim.—Constructing the handle of a saw frame of metal integral for the most part with the frame, and joined by riveting or otherwise to another separate piece, to complete the whole as set forth.

60,925.—GEORGE M. MORRIS, Cohoes, N. Y.—*Lubricating Device.*—January 1, 1867.—A pivoted disk in a cup below the lower journal box is revolved by contact with the under side of the shaft, and carries up oil to lubricate the latter.

Claim.—The within-described lubricating device, consisting of the slotted hanger A, slotted journal box C, disk M, spring *b*, oil cup D, and groove or channel *e e*, all combined and operating as and for the purpose set forth.

60,926.—GEORGE W. NICHOLS, River Falls, Wis.—*Logging Skid.*—January 1, 1867.—The sides of the skid frame have pivoted catches which allow the forward movement of the log but prevent a retrograde movement. Claw plates at the head of the skid prevent slipping.

Claim.—The application to a skid of the props D D, in combination with the ledge B, or its equivalent, the plate F, with its spur and bolt U, constructed substantially as and for the purposes specified.

60,927.—WILLIAM D. NICHOLS, Chicago, Ill.—*Wind Mill.*—January 1, 1867.—The sail shafts are turned in radial arms on the driving shaft to adjust their inclination to the power of the wind. This adjustment is caused by a horizontally rotating governor, or by balls upon sliding rods on the wheel shafts. The motion of these rods is caused by the

centrifugal force of the balls, which are impelled by the rotation of the sails.

Claim.—The combination of the sail cranks *p p* and sliding head *H*, constructed, arranged, and operating, as and for the purpose herein specified.

Also, the adjustment of the force of the counter spring or springs *O*, by means of the fixed pin or pins *q*, and the turning of the spring itself, or the equivalent thereof, substantially as and for the purpose herein set forth.

Also, the arrangement of the governor weights *S S*, attached to radial sliding rods on the sails themselves, and connected by means of the quadrant arms *R R* and connecting rods *v v*, or their equivalents, with the regulating sliding head *H*, substantially as herein described.

60,928.—NELSON PALMER, Hudson, N. Y., assignor to himself and T. G. PALMER, Schultsville, N. Y.—*Threshing Machine.*—January 1, 1867.—The concave is movable in its frame, and it and the cylinder have ridges with one smooth and one roughened side, so that one direction of rotation shall bring the rough sides of both in combination, and the opposite direction, the smooth sides.

Claim.—A concave, so connected with a threshing machine that it may be adjustably placed on one side or the other of the threshing cylinder, for varying the character of the work, substantially as set forth.

60,929.—NELSON PALMER, Hudson, N. Y., assignor to himself and T. G. PALMER, Schultsville, N. Y.—*Threshing Machine.*—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, a threshing cylinder when constructed with longitudinal ribs which are smooth upon one side and rough upon the other, substantially as and for the purpose set forth.

Second, in a threshing machine, the use of two ribbed concaves or rubbers, on one of which the ribs are smooth on their faces and on the other rough, substantially as and for the purpose set forth.

Third, so constructing the concaves of threshing machines that the straw may in the action of the machine be brought into contact with either smooth or roughened ribs or faces of the ribs as desired, substantially as and for the purpose set forth.

Fourth, a threshing cylinder when so connected with the motive power and related to the concave or concaves and other parts of the machine that it may be operated revolving in either direction, substantially as set forth.

Fifth, in combination with a threshing cylinder having ribs smooth upon one side and rough upon the other, a ribbed concave or ribbed concaves, so constructed and arranged as to present smooth faces to the smooth faces of the threshing cylinder when revolving in one direction, and roughened faces to the rough faces on the ribs of the threshing cylinder when revolving in the reverse direction, substantially as and for the purpose set forth.

60,930.—PHINEAS PARDEE, New Haven, Conn.—*Car Brake.*—January 1, 1867.—Inclined slide chutes are suspended from the car frame over the rails, and contain the shoes, which are held in their slides by chains which wind around a shaft. This shaft is kept from revolving by a lever catch, on the raising of which the shoes slide under the wheels to stop the car.

Claim.—The arrangement of the shoe *E*, in combination with a holder and the shaft *F* or its equivalent, when arranged in such relative positions to the wheels as to operate in the manner substantially as herein set forth.

60,931.—JESSE K. PARK, Marlborough, N. Y.—*Damping Brush.*—January 1, 1867.—Explained by the claim and illustration.

Claim.—The construction of a brush with the central part *A* of india-rubber or equivalent elastic material, and a covering of cloth, felt, or other absorbent material, substantially as herein set forth, for the purpose specified.

60,932.—SAMUEL J. PEET, New York, N. Y.—*Steam Engine Valve.*—January 1, 1867.—The valve plates are held in contact by steam pressure, and separated for the admission of steam by the conical end of the stem rod.

Claim.—The pair of valve plates *b b*, in combination with the conical wedge *h* on the screw *C*, or its equivalent, arranged and operating substantially as and for the purpose herein described.

60,933.—WARREN L. PEET, Maple Rapids, Mich.—*Horse Power.*—January 1, 1867.—The base frame of the sprocket wheel has slide arms in which are slide grooves for the adjustable frame of the sprocket pinion.

Claim.—The combination of the sliding frame *B*, wheel *Q*, endless chain *P*, and driving wheel *F*, constructed and arranged to operate in the manner as and for the purpose herein specified.

60,934.—CHARLES F. PIKE, Providence, R. I.—*Refrigerator.*—January 1, 1867.—The ice chamber connects at the bottom with a series of vertical and horizontal pipes. Smaller pipes pass through the ice chamber, cover and convey air through convolutions in the ice chamber and between the series of pipes, and discharge above a pan from whence the air flows into the room. From an aperture near the top of this room the air passes out through a U-shaped pipe. The water is discharged through a trap below.

Claim.—First, the horizontal tubes or pipes *I*, substantially in the manner and for the purposes hereinbefore specified.

Second, the horizontal tubes or pipes *I*, in combination with the ice box *H*, with or without the upright pipes or tubes *J*, and pan *R* and its appendages and appurtenances, substantially in the manner and for the purpose hereinbefore stated.

Third, the air pipe *K*, and also the air pipe *L*, or their equivalents, in combination with the ice box or receptacle *H*, the upright tubes or pipes *J*, or the horizontal tubes or pipes *I*, and also in combination either of them and with the pan *R* and its appurtenance, substantially in the manner and for the purposes hereinbefore stated.

60,935.—J. C. PRICE, New Philadelphia, Ohio.—*Hoisting Tackle.*—January 1, 1867.—A cam block holds the block to any point of its sustaining rope while the load is raised. A conical block on the hoisting rope engages the block to force its movement on the upper rope when the load is sufficiently elevated.

Claim.—The clamp *G*, in combination with the plates *A A*, wheels *B B'*, ropes *C D*, collar *E*, and ring *F*, all arranged to operate in the manner substantially as and for the purpose described.

60,936.—NATHAN PUCKETT, Terre Haute, Ind.—*Self-Centering Tool.*—January 1, 1867.—An ordinary scroll chuck has combined with it a drill and feeding sleeve by which the center hole may be drilled in the shaft.

Claim.—The sleeve screw *C* and the centre drill *D*, in combination with the scroll chuck *A*, constructed, arranged, and operating in connection therewith, substantially as and for the purpose herein specified.

60,937.—CHARLES H. REICHMANN, New York, N. Y.—*Lamp Chimney.*—January 1, 1867.—Explained by the claim and illustration.

Claim.—A glass chimney for lamps constructed of two sections, the adjoining parts of which are provided with flanges *a b* held together by a narrow metal band slipped over the upper part, and resting on its flange, and sprung over the flange of the lower part.

60,938.—FREEMAN F. REYNOLDS, Burke county, Ga.—*Plow.*—January 1, 1867.—The landside is adjustable on the standard. A brace bar from the standard foot to the beam heel is adjustable at either end.

Claim.—The adjustment of guide bar *J* to helve *G* by bolts *P P*, the advantage and object of which will be seen in above description, and as incidental to and necessary to the proper running of this stock; also, the adjustment of brace *H* to helve *G* by shoulder *S* and bolt *K*, and to beam *A B* by perpendicular bolt *N*, by virtue of which the plows are more easily adjusted to the stock, and less liability of choking, and strength added thereto, the several parts being in combination, as specified.

60,939.—LEVI RICHARDS, Providence, R. I., assignor to himself, THOMAS R. RATHBUN, and CHARLES

I. RICHARDS, same place.—*Machine for Making Eye-lets*.—January 1, 1867.—Of the two compound punches one cuts the disk and stamps it to cap form; the other opens the bottom and spreads out the flaring head. Cam grooves on the driving shaft actuate a pivoted lever to slide the die plate so as to transfer the blank from one punch to the other.

Claim.—First, the combination of the sliding rod M, punch N, tube O, flanged socket P, and spring Q, with the finishing die L, substantially as described, and for the purpose specified.

Second, the conveyor or carrier H, provided with the chamber *i**, and arranged to operate in connection with the female dies and tubes, substantially as and for the purpose specified.

60,940.—**ADOLPHE ROQUE**, Brive, France, assignor to **JACQUES GUEDIN**, New York, N. Y.—*Fiber from Pine Leaves for Hygienic and other Purposes*.—January 1, 1867.—Pine leaves or straw treated with a caustic alkaline solution and then washed in hot and cold water, are worked into a felt or cloth for hygienic purposes.

Claim.—The within-described process of producing a hygienic wool from pine leaves by treating them substantially as specified.

60,941.—**C. A. ROSE**, Columbus, Ga.—*Hand Hoe*.—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, making the eye A and blade B separate, and securing them to each other by bolts and nuts, substantially as herein shown and described.

Second, making the blade B of the hoe reversible and with two cutting edges, substantially as herein shown and described.

60,942.—**WILLIAM ROSS**, Day's Store, Pa.—*Preserving Butter, Meat, &c.*—January 1, 1867.—Composed of common salt, 12; saltpetre, 3; loaf sugar, 4; soda, 1, and water 137 parts.

Claim.—A chemical preparation for preserving butter and meats, composed of the ingredients and in about the proportions substantially as herein specified.

60,943.—**HAMILTON RUDDICK**, Boston, Mass.—*Steam Engine*.—January 1, 1867.—Two single acting pistons within one cylinder are connected rigidly by rods. The cylinder is enlarged in the center to receive the crank of the main shaft, which has a connecting rod to one piston.

Claim.—The arrangement of piston heads B B', rods *b b*, connecting rod D, and crank E, relatively to each other and the cylinder A, substantially as described.

60,944.—**JOHN P. SCHENCK, JR.**, Matteawan, N. Y.—*Composition for Lining Oil Barrels*.—January 1, 1867.—One pound of glue is dissolved in one pound of acetic acid; three pounds of water added, and then one pound of lime, and one pound carbonate of iron.

Claim.—An improved composition for lining and coating the interior of oil barrels, and other surfaces, formed of glued acetic acid, water, lime, and carbonate of iron, combined with each other in the proportions and in the manner herein specified and described.

60,945.—**H. S. SHEPARDSON**, Shelburne Falls, Mass.—*Carriage Jack*.—January 1, 1867.—The lift and the post have a diagonal line of junction, and the former slips vertically on the latter, when the lever is depressed.

Claim.—The standard B and lift C, in combination with lever F and toggle G G', constructed substantially as described.

60,946.—**R. W. SHRENER**, Woodland, Mich.—*Churn*.—January 1, 1867.—A wrist pin on the driving wheel traverses a horizontal groove in the frame to which the upper end of the dasher rod is pivoted, and causes vertical motion. A spiral spline on the dash rod traverses a groove in the frame to give rotary motion.

Claim.—The screw *g* and its combination with the nut *i*, side D and driving wheel C, constructed as shown, for the purpose of imparting the aforesaid motion to the dasher G.

60,947.—**JAMES E. SIMPSON**, Brooklyn, N. Y.—*Scaffolding for Dry Docks*.—January 1, 1867.—The arms are pivoted to the uprights in such manner that they may be folded against the same. The uprights can be slid along the stationary horizontal rail on which they are supported in a vertical position, or folded against the rail.

Claim.—The combination of the stationary guide and support rail *a*, the sliding shoe *b* and the hinged or folding upright *f*, arranged to operate substantially as described.

Also, in combination with the folding upright, the folding arms *i*, hinged to and folding up against the upright, and maintained in horizontal position when in use, substantially as set forth.

Also, in combination with the folding upright and its hinged arms the folding top piece *o*, applied and operated substantially as described.

60,948.—**AMOR SMITH**, Cincinnati, Ohio.—*Fertilizer*.—January 1, 1867.—The offal from which lard and glue have been extracted is pressed into blocks for preservation and subsequent preparation as a fertilizer.

Claim.—The hereinbefore described process for preserving the fleshy parts of boiled animal matter from decomposition by subjecting it to pressure, substantially as set forth.

60,949.—**A. P. SMITH**, Sterling, Ill.—*Mitten*.—January 1, 1867.—Explained by the claim and illustration.

Claim.—A mitten cut in sections, the thumb formed in part of the material taken from the thumb space, without being wholly detached in the cutting, all the parts united with the lining by a simple operation, substantially as described.

60,950.—**HENRY K. SMITH**, Norwich, Conn. assignor to himself and **CHARLES OSGOOD**, same place.—*Lathe Rest*.—January 1, 1867.—The screw spindle has conical portions to put in operation one of two friction clutches, which cause respectively a right or left motion of the slide-rest upon the shears. The rest has an upper section hinged to the base in front, and adjusted vertically by a screw in the rear.

Claim.—First, the combination of the friction clutch X, or its equivalent, with the worm gears A², connected together by pinion wheels B², slotted shaft C², and intermediate gear wheels W R N and E, with the latter engaging with the toothed or geared rack bar K of the lathe bed, when all combined and arranged together, so as to operate substantially in the manner and for the purpose described.

Second, in combination with the above, the friction clutch U, or its equivalent, connected through its loose gear wheel T with the pinion wheel P³ of a screw shaft M³, screwing into and through the lug N³ of the sliding lathe rest frame A³, substantially as described for the purpose specified.

Third, the combination of the divided nuts I³, L³, and thumb screw H³, with the two sections C³ and D³ of the tool rest frame A³, substantially as and for the purpose described.

60,951.—**JEREMIAH SMITH**, New Market, Ohio.—*Curculio Trap*.—January 1, 1867.—The annular groove is formed in two segments with rubber packing between the parts to allow of expansion by the growth of the tree.

Claim.—The impervious elastic joint D *a b*, connecting the two parts of the trough A B, so as to permit its expansion as set forth.

60,952.—**ZEALEGS SPERRY**.—Potter's Corners, Pa.—*Churn*.—January 1, 1867.—The dash rod has vertical movement by a slotted lever, and rotary movement by a spiral groove, traversed by a pin on the lid. The dasher has radial arms with upward wings thereon, and is attached to its rod by a thumb-screw.

Claim.—First, the lever E, slide D and guide C, combined in relation with each other, and with the spiral grooved dash rod B, substantially as herein set forth for the purpose specified.

Second, the arrangement of the pivoted stud or spur *i* and the pin *g'*, with reference to each other and with the spiral groove *h* of the dash rod B, whereby the said stud or spur may be removed from the groove

h, when desired, substantially as herein set forth for the purpose specified.

Third, the construction of the lower portion of the spirally grooved dash rod *B*, with a hinged or pivoted section *c*, arranged in relation with the slot or socket *e* thereof, substantially as herein set forth for the purpose specified.

60,953.—L. C. SPRINGER, Chicago, Ill.—*Magnetic Lock.*—January 1, 1867.—The bolt is locked automatically by spring catches in the safe frame, and unlocked by the completion of a galvanic circuit, which withdraws a plug between the ends of the double bolt, and allows its retracting spring to act. The circuit is broken before closing the door, by turning one or more of a series of notched wheels a certain extent. The wheels have each a separate galvanic connection, and can be moved to position for completing the circuit by galvanic shocks, each impulse moving them one notch.

Claim.—First, unlocking a safe or withdrawing the bolts thereof, by closing and opening an electro-magnetic circuit passing through a series of movable or adjustable points, substantially as and for the purposes set forth.

Second, operating upon and adjusting the said movable points in said electro-magnetic circuit by means of a corresponding series of auxiliary circuits, substantially as described.

60,954.—JAMES STEPHENSON, Canandaigua, N. Y.—*Door and Gate Spring.*—January 1, 1867.—The spring is attached to the door face, and its pintle has a lever which bears in the grooved face of the pulley on the door check to close the door.

Claim.—The spring *C* and pintle *D*, applied to the door or gate as described, in combination with the lever *F* and roller *G*, or other circular bearing fixed to the stationary frame, when said parts are arranged and operate in the manner and for the purposes herein specified.

60,955.—FRANK W. STERRY, Morrisania, N. Y.—*Compound for Sweetening, Coloring, and Flavoring Tobacco.*—January 1, 1867.—Powdered licorice root, two parts; powdered extract of licorice, one part; and powdered white sugar, two parts; are spread over the tobacco by means of a sieve.

Claim.—A compound for sweetening, flavoring, and coloring tobacco, which is made of the aforesaid ingredients in about the proportions herein set forth.

60,956.—SIMON STEVENS, New York, N. Y.—*Storing Petroleum and other Liquids, so as to Prevent Loss from Fire.*—January 1, 1867.—Vessels containing petroleum are immersed in a tank containing water.

Claim.—The mode herein described for the storing of petroleum or other similar inflammable liquids, so as to prevent accident by fire.

60,957.—RICHARD B. STEVENS, York Township, Ohio.—*Paste or Cement for Roofing.*—January 1, 1867.—Brickdust is combined with asphaltum or coal tar.

Claim.—The compounding of burnt brick or well burnt clay with asphaltum or coal tar, thereby forming a composition paste or cement.

60,958.—HENRY C. STEWART, Cincinnati, Ohio.—*Glue Pot.*—January 1, 1867.—The glue pot has across its top a box in which are the sliding arms. These arms may be drawn out so far as to suspend the pot over any convenient sized boiler.

Claim.—The parts *B c d' d'* and *g*, or their equivalents, constructed as above described and for the purpose set forth.

60,959.—WILLIAM STREVELL, Jersey City, N. J.—*Clamp.*—January 1, 1867.—The upper jaw is forced toward the lower by a bar having inclined portions which engage similar abutments above. It is intended for thin bodies having considerable latitude.

Claim.—The improved clamp herein described, the same consisting of two jaws *A B*, straps or clasps *D*, and wedge strip *E*, when all combined together, substantially in the manner and for the purpose described.

60,960.—P. SWISHER, Versailles, Ohio.—*Burglar Alarm Gun.*—January 1, 1867.—Three gun barrels are discharged simultaneously by means of a wire attached to a door or window. The barrels are capable of independent adjustment for the purpose of being aimed in different directions.

Claim.—First, in the construction of a burglar alarm gun, the combination of the fixed barrel *1* and the revolving barrels *2* and *3* with the breech pin *C*, for firing simultaneously in different directions, substantially as and for the purposes herein described.

Second, the breech pin *C*, having the central longitudinal hole *e*, the transverse hole *n*, and the annular grooves *e*, communicating with the vent of the upper barrel *1* and the bores of the revolving barrels *2* and *3*, all arranged and operated substantially as and for the purposes herein described.

Third, the outside powder pan *h* for lighting a candle or lamp when the gun is fired, in the manner herein specified.

60,961.—JOHN SYRCHER, Buffalo, N. Y.—*Wheel Toy.*—January 1, 1867.—The string is attached to the elastic spindle of the bandelore.

Claim.—Attaching the string *F* to the India-rubber or other elastic block *E*, in the manner and for the purpose described.

60,962.—GEORGE W. TAYLOR, Springfield, Vt.—*Blacking Box Holder.*—January 1, 1867.—The handle is attached to the frame by a spiral spring and slide grooves, and angular lugs upon the handle and frame engage the box by the contractile power of the spring.

Claim.—A blacking box holder composed of two parts *A* and *B* and a spiral spring *C*, fitted together and arranged substantially in the manner as herein shown and described.

60,963.—JAMES R. TAYLOR, New York, N. Y.—*Boat Detaching Tackle.*—January 1, 1867.—The rope is held by a serrated cam, or by a serrated lever operated by a cam.

Claim.—Connecting and detaching a boat from the end of a rope by the combined use of the bars and cam or eccentric lever and the end of the rope passed or reeved through or between them, substantially as described.

60,964.—JAMES R. TAYLOR, New York, N. Y.—*Boat Detaching Tackle.*—January 1, 1867.—The boat is attached to the davit blocks by the hooks of pivoted levers connected together so as to insure simultaneous release. The pivot supports of the hook levers have projections preventing release before the hooks are turned up.

Claim.—The combination of the hook and lever, or weight pivoted to the holding head, and the block hook and its roller with the lugs on the holding head for the purpose of closing the space between the point of the hook *C* and the holding head, and for opening said space by swinging back said hook *C*, substantially as described.

60,965.—JAMES R. TAYLOR, New York, N. Y.—*Boat Detaching Tackle.*—January 1, 1867.—The catch arm is pivoted to a stem rod attached to the boat, and the catch takes under a side projection of an upward extension of the stem rod. The davit blocks are released at both ends simultaneously by the rod connecting the catch levers.

Claim.—The combination of the two hinged pieces *A B* with their projecting portions *c d e f*, constructed, arranged, and operating together as and for the purpose set forth and described.

60,966.—JAMES R. TAYLOR, New York, N. Y.—*Boat Detaching Tackle.*—January 1, 1867.—Explained by the claims and illustration.

Claim.—First, in combination with a hook used in a boat-detaching apparatus, a reinforce, or secondary hook *e*, which catches under a solid portion of the head and thus relieves the pivot of the hook, or makes a safety connection should the pivot of the hook give way, substantially as described.

Second, in combination with the hook and its reinforce, an eccentrically formed tripping lever, that is aided in being tripped or removed by the pressure of the hook upon its curved edge, substantially as described.

60,967.—E. S. TORREY, New York, N. Y.—*Attaching Elastic Tips to Legs of Furniture.*—January 1, 1867.—The upper part of the rubber tip has a circumferential groove to engage the incurred edge of the holding nut by which it is attached to the table leg.

Claim.—The combination of the socket B and conical leg *a* with the tip *f*, substantially as and for the purposes herein set forth.

60,968.—GEORGE UPTON, South Danvers, Mass.—*Manufacture of Glue.*—January 1, 1867.—The steam is introduced from above into the body of the stock through a pipe. The liquid is drawn off from beneath a perforated diaphragm.

Claim.—In the manufacture of glue, the process of subjecting the gelatinous matters to the action of steam, substantially as set forth.

60,969.—HUNNEVILLE VINCENT, New York, N. Y., assignor to himself and HUGH B. BROWN.—*Hoop Skirt.*—January 1, 1867.—Each wire passes two or more times around and returns for junction to the point of departure, so that the ascending shall cross the descending part; tape connections are made as usual.

Claim.—The arranging of the wires or hoops in such a manner that each hoop crosses or intersects itself once or more in its passage around the skirt, substantially as and for the purposes herein set forth.

60,970.—RUDOLPH VOLLSCHWITZ, New York, N. Y., assignor to himself and J. J. SCHLAEFFER, same place.—*Door Lock.*—January 1, 1867.—The key has cam projections upon it, which place a series of spring tumblers in a position to allow the retraction of the bolt.

Claim.—The mortises *g* in the tumblers D, to operate in combination with the flat notched bit of the key, nuts E, and bolts C, substantially as and for the purpose described.

60,971.—JAMES WALSH, Valley Town, Ill.—*Granary.*—January 1, 1867.—The frame is mortised together and the sides and divisions supported by engaging in slide grooves of the sides and of intermediate, doubly-grooved posts. The sections of the granary may be made of such size as to form measures.

Claim.—The granary and measurer, constructed of removable parts, substantially as described and represented.

60,972.—JOSEPH WARD, New York, N. Y.—*Hollow Auger.*—January 1, 1867.—The cutters are adjustable, and are combined with a central boring bit.

Claim.—First, the arrangement within the case A of the cutter stocks B, constructed with discharge throats C, and adapted for adjustment by means of the cam E and guides *a*, as and for the purpose specified.

Second, the within-described tool, adapted for cutting tenons and boring holes simultaneously, constructed and operating in the manner and for the purpose specified.

60,973.—HERVEY WATERS, Northbridge, Mass.—*Mechanism for Operating Dies.*—January 1, 1867.—The punch slide is connected to its motive arm by a hook, insuring its invariable return after a stroke, and the hook stirrup of the arm may be engaged with the inner recess of the hook to cause a downward stroke. The mechanism is such that a second blow will not be given without the lever is allowed to rise and is again depressed.

Claim.—The combination with an eccentric hammer, crank press, or other similarly operating machine or machines, of a means or system of mechanism by which the action of the machine or machines may be controlled substantially as set forth, when such system of mechanism is so connected with the machine or machines as not to enter into the active operating structure thereof.

60,974.—HORATIO B. WEAVER, Hartford, Conn.—*Lock and Key.*—January 1, 1867.—The inner knob acts directly upon the bolt to retract it, but the outer knob acts upon it by the sliding of another bolt, which is

only freed by the introduction of a key into the shank of this knob.

Claim.—First, the combination of the two spindles D and D', the bolt B, plate C, and the tumblers F, or their equivalents, the whole being constructed, arranged for joint operation, and applied to a lock case, substantially as and for the purpose herein set forth.

Second, the combination of the above and the fence *k'*, the whole being constructed, arranged, and operating as described.

Third, the bell-crank tumbler-levers F, hung to the spindle D' and arranged in respect to the recess *k* of the plate C, substantially as described.

Fourth, the tumblers F, arranged in respect to the slot *l*, in the stem of the handle E', as described.

Fifth, the slot in the tubular stem of the handle E', in combination with notches *p* in the edges of the key.

60,975.—A. WERNÉ, New York, N. Y.—*Rectifier for Stills.*—January 1, 1867.—A cylindrical vessel of wood has a metal coil about half way up, and another coil at the top for cold water. The spirituous vapor from the still enters the vessel by pipe near the bottom, and the watery portions are condensed by contact with the coils. The rectified vapors pass by a pipe to the condensing worm.

Claim.—First, the spiral channels formed in the covering-plate C and in the box B by the spiral flanges *d* and *g*, respectively, substantially as and for the purpose herein shown and described.

Second, the annular plate *b*, made substantially as and for the purpose herein shown and described.

Third, the combination of the plate *b*, box B, and cooling-cover C with the rectifier A, substantially as and for the purpose herein shown and described.

60,976.—ELIAS A. WIGHTMAN and WILLIAM C. WILLIAMS, Livingstonville, N. Y.—*Cultivating Hops.*—January 1, 1867.—The poles have staples to receive wire rods for sustaining the vines. The rods are withdrawn when the crop is gathered.

Claim.—The sliding rod B, arranged with the poles A, as shown, adapted to be drawn therefrom when desired, substantially as represented and described.

60,977.—JAMES F. WINCHELL, Springfield, Ohio, assignor to himself and GEORGE C. STEELE.—*Corn Husker.*—January 1, 1867.—A metal plate, turned up into a claw at one end and a hook at the other, is attached to a leather strap which has holes for engagement to the hook.

Claim.—The corn husker, consisting of the metal plate A and the strap B, made adjustable in size, when constructed and arranged as herein shown and described.

60,978.—G. C. WINCHESTER and M. V. B. HOWE, Ashburnham, Mass., assignors to C. and G. C. WINCHESTER, same place.—*Chair.*—January 1, 1867.—The seat is supported on socket joints and has a spring connecting it to the stand. The fore end of the spring engages a ratchet, which has a retaining cam.

Claim.—Combining the seat *a* with the stationary stool or base *b* by means of ball-and-socket joints, arranged not only to act as hinges but otherwise, substantially as described.

Also, combining with such arrangement or construction the spring *i*, fixed to the bar and bearing against the rear part of the seat, substantially as shown and described.

Also, the combining of the ratchet bar, pawl plate, shaft, and cam, when arranged to lock the seat in horizontal or inclined position, substantially as set forth.

Also, forming each side rail *f* and its leg *p* from a single strip of wood bent into shape, substantially as shown and described.

60,979.—W. E. WOODBRIDGE, Little Falls, N. Y.—*Construction of Ordnance.*—January 1, 1867.—The re-enforcing wire is wound in spiral coils around the barrel, the contiguous coats being coiled in opposite directions. The interstices are filled in with molten metal.

Claim.—First, the employment, in the structure of cannon, of helices of wire of reversed obliquity, applied one over another, and brought into union by the intervention of a more fusible metal, employed as a solder.

Second, in general terms, the construction of cannon substantially as herein described, modifying the selection and use of materials as herein set forth.

Third, the application of the mode of construction herein described to tubes other than cannon, when the mechanical requirements are similar.

60,980.—L. D. WOODMANSEE, Mad River township, Ohio.—*Bridle Bit.*—January 1, 1867.—Explained by the claim and illustration.

Claim.—The combination of the rigid bars A and B, jointed directly to the mouthpiece of a bridle bit, and operating in the manner substantially as and for the purpose described.

60,981.—CHARLES J. WOOLSON, Cleveland, Ohio.—*Grate.*—January 1, 1867.—The bars are pivoted in a tipping frame and connected together by a strip, by which the spaces between them can be closed. The ashes may be dumped by tipping the frame.

Claim.—The tipping frame A, provided with journals and bearings B, in combination with the shackle or grate bar D, arms E, and link O, and duplicate bearings S.

60,982.—SAMUEL A. WRAY, Greenfield, Ind.—*Cultivator Plow.*—January 1, 1867.—The beams are attached together by a flexible plate, and have a slotted adjustment plate near the rear end.

Claim.—The combination of the beams B and B', elastic plate D, and hinge joint E, with a device for retaining the beams in position, substantially in the manner set forth.

60,983.—ANTHONY WREALSH and WM. BURNS, Springfield, Ohio.—*Water Wheel.*—January 1, 1867.—An improvement on the Jouval turbine wheel. The water is received at top and discharged at bottom. The wheel shaft is supported on converging, upwardly extending arms from the upper casing. Each of the buckets is formed in two radial planes with concentric connection between them. The water gates are opened and closed by the oscillation of a perforated annular plate having a segmental rack engaged by a spur wheel.

Claim.—First, the buckets D, when constructed with two or more faces *d d'*, upon different radial planes, substantially as set forth.

Second, constructing the inner set of concentric buckets, or faces of the same bucket *d* and *d'*, shorter than the outer set, substantially as and for the purpose set forth.

Third, the combination of the guide wheel E, intermediate plate F, and gate ring H, when constructed and arranged substantially as set forth.

Fourth, the raised crown of the intermediate plate F, as arranged in relation to and serving as a bearing for the guide ring H, substantially as set forth.

Fifth, the plate F, when constructed and arranged between the guide wheel E and gate H, substantially as and for the purpose set forth.

Sixth, the elevated bush G, supported upon braces resting upon the crown of the intermediate plate F, and within the guide ring H, substantially as and for the purpose set forth.

60,984.—HENRY WURTZ, New York, N. Y.—*Composition of Glue or Gelatine and other Materials, called Durogel.*—January 1, 1867.—Five parts of bichromate of potash are added to 250 parts of glue in boiling solution. This compound is poured out upon slabs and allowed to cool, after which it is exposed to the action of light, which renders it insoluble. Colors may be combined with the solution of glue.

Claim.—The combination of bichromate of potash with ordinary glue or gelatine, in the manner and for the purpose substantially as described in the foregoing specification.

60,985.—EMANUEL YOUNG, Amanda, Ohio.—*Hollow Auger.*—January 1, 1867.—The auger cuts a tapering tenon and a shoulder upon the spoke simultaneously.

Claim.—As an article of manufacture, the herein-before-described tool, formed with the knives C and E attached to the hollow tapering body B, formed with the shank A, for attaching the tool to a brace, substantially as described.

60,986.—MARTIN ZIGLER, Mulhouse, France.—*Imponderable Fluid and Mode of Generating the Same.*—January 1, 1867.—The fluid may be collected and transmitted in currents like electricity. It is generated by bringing an azotic body into contact with a carbonized body. A battery to generate this fluid may be formed by filling a bladder with caustic ammonia and placing it in a vessel filled with molasses, a conducting thread of silk being attached to the bladder, and another to the vessel containing molasses.

Claim.—First, producing a new imponderable fluid in the manner and by the means herein set forth and described.

Second, the combination of two substances, the one containing azote and the other containing carbon, in the manner substantially as herein described, so as to generate an imponderable fluid, and to excite or produce a current of the same, as and for the purposes set forth.

60,987.—DAVID M. AYER, Lewiston, Me.—*Boot and Shoe.*—January 8, 1867.—Air cells are formed between the outer and inner soles of boots by corrugating the inner sole, and so arranged as to form an air passage between said sole and the upper of the boot, for the introduction or escape of air.

Claim.—First, forming air cells or spaces between the outer and inner soles of boots and shoes by means of corrugated or fluted sole leather, substantially as described.

Second, in combination with air cells or spaces between the outer and inner soles of boots-and shoes, formed by corrugated or fluted sole leather, as described, air ducts or passages communicating with the outer air, substantially as described.

60,988.—ELI BANKS, Millport, N. Y.—*Paddle Wheel.*—January 8, 1867.—The paddles are convex before and flat or concave behind, and are attached to surfaces of the arms at an inclination to the radius of the wheel.

Claim.—The combination of the spoke A and paddle B, when made as described and used for the purpose set forth.

60,989.—BERNARD BATTLE, Pittsburgh, Pa., assignor to DANIEL COYLE, Soho, Pa.—*Composition for Lubricating Journals.*—January 8, 1867.—For use on journals necessarily hot, as rolls of rolling mills: one barrel animal grease or residuum; two pounds each of plumbago, sulphur, and steatite; one pound each of carbonate of magnesia, glue, and rosin; and four gallons of slaked lime, to be mixed while hot. To this one-half gallon of molasses may be added when cold.

Claim.—The preparation of a lubricating compound composed of the above-named ingredients, viz., animal grease or "residuum," plumbago, sulphur, steatite, carbonate of magnesia, glue, rosin, and hydrate of lime, with or without molasses, substantially as above set forth, and in the proportions and for the purposes above designated.

60,990.—DANIEL BEST, Lancaster, Pa.—*Furnace for Steam Boilers.*—January 8, 1867.—A vertical, longitudinal partition in the boiler separates the tubes into two series, and the caloric current, after passing beneath the boiler, traverses the tubes on one side of this partition to a combustion chamber over the furnace, and then passes through those of the other side to the exit flue.

Claim.—The prolongation of the outer cylinder B of the boiler beyond the flues when closed with a partial head N O and doors D D, so as to form a chamber C directly over the front part of the furnace or fire box F, constructed in the manner and for the purpose specified.

Also, the vertical partitions P in boilers in combination with a partition or chamber I M, for conveying the heat first under, then through, a series of flues E' on one side of the water level, and returning it on the same plane on the other side of said partition P through the flues E'' to the rear of the boiler, substantially in the manner specified.

60,991.—WILLIAM BRANAGAN, Burlington, Iowa.—*Steam Generator.*—January 8, 1867.—The side flues are carried by a revolvable jacket so that

they can be presented to any of the horizontal tubes traversing the water space from the fire box to the chamber within the jacket.

Claim.—Applying a jacket D to a boiler which is constructed substantially as described, so that this jacket can revolve around the boiler, substantially as specified.

60,992.—E. W. BRANCH, East Henrietta, N. Y.—*Cider Mill.*—January 8, 1867.—The hand wheels for communicating pressure may be turned by single handles parallel with their shafts by series of radial handles from their periphery, or by levers oscillating on the shafts and engaging ratchet projections on the inner face of the rim. Inverted troughs with notches in their lower edges are placed on the bottom board of the press to assist drainage.

Claim.—The windlass wheel K, having three separate functions of operation, composed, first, of the side pin *h* and rod M, for rapidly turning up the screw wheel H; second, the hand pieces *f* for imparting the initial pressure; third, the ratchets *g* and lever L for producing the final pressure, arranged and operating conjointly with the screw wheels H H and follower D, substantially as set forth; fourth, the employment of a series of inverted troughs or tiles P P, closed on their upper sides, but provided with apertures *k k* on a level with the face of the bed, to receive and conduct away the expressed juice, substantially as set forth.

60,993.—FRANKLIN BRUA, Gordonville, Pa.—*Harvester Rake.*—January 8, 1867.—The rakes are carried on arms upon a bevel gear wheel, and are vertically oscillated by a horizontal cam to bring them down upon the platform at the proper time.

Claim.—The peculiar construction of the horizontal wheel O, with its stops or lugs P, centrally-elevated radiating arms M with slots *m*, in combination with the elbowed heel K L of the rake shaft T, the whole being arranged and operated in the manner and for the purpose herein set forth.

Also, the arrangement of the double head B, center pin or shaft I, bracket D, pinion F, and slotted cog wheel O, when constructed and operated in the manner and for the purpose set forth.

60,994.—WALTER S. BUCK, Philadelphia, Pa.—*Machine for making Tin Cans.*—January 8, 1867.—The body of the can is placed on the expanding cylinder and held by an adjustable blade which is depressed by a treadle. The seam is then soldered. The cylinder is expanded by set screws at the ends which screw into one side and have circumferential grooves in the heads which are engaged by pins.

Claim.—First, the cast-iron base plate A, with its recesses B and G, in combination with the steady pin L, for the purpose substantially as described.

Second, the expanding metallic cylinder S, when constructed and adjusted substantially as described.

Third, the combination of the slotted blade H with the slotted and vibrating arm C and set screws O, arranged and operating as described.

Fourth, the sliding guides *y* in combination with the cylinder S, substantially as described.

Fifth, the combination of the pressure arm C, base-plate A, and expanding cylinder S, when arranged and operating for the purpose substantially as described.

60,995.—W. BUTTERFIELD, Madison, Wis.—*Rotary Pump.*—January 8, 1867.—The revolving piston is placed eccentrically in the cylinder and has buckets whose edges are kept in contact with the inner surface of the cylinder by concentric cam rings upon the cylinder heads. The water is received below and discharged above. A circumferential passage within the cylinder extends beyond the place of exit for the escape of water.

Claim.—First, a rotary pump having a circular cylinder and the chamber E in the casing, so arranged that the valves in passing under the chamber shall force the water out in the opposite direction, as described.

Second, constructing the end plates H with the concentric rings *n*, forming a bearing for the springs *a*, substantially as set forth.

Third, the combination of the cylinder C, provided with the buckets or valves D, and set eccentrically in the case A, in combination with the chamber E, and

the side plates H, provided with the rings *n*, when arranged and operating as set forth.

60,996.—NELSON CARL, Cincinnati, Ohio.—*Extension Table.*—January 8, 1867.—Both parts of the table draw equally away from the slide or middle portion. The main frame of each of the principal parts performs the functions of a slide, and the middle portion serves to hold the extra leaves.

Claim.—The combination of the central-boxed slide E and legs G with the ends A B of the table, forming the outer slides, the whole constructed and arranged to operate as and for the purposes described.

60,997.—HECTOR CARLOS, New York, N. Y., assignor to self and HENRY C. WATSON, same place.—*Button.*—January 8, 1867.—The shank is jointed and its end is pointed for insertion and capable of being oscillated 90° to act as a retainer.

Claim.—As a new article of manufacture the novel button herein described, composed of the body A, shank B, confining pivot C, and pointed hinged part D D', combined and arranged substantially in the manner, and so as to be applied to the garment and secured thereon, substantially in the manner and for the purpose herein set forth.

60,998.—M. J. and H. M. CHAMBERLIN, Springfield, Mass.—*Breech Loading Fire Arm.*—January 8, 1867.—When the recoil block is down the trigger is held by it in the sear of the hammer. When the block is up the trigger, as it is pulled from the sear, locks the block in closed position.

Claim.—First, using the trigger as a brace to support the recoil block, substantially in the manner herein set forth.

Second, so combining and arranging recoil block, hammer, and trigger, that when the recoil block is raised up against the rear end of the barrel and the trigger pulled for the purpose of firing, the recoil block is supported by the trigger acting as a brace and kept in place by the hammer, and when the recoil block is down and the trigger in the notch of the hammer, it (the trigger) is kept from being pulled out from under the hammer by the recoil block, substantially as herein set forth.

Third, the projection M, when constructed and arranged in the manner and for the purpose set forth.

60,999.—W. S. COLWELL and F. VEAZIE, Pittsburg, Pa.—*Stave Machine.*—January 8, 1867.—Staves are sawn to a thin circular form by two saws in form of segments of circles, actuated reciprocally by cranks which are connected to their sectoral frames. The block is clamped to a sliding bed by points actuated by a worm gear.

Claim.—First, the arrangement of the saws A and B, arms 1 and 2, shaft 3, connecting rods 5 and 6, and crank 4, when said arrangement is used for sawing out the concave and convex sides of a stave at one operation as herein described.

Second, the arrangement of the guides D and D', clamps *e f g* and *h*, provided with arms J and K, rack *m*, lever *l*, endless screw *i*, and wheels 12 and 13, when said parts are arranged and operating as herein described and for the purpose set forth.

Third, the arrangement of the racks *w*, wheels 30, shaft P, lever *u*, provided with the pawl *t*, when said parts are used in connection with the clamps *e f g* and *h*, as herein described and for the purpose set forth.

61,000.—ALICE A CONDIT, Muncie, Ind.—*Feathered Cloth.*—January 8, 1867.—The plumes are trimmed square at both ends and made of equal length, so as to make the quill form one side. It is then sewed to the fabric, the stitches passing over the quill, each quill being concealed by the feathers of the next.

Claim.—An article of manufacture formed by trimming, folding back, and sewing upon cloth or other material the feathers of geese, birds, or fowls, as herein shown and described.

61,001.—EDWARD S. CROSS, Lime Rock, Conn.—*Bed Bottom and Seat.*—January 8, 1867.—The coils at each end of the spring engage behind a helical projection on the casting by which it is connected to the bedstead or slat.

Claim.—First, the spiral spring E attached to the end of the slat B or of the bedstead A, by means of an attachment inserted into the end of the spring, and having one or more spurs standing in the helical spaces in the spring so as to allow of being turned, substantially as and for the purpose herein specified.

Second, in combination with the above the within described arrangement of the castings C and D and axis *c* and *d* adapted to turn in the vertical plane, substantially as and for the purpose herein specified.

61,002.—JAMES H. FLAGG, Perkinsville, Vt.—*Hanging Paint Pots to the Sides of Buildings.*—January 8, 1867; antedated December 22, 1866.—The pot is hung to a horizontal bar whose inner end has studs to engage the lower side of a weather board. The bar has pivoted to it a divaricated lever whose lower pointed ends engage the wall.

Claim.—The lever A and forked brace B in combination with each other in such manner as to provide a device, substantially such as and for the purpose herein shown and described.

61,003.—A. M. FREEMAN and A. M. STONER, Springfield, Ohio.—*Car Coupling.*—January 8, 1867.—The pin head is connected by a chain to a rock-bar bent into the form of a crank. When the car is uncoupled the pin rests on a pivoted plate having a perpendicular perforation through which the pin passes when the plate is raised by the entering link.

Claim.—The combination of the shaft C, bolt *c*, and latch *m*, when said parts are arranged to operate in connection with each other, substantially as and for the purpose herein set forth.

61,004.—CHARLES N. GILBERT, JOHN F. BARKER, and E. N. IVES, Springfield, Mass., assignors to NEW ENGLAND PORTABLE GAS WORKS COMPANY, same place.—*Apparatus for Carburetting Air.*—January 8, 1867.—An improvement on carburetters made on what is known as the gravity principle. Explained by the claims and illustration.

Claim.—First, in a gas apparatus, constructed on the principle before mentioned, arranging the generator in a fire-proof and gas-tight chamber, substantially as set forth.

Second, arranging a tank for holding the fluid in a separate and detached building, and connecting the same with the generator by means of a force pump and pipes, substantially as set forth.

Third, arranging the pipes connecting the generator with the tank and pump in such a manner that the syphons can be filled and the generator emptied from the tank house.

Fourth, the arrangement of the gas-pipes in such a manner that the condensed vapor, together with the gas in the generator and pipes, can be withdrawn from without the building, substantially as described.

Fifth, heating the generator by means of the radiating box or pipe passing through the chamber outside of the generator, substantially as described.

Sixth, the use of gauges for the purpose of indicating the presence of fluid in the generator or pipes, instead of petio cocks.

Seventh, the use of metallic flanges for the purpose of securing the pipes to the generator and tank, constructed substantially as described.

Eighth, the improved form of generator, in which the reservoir chamber *h* is added to the evaporating pans *o o*, both enclosed in one case, substantially as described.

Ninth, the attachment of the metallic box B, arranged substantially as and for the purpose shown.

Tenth, the improved can for filling, with the union and hose attachment, arranged substantially as shown.

Eleventh, the arrangement of the pipes *q* and *v*, with the cock *p* and the cock *s* communicating with the syphon tubes and the gauge P in such a manner that the syphons may be operated and fluid withdrawn from the pans by the naphtha let down from the reservoir *h*, in the manner substantially as described and shown.

Twelfth, the syphon cups E E E, arranged substantially in the manner and for the purpose specified.

Thirteenth, the general arrangement of the gas-tight chamber, with the enclosed closet, having the glass front and metallic door, into which closet the various pipes enter, together with the damper rod, arranged in such a manner that the generator can be

inspected and operated without necessitating an entrance to its chamber, substantially as described.

Fourteenth, the general arrangement of the air-tight chamber, with pipes for venting the generator and chamber, having the damper *u* and man-hole *w*, substantially as described.

61,005.—GEORGE K. GLUYAS, San Francisco, Cal.—*Bearing for Shafts of Steamships.*—January 8, 1867.—The pillow-block of the shaft is supported by rubber-springs resting on a block, which is adjustable vertically in the slide frame by screws beneath. This device is intended for the middle bearing of paddle shafts.

Claim.—The arrangement of the frame A enclosing the adjustable blocks B, guided by the slides C and the blocks D, and combined with the rubber springs E and adjustable screws F, substantially as set forth for the purpose specified.

61,006.—GEORGE GRAY, Temperanceville, Pa.—*Artificial Fuel.*—January 8, 1867.—To 1 ton of coal dust add 8 or 10 pounds of melted pitch and 1 pound of resin. Moid into blocks.

Claim.—The artificial fuel composed of the ingredients, prepared in the manner and proportions substantially as set forth.

61,007.—HENRY HAMMOND, Hartford, Conn.—*Back Sight for Fire-arms.*—January 8, 1867.—The perforated sight disk has lips which take over the edges of the jointed standards, or over the edges of a central vertical slot. A scale upon the standard indicates the elevation of the disk.

Claim.—First, the combined action of the oscillating disk *i* with the clasp *f*, relative to the standard *d*, substantially as and for the purpose described.

Second, the oscillating disk *i*, with its fastening screw *k* and sight *n*, with the standard *d*, substantially as described.

Third, the employment of the screw *h*, with the oscillating disk *i* and standard *d*, substantially as and for the purpose described.

61,008.—IRA HOLMES, Moscow, N. Y.—*Inhaler.*—January 8, 1867.—A chamber in the cap has valves which allow the vapor to pass from the vessel to the mouth, and from the mouth through the inhaling tube to the outer atmosphere.

Claim.—The cap C, with its chamber E, valves *c* *t*, and tubes D F, when arranged in the manner and for the purpose set forth.

61,009.—E. S. HUNT, Philadelphia, Pa.—*Stone Dresser.*—January 8, 1867.—The frame is carried on wheels with rubber tires, and may be moved by a hand crank, which is connected to either the moving or dressing devices. The cutters are clamped at the lower end of a rod, which has adjustable springs to limit its action, and is raised by radial revolving arms which engage a lever that comes in contact with its tappet.

Claim.—First, the hammer H R and its cutter *c*, constructed and combined with lever M O, lifter L F, and springs S P and S' P', regulating nut M A, so as to obtain the intended and herein described effect.

Second, the lever L, pinions P and P', with gearing and unengearing movement plate N S, with notches and lug N S—N S, when combined and constructed in the manner and for the purpose above described and set forth.

Third, wheels R A and R' A', provided with a rim made of India-rubber, gutta-percha, leather, or any equivalent substance, when combined and constructed in the manner and for the purpose above described and set forth.

61,010.—BARTON H. JENKS, Bridesburg, Pa.—*Self-Lubricating Bolster and Step for Spinning Frames.*—January 8, 1867.—The removable bearings are of soft metal to decrease the wear of the spindle, around which they form sleeves within the hard-metal bolster.

Claim.—First, the hard-metal bolster *a*, with oil chamber *e* and separated removable bearings *c* *c'*, substantially in the manner and for the purpose described.

Second, the spindle step *g h m*, constructed in the manner and for the purpose described.

Third, the combination of the bolster *a* *c* *c'*, step

g h m, and spindle B, substantially in the manner and for the purpose described.

61,011.—JOHN L. KENDALL, New York, N. Y., assignor to ELLEN A. VAIL, Southold, N. Y.—*Skirt Supporter*.—January 8, 1867; antedated December 23, 1866.—The tapes on the inside of the skirt have eyelets to be engaged by hooks near their lower ends, and thus loop up the skirt to the extent desired.

Claim.—A skirt supporter, composed of a tape or strip of fabric furnished with a hook and eyelets, and adapted for attachment to the skirt as and for the purpose described.

61,012.—J. W. LATCHER, Albany, N. Y., and JOHN YOUNG, Amsterdam, N. Y., assignors to JOHN YOUNG, Amsterdam, N. Y.—*Wringing Machine*.—January 8, 1867.—The roller shafts have transverse pins which engage gains in the hubs of bevel wheels, whose conical sockets are traversed by shafts. The outer ends of the hubs of these wheels have bearings in the frame, which allow them an oscillating movement when the distance between the rollers is varied.

Claim.—First, the employment or use of conically-bored wheels F F, applied to shafts of clothes wringers, for the purpose shown and described.

Second, in combination with the gears F F, the variable bearing-plate E, all constructed and arranged to operate substantially as set forth.

Third, in combination with the wheels F F and bearing-plate E, the elastic cushion k, for the purposes set forth.

Fourth, in combination with the conically-bored gear wheels F F and cushion k, the relay spring l, for the purpose described.

61,013.—WILLIAM J. LUDLOW, Chardon, Ohio.—*Torch and Match Safe*.—January 8, 1867.—The tube screws into the handle, which forms a receptacle for oil, and contains also a match recess. A ring is provided by which to hang up the torch.

Claim.—The described invention as a new article of manufacture.

61,014.—A. C. MARTIN and J. WOODROUGH, Hamilton, Ohio.—*Saw*.—January 8, 1867.—The teeth are secured in the plate by their dovetailed bases. They are moved laterally into their recesses and then tightened by forcing outwardly by a key-piece inserted beneath; the key is fastened by a pin.

Claim.—Inserting the saw tooth in its seat by moving it toward the periphery or edge of the saw and securing it in place by the means substantially as specified.

61,015.—ALEXANDER, JOHN, and THOMAS McKENNA.—Pittsburg, Pa.—*Barreling Cock*.—January 8, 1867.—The passage in the cock for the escape of air has a whistle, which sounds while the barrel is filling; the rise of liquid covering the inner end of the passage indicates when the barrel is filled.

Claim.—Combining with a barreling cock a whistle or other contrivance that will indicate by sound the flow of liquid while filling, and so constructed as that when the liquid reaches the nozzle the sound will cease, whereby the person in charge may know that the barrel is full.

61,016.—JACOB P. MEYER, Waukesha, Wis.—*Protecting Horses' Necks*.—January 8, 1867.—A lengthened rest for the collar top, having bearing before and behind a spot galled by an ordinary collar.

Claim.—The pad composed of the slats A, flexibly united, and having a middle space which spans the sore and ends which rest upon the neck or withers, with or without the cushions, substantially as described and represented.

61,017.—ALEXANDER G. NYE, Weymouth, Mass.—*Separating Hard Rubber from Porcelain Teeth*.—January 8, 1867.—The plate is immersed for five minutes in oil raised to 300° Fahrenheit.

Claim.—The employment of a bath of heated or boiling fat or oil, in connection with one or more teeth and a mass of vulcanite, in manner and for the purpose as specified.

61,018.—S. W. J. F. and N. PALMER, Auburn, N. Y., assignors to themselves and DAVID LYMAN,

Middlefield, Conn.—*Mangle*.—January 8, 1867.—Explained by the claims and illustration.

Claim.—First, the application to the rollers of mangles of hard rubber or vulcanite, substantially in the manner and for the purposes described.

Second, combining and connecting the lever frames in which the stationary and movable rollers are hung by a system of links and levers, arranged substantially as described so that the same may be actuated by hand, weights or otherwise, substantially as and for the purposes herein shown and described.

Third, in combination with the movable roller, when hung in the short arms of angular levers for the purpose of adjustment with reference to the stationary roller, the internal and external gear wheels and intermediate pinion under the arrangement shown and described, so that the said gear wheels, while at variable distances from each other, shall bear fixed and invariable relations to the said pinion, substantially as and for the purposes set forth.

Fourth, the method of gearing the rolls of mangles, or other like machines, when arranged so as to move with equal or different velocities, but at variable distances from each other, by mounting upon the said rolls respectively internal and external gear wheels, which mesh with an intermediate pinion, stationary with relation to said rolls, substantially as shown and set forth.

Fifth, in a mangling machine, marking and ornamenting the material passing between the mangle rolls, by means of letters or other devices or designs cut or formed in intaglio in one or both of said rolls, substantially as herein shown and described.

61,019.—WILLIAM P. PARROTT and JOHN J. BORDMAN, Boston, Mass.—*Ore Crusher*.—January 8, 1867.—The faces of the cylinders are constructed in segments. The cylinders have a reciprocating motion endwise, each in respect to its fellow of the same pair. A reciprocating motion may be given to the hoppers.

Claim.—The mode hereinbefore described of making either or each of such crushing rollers of a series of peripheral segments or sections e', a body d' d' d', and clamp rings f' f', formed and applied together, substantially as specified.

Also, the mechanism as described, for imparting reciprocating endwise movements to the rollers of either or each pair of crushing rollers, as described.

Also, the combination of a movable hopper, a pair of crushing rollers, and mechanism for moving the hopper laterally in reference to such rollers, in manner as set forth, while they may be in revolution, as specified.

Also, the construction of each hopper, viz: with two or more receiving and discharging apartments arranged in it, substantially as and for the purpose specified.

61,020.—CHARLES M. RAYNALE, Birmingham, Mich.—*Propeller for Vessels*.—January 8, 1867.—The water is driven to the rear for the propulsion of the vessel by the action of the valve plungers, operated by a motor on board the vessel.

Claim.—A vessel, constructed with pipes B B opening directly astern, and bent at right angles upward, in combination with reciprocating plungers C open above, and working vertically in each, said plungers being constructed with outward-opening valves C', and arranged to operate substantially as and for the purpose set forth.

61,021.—DANIEL T. ROBINSON, Boston, Mass.—*Horse Railway Car*.—January 8, 1867.—The tapering end of the tongue enters a socket in the whiffletree frame, and may be withdrawn therefrom when required.

Claim.—So applying the pole of a horse car to its connection or draw bar as to be enabled to disconnect it therefrom instantaneously by itself, or without the whiffletree, essentially in manner and to operate as hereinbefore described.

61,022.—DANIEL T. ROBINSON, Boston, Mass., assignor to PAUL P. TODD, same place.—*Coffee Pot*.—January 8, 1867.—The ground coffee is contained in a foraminous cup, whose sides are enclosed within a shell ending above in a funnel. The top of the latter fits tightly in the pot top, and receives the bottom of a condensing vessel which may contain milk. The

vapor from the decoction passes through the funnel sides, condenses, and falls into the cup containing the ground coffee.

Claim.—In combination with the pan B and foraminous cup C, the shield or tube D, essentially in manner and for the purpose as described.

61,023.—ANDREW V. RYDER, Germano, Ohio.—*Horse Rake.*—January 8, 1867.—The rake teeth are raised simultaneously by a treadle lever and depressed by separate spiral springs.

Claim.—The above-described construction and arrangement of the levers A and F, in combination with the links D, for operating the rake by treadle action, substantially as set forth.

61,024.—T. SCHOLZE, Steuben county, Ind., and J. BICKEL, Elkhart county, Ind.—*Water Elevator.*—January 8, 1867.—The crank is adapted to release the check pawl and to serve as a brake for controlling the descent of the buckets.

Claim.—The crank C, as constructed with an arm and hook *d*, in combination with the pawl catch *g* and perforated plate A, substantially in the manner and for the purpose as herein set forth.

61,025.—ANTHONY M. SMITH, Brooklyn, N. Y.—*Spring Lock.*—January 8, 1867.—The tube containing the pin by which the key operates is extensible by a set screw to suit doors of any thickness.

Claim.—The combination of the extension tube A and nut *s*, the elongated catch *d* and arm *e*, operating in recess *o* by means of the set screw *u*, substantially as described.

61,026.—HARLOW C. SMITH, Champaign City, Ill.—*Flour Sifter.*—January 8, 1867.—The sieve is pivoted at its lower and smaller end, and discharges the refuse through the side of the box at that place. It is agitated by a cam wheel and spring, and has a wire passing through the exit of the hopper to prevent clogging.

Claim.—The combination of wire E E, pivot N, aperture H, rod L, rod I, and hooks O, as described and for the purpose specified.

61,027.—SIDNEY SQUIRES, Boston, Mass.—*Wringing Machine.*—January 8, 1867.—The clamping device is so pivoted to the wringer frame that it may be reversed, and each roller has a place of attachment for the hand crank.

Claim.—Pivoting the portions H to the frame A, so that their position can be reversed, for the purpose described.

Also, in combination with the above, projecting one end of both shafts C D of a wringing machine beyond its frame, so that when the portions H are reversed, and the position of the rolls thereby changed, the crank may be applied to the lower shaft, as and for the purpose set forth.

61,028.—R. N. STEWART, Philadelphia, Pa.—*Paper Box.*—January 8, 1867; antedated December 30, 1866.—The edges of the pasteboard are embraced by sheet metal, and these strips soldered together. The strips furnish places of attachment for metal loops by which to fasten or hang the box.

Claim.—Securing the edges of the pasteboard of which the said paper boxes are made permanently together by means of the double clamps A of thin sheet metal, constructed and applied substantially as and for the purposes as described.

Also, the combination with the said double clamps A, the small metallic loops *a*², substantially as and for the purpose described.

61,029.—GEORGE STORER, New Britain, and GEORGE W. STORER, Portland, Conn.—*Attachment for Center Boards of Vessels.*—January 8, 1867.—The center board is pivoted by a pin, which traverses a bushing in the board and enters metal sockets screwed into the trunk on each side.

Claim.—The screw socket *e* receiving the center pin *d* of the center board, and forming a water-tight connection with the trunk *a*, substantially as specified.

61,030.—ELI THAYER, New York, N. Y.—*Decoction Apparatus for Tea and Coffee.*—January 8, 1867.—The lower portion contains the material for the in-

fusion, and being partially separated from the water above, is capable of attaining a boiling heat before the main body of water, which condenses the steam and volatile oil arising from the infusion below.

Claim.—A decocting apparatus wherein the main body of water is separated from that portion which saturates the material from which the decoction is made, by some non-conducting material which partially intercepts the heat and circulation, whereby ebullition may be produced in the latter portion of the water, and its vapor condensed by the former and cooler portion, substantially as is herein set forth.

61,031.—ELI THAYER, New York, N. Y.—*Steam Generator.*—January 8, 1867.—The upper water chamber has downwardly extending ducts which communicate together through pipes which extend into the furnace space. The smaller pipes open at one end into the inner duct, and at the other discharge at the blind end of the larger and enveloping pipes. The larger pipes discharge into the outer duct, which is nearer to the furnace.

Claim.—First, the discharge chamber *e*, in combination with a tubular steam generator, substantially as set forth.

Second, the arrangement of the several doors *n n w w* for feeding the fuel among the pipes constituting the upper grate, and for clearing them of cinders or other obstructions, substantially as set forth.

Third, the feeding chamber *m m*, substantially as set forth.

Fourth, the upper grate, substantially as set forth.

61,032.—SYLVANUS WALKER, New York, N. Y.—*Pliers.*—January 8, 1867.—The jaws are plain at the ends, have opposing grooves for holding a bolt longitudinally, and serrated transverse hollows for use as a wrench.

Claim.—Pliers constructed and arranged substantially as and for the purposes herein set forth.

61,033.—C. M. WILLIAMS, New York, N. Y.—assignor to HENRI L. STUART, same place.—*Carbureting Gas.*—January 8, 1867.—The hydrocarbon is distributed by a rose into the upper part of the gas-holder, from a raised tank; the emission is regulated by a cock.

Claim.—Carbureting illuminating gas by mixing or combining with it the vapors of volatile hydrocarbons before it is introduced into the service mains for distribution, substantially as described.

Also, the devices herein shown and described for carbureting gas in the holder before its distribution to the service mains.

61,034.—W. DEWEES WOOD, McKeesport, Pa.—*Treating Cleaned or Scaled Iron.*—January 8, 1868.—After removing from the alkaline bath, and washing as usual in hot water, the plate is allowed to dry, and heated in an oven to a degree below redness. It is then taken out and dipped in a bath of oil and turpentine.

Claim.—The process hereinbefore described of subjecting the iron immediately after it has been washed in water to remove the remains of acid or alkali, to a hot-air bath in a suitable oven or chamber, heated to a low temperature, sufficient to evaporate all fluids from the pores of the metal, and then, while the iron is yet hot, immersing it in or coating it with a mixture of oil and turpentine, or other similar fluid or mixture, which will leave a very slight film or coating on its surface, for the purpose hereinbefore described.

61,035.—MAX ADLER and LOUIS KNELL, Buffalo, N. Y.—*Sash and Blind Fastener.*—January 8, 1867.—The bent end of a pin operated by a knob inside the window frame enters between two projections on the shutter hinge plate to keep it either open or shut.

Claim.—In a sash and blind fastener combined, the points or beaks *d d*, beveled concave *e*, bent lever *f*, knob *g*, and the part *a* of the hinge, in combination with the ratchet wheel *h* and dog *k*, substantially as set forth.

61,036.—CHILTON B. ALLEN, Chicago, Ill.—*Composition for Roofing.*—January 8, 1867.—Pulverized slate and gypsum are mixed in equal proportions, and oil paint or tar added.

Claim.—The use of pulverized plaster, (and or boiled,) in combination with slate flour and other ingredients for roofing, covering the sides of buildings, boat decks, &c., substantially as herein described and set forth.

61,037.—L. V. BADGER, Chicago, Ill.—*Nutmeg Grater.*—January 8, 1867.—The nutmeg is dropped into the oscillating cylinder, and pressed against the curved grater by the plunger, which forms a handle for oscillation.

Claim.—The sector-shaped case B, having hollow cylinder H hung in and between its sides, plates D, in combination with the plunger I of said cylinder, substantially as and for the purpose described.

61,038.—JOSEPH W. BANCROFT, Philadelphia, Pa.—*Dumping Car.*—January 8, 1867.—This car is for transporting coal up steep grades, and automatically discharging it above. On reaching the level at the summit the trigger catch of the front door is tripped by a protuberance on the track, coincidentally with the forward inclination of the car, incident to the variation in the size of the wheels, and the car being on the level.

Claim.—A mining car, supported by large wheels B behind, and small wheels B' in front, in combination with a swinging door C, latch b, and yoke D, all constructed and operating as and for the purposes set forth.

61,039.—JOHN H. BARRINGER, Hillsboro', Ill.—*Cultivator and Sulky Plow.*—January 8, 1867.—The plow and cultivator drag bars are of metal, and are connected by a link to the frame, so that either can be removed, and the other substituted. The tongue is pivoted to the frame, and may be turned sidewise by a lever.

Claim.—First, the arrangements herein described of a combined cultivator and sulky plow connected, and operating separately when the parts are shifted, substantially as herein described.

Second, the arrangement of a shifting plow E, connected with the beam a by the adjustable plates u u, and suspended in the front by the joint b and the bar c, and in the rear by the hook e to the arm f, and the vibrating bar g, substantially as and for the purposes herein described.

Third, the arrangement of the shifting cultivators n n attached out of line with each other to the bent iron beams p, and suspended in front by the jointed connections r, and behind by the hooks t to the arms f¹ f² on the vibrating bar g, substantially as and for the purposes herein described.

Fourth, the arrangement of a guide rod or lever k, connected with the draught pole D, substantially as and for the purpose herein specified.

61,040.—HENRY BARSALOW, Saint Anne, Ill.—*Cultivator.*—January 8, 1867.—The plow beams are connected at their front ends to the frame by a universal joint, and are suspended from the frames of pulleys having movement on a lateral bar. The beams have stirrups for the feet by which they may be moved laterally.

Claim.—First, the beams G attached to the front of the frame A by an adjustable universal joint connection, and suspended by chains near their rear ends to travelling rollers i on the raised cross bar t of frame A, substantially as and for the purpose set forth.

Second, the combination of the mounted frame A, plow or shear beams G G, and detachable seat E, stirrups and foot piece E', all arranged substantially as and for the purpose specified.

61,041.—HENRY BARSALOW, Saint Anne, Ill.—*Seedling Machine.*—January 8, 1867.—The hounds run backward and upward over the axle, and a lever connected to the axle frame operates through these backward projections of the hounds to raise or depress the seed runners. The seed slides are operated by gears from the ground wheels, but may be disconnected and operated by hand.

Claim.—First, the curved extension of the hounds E E beyond the rear of the bar C of the front part of the machine, in combination with the lever J, provided with the cross bar L for the rear parts of the hounds to rest upon, and the segment rack K and

catch L, or their equivalents, all arranged substantially as and for the purpose set forth.

Second, the operating of the seed slide M automatically from the wheel I, by means of the gear l, adjustable gears i k, rod Q and the bent lever P', all arranged substantially as and for the purpose specified.

Third, the combination of the hinged or jointed rear part or frame G of the machine, with the extended hounds E E, lever J, with cross bar L attached, substantially as and for the purpose set forth.

61,042.—J. L. BEERS, McAlisterville, Pa.—*Saw Mill.*—January 8, 1867.—The feed motion of the carriage is controlled by a hand lever working in a long slot having notches to hold it in position. This lever is connected to the pitman that works the feeding knee, in which there is a long slot, so that by operating the lever the pitman head is moved to or from the center upon which the knee oscillates, thus regulating the feed.

Claim.—Controlling the feed motion by means of the lever L, rod K, pitman F, pin b, notched plate M, T-shaped slotted arm G, and pawls H H, arranged and operating substantially as described for the purpose specified.

61,043.—VIRGIL W. BLANCHARD, Bridport, Vt.—*Hot Air Furnace.*—January 8, 1867.—The air passes into a pipe which traverses the fire chamber, and is forced around the ends of diaphragms within lateral blind pipes projecting therefrom. It then enters a combustion chamber in a reverse direction to the calorific current from the consumption of the fuel. Water or oil is supplied immediately below this place of entrance to increase the heat. The calorific current passes through an upper chamber into which project blind pipes with smaller pipes conducting cooler air almost to their extremities.

Claim.—First, the air heater N, fitted within the fire chamber A and arranged or provided with one or more tubes k k communicating with the tubular axis j, and having partitions l for the purpose of conveying or transmitting a current of fresh heated air to the combustion chamber E, and directly in contact with the products of combustion from the fire chamber so that the inflammable gases contained in said products may be consumed within the combustion chamber, substantially as set forth.

Second, the tubes n o placed at the inner end of the air heater and arranged as shown, or in an equivalent way, for the purpose of ensuring a proper mingling of the fresh heated air with the products of combustion from the fire chamber, within the combustion chamber as described.

Third, the perforations r at the end of the space g, between the tubes n o, in combination with the perforated disk or valve s, the apertures t of which are inclined or beveled at their ends to deflect the products of combustion from the fire chamber, through the current of fresh heated air issuing from tube u, as set forth.

Fourth, the tubes e' d' applied to the inner end of the air heater in combination with the tubes n o u, the perforated rotary disk or valve s, and the perforations r in the end of the space g, all arranged substantially as and for the purpose specified.

Fifth, the combustion chamber E in combination with the air heater N, fire chamber A, and the tube M', the latter forming a communication between the combustion chamber and a reservoir of oil, water, or other substance which may be decomposed and consumed within the combustion chamber, all arranged substantially as and for the purpose set forth.

Sixth, the arranging of the disk or damper s with the tube u and rod v attached, the latter extending through the tube j of the air heater N, whereby the disk or damper may be turned at will, and the passage of the products of combustion into the combustion chamber regulated as desired.

Seventh, the slide a' in the outer end of the tube j of the air heater in combination with the disk or valve s and draught passage g at the inner end of the tube j of the air heater, for the purpose of regulating the proportion of fresh heated air, and the products of combustion passing into the combustion chamber, as set forth.

Eighth, the sliding damper F at the rear of the fire chamber, in combination with the air heater N and

combustion chamber E, substantially as and for the purpose specified.

Ninth, the ratchet O and pawl P, or their equivalents, for the purpose of regulating the position of the air heater within the fire chamber, as set forth.

Tenth, the arrangement of the pipes K in the compartment G in the case D above the fire chamber, in combination with the tubes L fitted within the pipes K, and the compartments H I, cold air spaces *d d*, and tubes M, provided with necessary valves, all arranged to operate in connection with the fire chamber of the furnace, substantially as and for the purpose specified.

61,044.—JOSEPH T. BRENEMAN, Springfield, Ohio.—*Hay Stacker*.—January 8, 1867.—The frame is erected over the stack and wagon stand. A knot upon the hoisting rope raises the pulley block and frees it from the catch, when it passes along the slide beam to a point above the stack. An enlargement of the rope prevents the descent of the fork except at the recess in the slide beam over the load.

Claim.—The construction and arrangement of the rollers D, sheaves E, block C, catch F, arm H, links I, and rope L, substantially as and for the purpose set forth.

61,045.—W. S. BRIGHT and J. G. MOREY, New Orleans, La.—*Medicated Plaster*.—January 8, 1867.—A sheet of muslin is coated with a composition of gum ammoniac, 2 oz.; isinglass, 4 oz.; and dilute acetic acid 1 qt., and attached to a piece of perforated buckskin.

Claim.—A medicated plaster made and coated with a medicated compound formed of the ingredients mixed together in and about the proportions named, substantially as and for the purpose described.

61,046.—ALBERT BUELL, West Leyden, N. Y.—*Head Block for Saw Mills*.—January 8, 1867.—The side cleats to which the log is clamped have adjustable inclination to saw the boards beveled.

Claim.—Placing the log in a position to be sawed in bevells by means of movable cleats *b*, screws *f*, and adjusting screw *e*, held by the holding screw *a*, arranged and operating substantially as described for the purpose specified.

61,047.—C. C. CADY, West Union, Iowa.—*Car Coupling*.—January 8, 1867.—A hook is rigidly attached to the drawhead for the link to engage on. A divaricated spring bar partially surrounding the hook is operated by a lever to throw off the link. The running of a car off the track lowers the engaging hook so as to cast off the link and uncouple the car.

Claim.—The fixed hooks B, in combination with the link raisers D connected to levers E, the springs F, and the links C, all arranged and applied to drawheads A A, to operate in the manner substantially as and for the purpose set forth.

61,048.—J. T. CARMAN, Springfield, Ohio, assignor to himself, JOHN W. FULTON, and LEE W. FULTON, same place.—*Brick Machine*.—January 8, 1867.—The clay is drawn through the interstices of an oscillating screen by claws on a revolving shaft, and is elevated by an endless carrier for deposit in the hopper. From this it is discharged by a slide bottom which reciprocates on the fixed bottom and forces the clay into the mold, where it is pressed by a vertically reciprocating follower, first into and then from the mold on to a receiving plate.

Claim.—First, the sliding box A', provided with the plate C', in combination with the fixed molds D' and the plungers R, all arranged to operate in the manner substantially as and for the purpose set forth.

Second, the sliding bottom K, operated substantially as shown in combination with the fixed molds D', plungers R, and the plate C' on the sliding box A', substantially as and for the purpose specified.

Third, the adjusting of the bottom K to regulate the supply of clay to the molds through the medium of the rod *m*, pinions *l k*, screw rod L, and nut *j*, substantially as set forth.

Fourth, the pulverizing or reducing of the clay by means of the oscillating screen C and the teeth *c* on the rotary shaft F, substantially as shown and described.

61,049.—ROBERT CHAMBERS, Detroit, Mich.—*Center Board for Vessels*.—January 8, 1867.—Two reciprocating boards, set at an angle to each other, are pivoted so as to descend into the water vertically when the vessel is careened by the sails. A ratchet upon the edge of the boards rings a bell on the movement of the boards as the vessel goes on the other tack.

Claim.—First, the keel box A, having fixed keel *a'* and piece *a* forming passages for the center boards B *b* pivoted thereto, having ratchet edges *f*, in combination with the striking device *g* of the bell D, substantially as and for the purpose specified.

Second, the center boards B *b* operating in combination with the alarm bell D, for the purpose described, substantially as specified.

61,050.—NATHAN CHAPMAN, Hopedale, Mass.—*Roller Temple for Looms*.—January 8, 1867.—The edge of the cloth is held between two rollers pressed together by a spring lever. An adjustable plate prevents the reed from striking the temple. The object is to adapt the temple to weaving goods of different descriptions and thicknesses.

Claim.—The use of two ribbed or grooved rollers, or one ribbed or grooved roller and one plain roller, arranged in separate frames and pressed toward each other or the cloth by a spring, and allowed to turn freely as the cloth is drawn through between them.

61,051.—J. S. CLARK, Auburn, Mass.—*Butter Tongs*.—January 8, 1867.—The blades are attached to shanks which unite in a spring coil.

Claim.—The combination of the blades or plates A A with the wire coiled and bent, substantially in the manner and for the purposes herein shown and described.

61,052.—EBEN S. COFFIN, Boston, Mass.—*Steering Apparatus*.—January 8, 1867.—The barrel shaft has a screw journal bearing giving a longitudinal motion to the barrel as the wheel is turned, to keep the rope perpendicular to the shaft.

Claim.—First, the combination and arrangement of the screw shaft E, barrel G, ropes F, quarter blocks H, tiller C, and rudder post B, in the manner as and for the purpose specified.

Second, giving a longitudinal movement to the barrel G and shaft E, so that the said barrel may move forward or aft at each turn of the wheel D a distance equal to the diameter of the wheel rope F, substantially as herein shown and described and for the purpose set forth.

61,053.—WILLIAM COVER, Jenner's Crossroads, Pa.—*Paint Brush*.—January 8, 1867.—A fountain paint brush with a receptacle at the end of the handle and a supply tube through the latter, which has a cock for regulation.

Claim.—First, a brush provided with a tubular handle B, and having the reservoir C attached thereto, substantially as shown and described.

Second, the combination of the brush A, tubular handle B, reservoir C, and the compressing device E *b*, arranged to operate substantially as set forth.

61,054.—B. F. COWAN, New York, N. Y., assignor to himself, J. D. SHEWELL, and JOHN SUMNER, same place.—*Coal Scuttle*.—January 8, 1867.—A vibrating register screen in the bottom of the coal scuttle.

Claim.—Making the bottoms of coal scuttles of plates having slots or openings and solid parts intermediate, and so arranged that the slots are opened and closed by the oscillation of one of the plates, substantially as above described.

61,055.—LEWIS P. DECKER, Williamsburg, N. Y.—*Lock*.—January 8, 1867.—The body of the lock is cast solid, except a passage for the bolt and key. The bolt is retracted by the rotation of a screw-threaded sleeve to which it engages. The shoulders of the tongue are recessed, and have rubber packing to prevent inflow of water.

Claim.—First, the combination of the pivoted bolt D, male screw E, and female screw F with each other and with the body A of the lock, substantially as herein shown and described.

Second, the combination of the rubber packing C

with the beveled or hollowed shoulders *b*¹ of the link B, substantially as shown and described.

61,056.—BERNARD DOUD, Cortland, N. Y., assignor to himself and A. HOLMES, same place.—*Cement Composition for Pavement, Floors, Walks, &c.*—January 8, 1867.—A composition of gravel, broken stones, and coal tar is spread upon the ground or a roof and covered with a composition of charcoal and salt. When limestone is not used quicklime is added. For a top dressing: sand, 65; coal ashes, 20; iron scales or filings, 5; plaster of Paris, 4; water lime, 2; hydraulic cement, 1 part—mixed with hot coal tar.

Claim.—The composition cement for the construction of cellar and stable floors, vaults, walks, drives, and pavements, and roofing for buildings, &c., composed and applied in the manner substantially as set forth in the foregoing specification.

61,057.—PHILIP S. DUSENBURY, Boscobel, Wis.—*Portable Fence.*—January 8, 1867.—Stakes rise from the foundation block and are tied by a yoke. The rails cross each other obliquely between the stakes, and are mortised together at their points of contact.

Claim.—The arrangement and combination of the foot block D, yoke B, stake C, and notched and interlocking rails A, as and for the purposes specified.

61,058.—WILLIAM H. ELLIOT, New York, N. Y.—*Potato Digger.*—January 8, 1867.—A series of bent tines are mounted on a handle which has a pivoted flural support.

Claim.—First, the support *h*, in combination with shaft *a* and tines *f*, substantially as and for the purpose described.

Second, handle *l*, with one or more auxiliary handles in combination with a support *h*, or their equivalents, for the purpose set forth.

Third, joint *i*, in combination with two or more handles, substantially as herein shown.

Fourth, a joint *j*, in combination with an elongated foot *k*, substantially as and for the purpose specified.

61,059.—W. H. ELMER, Fair Water, Wis.—*Water Wheel.*—January 8, 1867.—The water falls vertically on central chutes, and is deflected outward and forward against the buckets, from which it has a side discharge.

Claim.—A horizontal water wheel provided with buckets G, composed of radial and segmental portions *b c*, as shown, in combination with a central case E and chutes F, all arranged to operate substantially in the manner as set forth.

61,060.—ROBERT FARIES, Maroa, Ill.—*Steam Generator.*—January 8, 1867.—A series of nearly vertical pipes are formed in sections of two, connected by perforated cross pipes and elbow pipes, for supplying water and taking off the steam. A horizontal diaphragm directs the caloric current from the burning fuel across the vertical pipes.

Claim.—The combination of the parallel pipes C C, perforated cross pipes D, elbow pipes G, secured as described, and plate H, substantially as and for the purpose specified.

61,061.—B. G. FITZUGH, Baltimore, Md.—*Burglar Alarm for Safes, &c.*—January 8, 1867.—The hammer is set by closing the door, and released by the opening of the same.

Claim.—In combination with a fire-arm lock on the inside of such safe, or other apartment or receptacle, a lever or arm connected with the door thereof and controlled by suitable guides, so that the act of closing the door from the outside shall connect the lever or arm with the dog or sear lever of the lock, and the opening of said door trip the hammer and let it fly upon the cap or fire a charge of powder, substantially as described.

61,062.—THOMAS FLEETWOOD, Carleton, N. B.—*Steam Engine Lubricating Cup.*—January 8, 1867.—Unrendered tallow is placed in the cup, is gradually rendered by the heat of the steam, and is supplied to the piston through a pipe furnished with a cock.

Claim.—A self-rendering tallow cup for lubricating steam engines, constructed and operated substantially in the manner herein described.

61,063.—JOHN GREGORY, Marion, Ohio.—*Medical Compound.*—January 8, 1867.—Composed of petroleum, one ounce; extract of dandelion, two drops; solution of borax, two drops; and four drops of Dr. Sanford's liver invigorator, for the cure of consumption, &c.

Claim.—First, the application of petroleum oil produced directly from the pipes of the well, with its natural gases, as and for the purposes specified.

Second, the use of the above-described chemicals, in the manner substantially as and for the purposes set forth.

61,064.—WILLIAM JOHN HAY, Southsea, England.—*Composition for Coating Ships' Bottoms.*—January 8, 1867.—Black or the protoxide of copper is boiled in linseed oil until it is reduced to a sub-oxide. A paint or varnish is formed, which may be thinned by turpentine, naphtha, or other similar material.

Claim.—First, protecting iron and wooden ships, caissons, dams, and other wooden or iron structures from decay and from fouling, by coating or covering the same with the materials and in the manner hereinbefore described.

Second, preparing the materials for the purposes aforesaid, in the manner hereinbefore described.

61,065.—WILLIAM HELFFRICHT, Philadelphia, Pa.—*Passenger Register.*—January 8, 1867.—The tickets are printed on a continuous strip, which is rolled upon a spindle and fed between rollers to the opening at which the tickets are torn off.

Claim.—First, a box capable of being opened at pleasure, and containing a roll of paper on which is printed a continuous series of tickets, the paper passing through a slit or opening against the edge of which it can be torn off, all substantially as and for the purpose set forth.

Second, the combination of the pulley B, containing the roll of paper and the rollers D and E, in combination with the casing or box A A', having a slit or opening in front for the passage of the paper, the whole being constructed and arranged substantially as described.

61,066.—JASON HEMENWAY, Deerfield, Mich.—*Water Wheel.*—January 8, 1867.—The inner sides of the pivoted buckets have connecting rods to a ring having a segment of gearing. A central sliding rod of the wheel shaft operates, by a bell crank and rack gear, to turn the said ring and expand or contract the water spaces between the buckets. The wheel may have central or horizontal discharge.

Claim.—The pivoted buckets C C', connected with the ring E, on the wheel shaft F, by rods D, in combination with the bent lever G, rod H, and screw J, all arranged to operate in the manner substantially as and for the purpose herein set forth.

61,067.—JOHN S. HITTELL, San Francisco, Cal.—*Washing Machine.*—January 8, 1867.—The vertical shaft is supported by the cross-bar and reciprocated by the handles, and the paddles act upon the clothes in the suds box.

Claim.—The combination of the wheel (made of the axle C, the paddles E E E, and handle D) with the cross-board A, and a pivot or socket at the base of the axle to keep it in place.

61,068.—WM. W. HORNBERGER, Chicago, Ill.—*Apparatus for Forming Boilers.*—January 8, 1867.—The bowed springs are connected by pivoted arms to bars, and have longitudinal adjustment by turning the reversely-screw-threaded connecting bolt, and lateral adjustment by nuts upon the ends of this bolt. This frame is put within a stove boiler when forming the lower seam.

Claim.—First, the springs A, arranged to operate in connection with the arms C, pivoted to the bar B, in combination with the bars D, operated by the bolt E, and nuts *c*, substantially as described.

Second, the frames F F', united by the screw bolt E, when arranged to operate as and for the purpose set forth.

61,069.—RICHARD HUGHES, Virginia City, Nevada.—*Punch.*—January 8, 1867.—The punching face consists of needles so clamped in the holder that any injured one can be removed without displacing the

others. It is intended for perforating sheet metal to form screens.

Claim.—The holder A, having spring arms or jaws C C, socket E, to receive needles *b*, and separating plates *c*, substantially as and for the purpose described.

61,070.—LIVERAS HULL, Charlestown, Mass.—*Whip Stock.*—January 8, 1867.—Each of the rattan strips has its face of attachment to the central stock continued on one side past the strip preceding it, and has a rectangular face lapped over in like manner by the succeeding strip.

Claim.—The improved whip stock made substantially as described, viz: with each of its rattan strips *b*, having its joint with the next strip arranged in the plane of that face of the heart piece to which the former strip may be applied, the strips and heart piece being glued together, and subsequently turned into shape, as set forth.

61,071.—MARSHAL J. HUNT, Rising Sun, Md.—*Combined Corn Planter and Cultivator.*—January 8, 1867.—The devices are explained by the claims and illustration. A detachable seed and fertilizer distributing device is attached to the frame.

Claim.—First, hinging the rear of the cultivator frame to the axle and to a lever in close proximity to the driver's seat, and supporting its front by a tongue and the necks of the team, so that it may be self-raising to pass over any obstruction, and be raised by the driver when desirable to do so, and held up by a catch, substantially as herein described.

Second, in combination with the standards or down hangers *b*, a cast or other iron socket or stock L, with wings *o* for holding the cultivators and allowing them to be adjusted, removed or replaced, substantially as described.

Third, a removable and replaceable bed or frame M for carrying a seeding mechanism, substantially such as described, so that the machine may be used for laying off the ground, planting corn, and cultivating it in rows, as herein described and represented.

61,072.—WILLIAM JAMES, Richmond, Va.—*Attachment for Stills to Test the Proof of Spirits.*—January 8, 1867.—A glass tube containing a hydrometer rises from the junction between the worm pipe and the low and high wine pipes. The high wine pipe has an upward bend to drive the liquor to a certain height in the hydrometer tube, which has connection at top to the worm pipe to prevent the production of vacuum in it. It has also a discharge pipe to free it from liquor when required.

Claim.—The combination of the indicator tube with the bend or depression in the pipe through which the spirits is conveyed, whereby to be enabled continuously to test the strength or proof of the spirits passing through said pipe, substantially in the manner and for the purpose described.

Also, the arrangement of the valves or vent pipes, in combination with the still or worm pipe, and the indicator tube for preventing the formation of a vacuum, and equalizing the pressure, substantially as described.

Also, the employment of the vent or discharge pipe at or near the base of the indicator tube, substantially as described.

61,073.—E. K. JOSSELYN, Cambridge, Mass.—*Eye-glass.*—January 8, 1867.—The horns fit the nasal protuberance being adapted to its peculiar conformation.

Claim.—The extensions *c c*, either as part of the frames *a' a'*, or fastened to the same by any suitable fastening, substantially as described and for the purpose set forth.

61,074.—JOHN L. KENDALL, New York, N. Y., assignor to himself and R. H. TRESTED, same place.—*Electrotype Dies for Making Imitation Straw Goods, &c.*—January 8, 1867.—The straw goods or fabric to be imitated is stiffened with a backing and laid upon a metallic form, which gives it the required shape. After dipping in an acidulated solution and drying, it receives a coating of black lead, and a copper negative is obtained of the straw by the usual process of electrotyping. The shell is formed into a die, and a counter die produced therefrom, between which, pre-

pared fabric is pressed into an imitation of the original straw goods.

Claim.—The within-described process of preparing a die and counter die for pressing textile and other fabrics in imitation of straw, as set forth.

61,075.—JOHN W. LEWIS, Fetterman, West Va.—*Plove.*—January 8, 1867.—A reversible share and a wrought cutter, sole and point are attached to a cast-iron sheth, mold-board, and landside.

Claim.—The combination with the casting A B C forming the sheth, mold-board, and landside of the separate reversible share, and the wrought portion E G F, forming the cutter point and sole, the whole substantially as described and represented.

60,076.—WILLIAM C. LEWMAN, Kansas, Ohio.—*Hand Corn Planter.*—January 8, 1867.—The two outer blades are pivoted at bottom, and are connected to the middle blade by three flexible partitions, so as to form four seed passages, and allow of a lateral movement in the outer blades. This movement of the blades works hoppers on the seed slide, and opens and closes the dibble points.

Claim.—A hand corn planter, which is composed of the blades A B and C of the flexible partition or walls F G and H, and the four seed slides *b b* and *c c*, which slide in the seed boxes D and E, all made and operating substantially as and for the purpose herein shown and described.

61,077.—ROBERT O. LOWREY, Tabor, Iowa, assignor to himself and E. N. KELLOGG.—*Wind Mill.*—January 8, 1867.—The described devices are for holding the sails in a suitable position with reference to the force of the wind, while at the same time they are allowed to feather properly as they move against the wind.

Claim.—First, the application of the stops *h* to hinged arms *e e'*, which are connected together in pairs, and acted upon by a loaded sliding ring G upon the shaft B, substantially as described.

Second, the combination of the stops *h*, arms *e e'*, and wings D, in such a manner that the stops when tripped will again assume vertical positions, substantially as described.

Third, providing adjustable stops *h* on each side of the radial arms to which the wings D are pivoted for supporting the latter in the two positions which they assume in each revolution, substantially as described.

Fourth, providing for allowing the stop arms *e e'* of the upper and lower series to separate vertically when forced outward, employing the curved rods *f f'* for effecting this object, substantially as described.

61,078.—GEORGE MACDONALD, Aston, England.—*Machine for Cleaning and Ginning Cotton.*—January 8, 1867.—The surface of the buffs are of radial fibers, such as those of hemp or jute, impregnated with resinous substance or composition. It is clamped upon the arbor by annular pieces of metal.

Claim.—Making the acting surfaces of cylindrical buffs to be substituted for the rollers ordinarily employed in machinery or apparatus for cleaning or ginning cotton and other fibrous substances of compressed fiber, substantially as hereinbefore described and illustrated in the accompanying drawing.

61,079.—I. M. MARSTON and H. R. HULING, Roxbury, Mass.—*Saving Machine.*—January 8, 1867.—The arbor of one of the system of cog-wheels between the motor and the saw shaft is upon a bent arm, which has a concentric slot for adjustment to suit a change of the said cog-wheel for one of different diameter.

Claim.—The slotted curved support K attached to the lower feed roller M and screw E, for the purpose of allowing different-sized gear wheels to be placed upon the spindle A of the support K, so as to regulate the speed of the machine, when all are constructed and arranged as herein shown and described.

61,080.—WILLIAM C. MCGILL, Cincinnati, Ohio.—*Cork-screw.*—January 8, 1867.—The handle of the cork-screw is furnished with a knife and fulcrum piece for wire cutting and opening cans.

Claim.—First, as a new article of manufacture, the parts A B C D E and G, constituting an instrument for drawing corks, cutting wire, and opening cans.

Second, the arrangement of parts A B and G, constituting a combined cork-screw and can opener.

Third, the can opening instrument, consisting of the handle A, blade B, shearing bar C, and foot D, arranged and operating as set forth.

Fourth, the arrangement of parts A B and C D E, constituting a combined can opener and wire cutter.

Fifth, the described arrangement and combination of the right and left hand screw on one stem F G, with the rest or foot I and handle A, as and for the purposes set forth.

61,081.—J. A. MCKINNEY, Griggsville, Ill.—*Evaporator.*—January 8, 1867.—To the pan is attached a frame supporting a sliding carriage carrying a skimmer. The gates which close the apertures through the partitions dividing the pan into compartments are opened and closed by means of levers, provided with pins, which slide in slots in said gates.

Claim.—First, the skimmer T and carriage W, constructed and arranged as herein described in combination with each other, with the pan M and with the supporting frame X, substantially as herein described, and for the purpose set forth.

Second, operating the slide gates J with levers K, constructed and arranged substantially as herein described, and for the purpose set forth.

61,082.—ISAAC M. MILBANK, Greenfield Hill, Conn.—*Breech-loading Fire-arm.*—January 8, 1867.—The oscillating breech block is traversed by a locking pin, which has vertical reciprocation by an inclined groove, when turned in its socket.

Claim.—The spirally grooved locking bolt D, operating in combination with the fixed screw h and pivoted breech block e on the rear of the breech receiver, substantially as and for the purpose set forth.

61,083.—J. and E. P. MILES, Bloomingdale, Ind.—*Plow.*—January 8, 1867.—A plate is projected by a lever in a forwardly curved direction beneath the beam and immediately before the post to dislodge the weeds therefrom. It is retracted by a spring.

Claim.—The arrangement of the curved sliding plate e connected with the elbow lever arm m by the rod n, and operated by the arm m', in combination with the spring p or its equivalent, for clearing a plow of grass and weeds, substantially as herein described.

61,084.—ALEXANDER MILLAR, Roxbury, Mass., assignor to himself and E. A. G. ROULSTONE, same place.—*Drinking Cup.*—January 8, 1867.—The cup is in concentric sections arranged telescopically for vertical extension. When extended the lower part of each conical frustum catches against the upper portion of the section within and forms a joint therewith.

Claim.—The construction or formation of the cup with a base composed of a "stepped" flange on the bottom piece, substantially as described.

61,085.—JOSEPH A. MILLER, New York, N. Y.—*Steam Generator.*—January 8, 1867.—Sections of arched pipes span the furnace and are connected together at bottom by horizontal pipes and stay bolts. Curved diaphragms within the vertical pipes divide them into passages for circulation of the water.

Claim.—The sectional boiler, constructed substantially as shown and described, and made up of the pipes A' with their diaphragms S', constituting steam generating spaces d' and return water passages e', arranged in relation to the steam space and fire grate of the boiler in combination with cross pipes situated below the latter, the whole being bolted or united together essentially as specified.

61,086.—JOSEPH A. MILLER, New York, N. Y.—*Steam Generator.*—January 8, 1867.—The vertical pipes connecting the lower and upper water space have smaller removable pipes inserted into them from the upper side, whose office is to collect sediment. These smaller pipes have a funnel-shaped top and an inverted conical bottom, and have radial projections to hold them concentrically within the outer pipes and allow an annular water passage between them.

Claim.—The sediment collector, constructed substantially as herein represented and described, for use

in connection with vertical water tubes of a steam boiler, essentially as herein set forth.

61,087.—FRANCIS MUNSON, Cincinnati, Ohio, assignor to himself and J. W. LAYMAN.—*Return Grace Hoop.*—January 8, 1867.—The hoop is connected by elastic cords to the rods by which it is alternately projected and received.

Claim.—The combination of the grace hoop A with the elastic thongs B C, for the purpose herein described and set forth.

61,088.—CÆSAR NEUMANN, New York, N. Y.—*Hoop Skirt.*—January 8, 1867.—The bustle hoops are formed in one or two clusters, none of the hoops of which are connected in front except the upper and lower hoop of each cluster, which extend beyond the others, and overlapping at opposite ends are secured by clasps.

Claim.—First, a hoop skirt with its upper wires closed by means of a spring clasp, substantially as described and represented.

Second, a hoop skirt with its upper opening wires arranged in sections and provided with spring catches, for the purpose described.

61,089.—JOSEPH OLMSTED, Knoxville, Ill.—*Magnetic Brake for Cars.*—January 8, 1867.—The completion of the circuit operates an armature on each car which acts upon a shaft to clutch it to an otherwise free cog wheel, upon it which is rotated by the truck wheels. By this means the brake mechanism is actuated. Disconnecting the circuit frees the brakes.

Claim.—First, the arrangement of the magnet D, armature E, lever F, with the shaft G, clutches H J, and gear wheel I, operating substantially as and for the purposes described.

Second, the combination and arrangement of the shaft G, clutches H J, gear wheel I, and spur wheel K, with the axle substantially as shown and described.

61,090.—SOLOMON OPPENHEIMER, Peru, Ind.—*Constructing Latch Bolts.*—January 8, 1867.—This bolt is made of two separate parts, and the latch end may be raised from the other and reversed upon it so as to present the oblique face of the bolt in either direction.

Claim.—The peculiar manner and means by which the two several parts are connected and held together, namely, the additional prongs A A and the raised flanges c c on the same, forming clamps for holding the shank firm and steady.

Also, affixing side flanges a' a' and beads or projections b b to the shank, for the purpose as stated, also the grooves in the clamps for the said beads or projections to fit into.

61,091.—R. B. PARKS and J. R. PARKS, Neponset, Ill.—*Cultivator.*—January 8, 1867.—The plows are adjustable by the driver by means of levers. The plow irons are pivoted to the standards and are adjustable in their vertical inclination by set screws.

Claim.—First, the angular bars H pivoted to bar I, and connected with the treadles J by links e, in combination with the beams D, and operating substantially as described, for the purpose specified.

Second, the pivoted bars L, in combination with the plows K, and standards E E', and set screw g, substantially as described for the purpose specified.

61,092.—RICHARD PATTIN, Marietta, Ohio.—*Lamp Chimney Cleaner.*—January 8, 1867.—The elastic strips are attached at their respective ends to a rod and a sleeve piece, by which they are expanded to fit the inside of a globe or bulbous glass.

Claim.—First, forming the rings or eyes by which the two wires are connected out of the body of the wires instead of additional pieces, in the manner set forth.

Second, the wires H and K, arranged to move freely one upon the other, in combination with the elastic metallic strips G, substantially as described.

61,093.—W. W. PAXSON, Point Pleasant, Pa.—*Damper.*—January 8, 1867.—The lower end of the aperture in the pipe is turned inward to deflect the caloric current from the opening, which is regulated in size by the sliding plate.

Claim.—The new article of manufacture herein described, being a section of stove pipe with swaged deflector *a*, cleats *b*, and slide *B*, as and for the purpose set forth.

61,094.—THOMAS J. PLATT, Newark, N. J.—*Artificial Tripoli for Polishing.*—January 8, 1867.—A composition of loam 2, plaster of Paris 1, and yellow ochre 1 part.

Claim.—A polishing material composed of the substances herein named and described, substantially as and for the purposes set forth.

61,095.—ORIN I. PORTER, Hudson, Ohio.—*Grain Bin.*—January 8, 1867.—The grain bin has rollers on which it may be drawn forward, and pivots on which it is tilted forward from its case to afford access to its contents.

Claim.—The rib *C*, groove *D*, rollers *E*, and bin *B*, in combination with the counter or its equivalent, for the purpose and in the manner as set forth.

61,096.—HENRY H. POTTER, Carthage, N. Y.—*Fly Trap.*—January 8, 1867.—The faces of the bait pans are brought together by spiral springs on the removal of the detent pin. On separating the pans for resetting the flies drop into the receiver beneath.

Claim.—First, the vessel *C*, in combination with the two pans *A A*, for receiving the remains of the entrapped flies when the pans are opened, substantially as herein shown and described.

Second, the bent wires *a a*, their upper arms supporting the pans *A A*, and their lower ends interlocking and holding the pans open until released by the detent *f*, as and for the purpose specified.

61,097.—THOMAS PRATT, Valparaiso, Ind.—*Wrench.*—January 8, 1867.—Explained by the claim and illustration.

Claim.—A wrench in which the jaw *A* is formed by a solid extension of the handle, and the movable jaw *B* is connected therewith by the stem *C* passing through a mortice at the base of the jaw *A*, being retained in place by the pressure of the spring *D* upon the side thereof, substantially as set forth.

61,098.—LYMAN PRAY, Charlestown, Mass.—*Distilling Apparatus.*—January 8, 1867.—The still is surrounded by annular fire chambers, each of which communicates with the smoke stack by a pipe with a damper. The chambers have intercommunication by openings in the horizontal division plates, which are alternately on opposite sides of the still. The object is to lower the heating medium around the still as the surface of the liquid falls.

Claim.—The arrangement of one or more shelves *d e* in the fire chamber *B* of a still, to operate in combination with the still *A*, flues *f g h*, and dampers *j' g' h'*, substantially as and for the purpose set forth.

61,099.—JAMES PRENTICE, New York, N. Y.—*Eye Glass.*—January 8, 1867.—Explained by the claim and illustration.

Claim.—The nose pieces *a a* on the eye glasses *A A*, extending from a point below the center of the glass to a point above said center, with gradually increasing width, in order to conform to the anatomy of the nose, as herein shown and described and for the purpose specified.

61,100.—GEORGE W. RAY, Springfield, Mass., assignor to RAY and TAYLOR, same place.—*Paper Collar.*—January 8, 1867.—Explained by the claim.

Claim.—Paper, whether plain or enameled, embossed, either before or after its conversion into articles of wearing apparel by means of a woven fabric applied under pressure, substantially as herein described and for the purposes set forth.

61,101.—GEORGE REHFUSS, Philadelphia, Pa., assignor to the American Button Hole, Cording, Braiding, and Embroidering Machine Company, New York.—*Sewing Machine.*—January 8, 1867.—This machine is for sewing heavy goods, like sails, carpets, &c., which are held by pins on the carriage. The feeding devices are of the usual kind, and the cloth as fed pulls the carriage; the rails are inclined gently to facilitate the feeding.

Claim.—The combination of a stationary sewing

machine and two or more inclined rails, which are traversed by a truck or carrier adapted for the reception and retention of a fabric to be sewed, when the required traversing motion is imparted to the said truck by the operation of the feed device of the machine, substantially as described.

61,102.—GEORGE REHFUSS, Philadelphia, Pa., assignor to the American Button Hole, Cording, Braiding, and Embroidering Machine Company, New York.—*Sewing Machine.*—January 8, 1867.—A single thread is used, and the edges of fabrics may be sewn over at option by changing the looper and adjusting the parts. The curved needle has a backward curve near its point the better to insure the seizure of its loop, allowing the machine to be made on a smaller scale.

Claim.—First, a hook *y*, in combination with a reciprocating eye-pointed needle bent near its lower end, and with the within-described operating devices or their equivalents, the whole being constructed and arranged for joint operation, substantially as set forth.

Second, the lever *I*, constructed for the retention, removal, and replacement of the loop-carrying bars *J* or *J'*, substantially as described.

Third, the said lever *I* and its loop-carrying bar *J* or *J'*, in combination with the within-described devices or their equivalent, whereby the said bar can be readily adjusted to act in conjunction with the needle for forming the edge binding or for making the ordinary loop stitch.

61,103.—GEORGE REHFUSS, Philadelphia, Pa., assignor to the American Button Hole, Cording, Braiding, and Embroidering Machine Company, New York.—*Sewing Machine.*—January 8, 1867.—For use on carpets. Adjustable jaws hold and guide the edges; the sharp teeth of the feed-dog penetrate and carry along the two layers of carpet, and an inclined plate lying between the layers assists in guiding them toward the jaws and the needle.

Claim.—First, the adjustable jaws *k k'*, with their ribs or flanges *s t*, constructed and adapted for attachment to a sewing machine, substantially as and for the purpose described.

Second, the pins *i i* applied to a feeding device and combined with a slotted presser foot into the slot in which the pins project when above the work plate, substantially as and for the purpose described.

Third, the adjustable plate *K*, with its inclined projection *r*, constructed and adapted for attachment to a sewing machine, substantially as and for the purpose set forth.

61,104.—JOHN RICH, Worcester, Mass., assignor to himself, D. RUGGLES, J. E. BACON, same place, and A. DANIELS, Franklin.—*Spinning Machine.*—January 8, 1867.—An improvement on his patent of February 28, 1865, No. 46,588. The spring fingers are automatically closed to nip the thread by means of their entering mortises in the rising and falling bar; when relieved they open of themselves. The roving delivering plate is self-adapting to the varying diameter of the roving on the spool. When the required length of roving has been given out, the plate is automatically thrown back out of contact with the roving that the clamps may continue to rise and draw the rovings. The plate is again automatically brought into contact with the spool.

Claim.—Opening and closing the fingers on the twisting tubes by the motion of the bar or the equivalent thereof, substantially as and for the purpose specified.

Also, delivering the roving by the rolling of the periphery of the roll of roving on the spool against the surface of the delivery plate, operated substantially as and for the purpose described.

61,105.—W. B. ROBINSON, Detroit, Mich.—*Steam Engine Slide Valve.*—January 8, 1867.—An improvement on his patent of September 15, 1863. The steam is admitted beneath the packing rings to the steam-chest cap.

Claim.—First, making packing rings or packing strips of differential surfaces and with the recess *o*, substantially as described.

Second, the holes *p* through the flange *g*, in combination with the packing rings or strips, substantially as set forth.

61,106.—CHARLES ROSE, Allentown, Pa.—*Current Fixture*.—January 8, 1867.—The blind is retained in its elevated position by a spring pawl and ratchet, and is released by drawing a cord connected to a pawl. The unwinding of the blind winds up a weighted cord upon the roller, and by drawing this cord the blind is rewound.

Claim.—The arrangement of the toothed nut H, the lever I, and spring L, with the disk F, shaft D, and roller A, the several parts being constructed and used as and for the purpose herein specified.

61,107.—J. S. ROSS, Hiram, Ohio.—*Fruit and Ice House Combined*.—January 8, 1867.—The ice is formed in the house in upwardly flaring molds, which are held together by hook end-rods, so that when one cake is formed the mold may be taken apart and put together upon the last formed cake for the formation of another. The floor in the first case and the ice in the others form the mold bottom. Around this ice chamber is erected a preserving house.

Claim.—First, the special arrangement of the fruit and ice rooms, when constructed and combined with a suitable building, as and for the purpose described.

Second, the mold or frame F, with adjustable tapering sides or ends, in combination with the pan or vat H, substantially as and for the purpose described.

61,108.—WILLIAM A. SHEPARD, New York, N. Y., assignor to himself and JOHN M. MOOREHEAD, same place.—*Brick Machine*.—January 8, 1867.—The clay passes from the hopper through the action of a spiral screw, into the molds of an intermittently revolving wheel. The bricks are pressed from beneath by plungers actuated by toggle levers, and ejected from the molds by the same means.

Claim.—First, the combination of the hopper F, rollers G and H, and screw E, with each other and with the revolving horizontal wheel V, substantially as herein shown and described.

Second, the combination of the pitman R, arm S, hub T, and pawl I, with each other and with the ratchet wheel H of the wheel V, for the purpose of revolving the said wheel intermittently, substantially as herein shown and described.

Third, operating the plungers for the double purpose of pressing the brick and delivering them from the molds by toggle bars, when constructed as herein shown and described.

Fourth, the combination of one or more sets of toggle bars Z and sliding blocks X with each other and with the plungers W and wheel V, substantially as herein shown and described.

Fifth, the combination of the pitman A' and arm B' with the toggle bars Z and E' and with the hub T, substantially as herein shown and described.

Sixth, the combination of the plate L' and arm K' with the pitman R, arm S, and wheel V, substantially as herein shown and described and for the purpose set forth.

Seventh, the sliding bar D', in combination with the toggle bar acting upon the follower.

61,109.—NELSON S. SNEDEKER, Philadelphia, Pa.—*Lubricating Journals*.—January 8, 1867.—The pad to cover the open journal is formed of a combined push and wire work, and has a metallic backing.

Claim.—A lubricator composed of woollen plush interwoven with a wire warp and united to a metallic back with rivets or their equivalents.

61,110.—DAVID STAUFFER, Spring Hills, Ohio.—*Stump Extractor*.—January 8, 1867.—The raising chain is pivoted to the lever between its two fulcrums, which are used alternately by the insertion of pins in the two upwardly inclined series of holes in an arm of the frame.

Claim.—The inverted frame BB and C C, set upon runners A A, combined with the levers D D working in C C, and operated by moving the fulcrum bolts b b in the holes a a', and alternately lifting and depressing the levers, for the gradual extraction of stumps, constructed and arranged to work substantially as herein described.

61,111.—J. STEVER and J. A. WAY, Bristol, Conn., assignors to JOHN H. SESSIONS, same place.—*Wood Lathe for Turning Knobs*.—January 8, 1867.—The cylinder carries a series of arbors upon which the

blank knobs are revolved; it has a periodical movement, and carries the knobs in contact with the tools that shape, finish, and detach them from the arbors.

Claim.—First, the cylinder C, in combination with the notch wheel Q, ratchet bar R, lock bar R², bolt S, and actuating pin cam T, for the purpose of giving a periodical movement to said cylinder C, substantially as described.

Second, the tool stocks T²³⁴⁵⁶⁷, in combination with the cams J, arranged upon the plate K, lever U², with its connecting arms actuated by the cam T⁴, substantially as and for the purpose described.

Third, the clearer clutch M, in combination with the lever O and cam P, vibrating spindle N, substantially as and for the purpose described.

Fourth, organizing in one machine the above-enumerated successive operations for turning, finishing, and clearing the knobs from the machine, as described, when arranged substantially as set forth.

61,112.—JOSEPH J. STOUT, Greensburg, Ind.—*Evaporator*.—January 8, 1867.—The juice passes down from each compartment to that below, alternately at the opposite ends of the pan. The ports of communication have slide valves worked by a screw rod, by which their size is adjusted. A series of grate bars on each side of the fire is inclined upward and inward, to prevent contact of the fuel beneath the compartments having the thicker sirup.

Claim.—First, constructing the pan of an evaporator with inclined longitudinal partitions forming compartments arranged one higher than the other, and with alternately disposed openings, so that the juice shall flow from the central and highest part through the length of all the partitions, substantially as and for the purpose set forth.

Second, the rod F and bars E E, in combination with the set screws I and valves D, substantially as and for the purpose set forth.

Third, constructing the bottoms of evaporators with corrugations or other irregularities of surface, substantially as and for the purpose set forth.

Fourth, the arrangement of the grate bars B and grated guards B', substantially as and for the purpose set forth.

61,113.—A. W. STREETER, Shelburne Falls, Mass.—*Bit Stock*.—January 8, 1867.—A rotating sleeve around the socket has cams by which the spring gripping jaws are actuated to clasp the shank of the bit.

Claim.—The combination of two gripping jaws, an undivided socket to control the end of the shank of a tool, and a locking ring turning concentrically around the socket to close and unclose the gripping jaws upon the tool, all being and acting in combination, substantially as specified.

61,114.—GEORGE SULLIVAN, West Liberty, Ohio.—*Ditching Machine*.—January 8, 1867.—The spades are supported and guided by adjustable side frames and forced into the ground by levers. They are raised and swung around by a crane to deposit the contents.

Claim.—A ditching machine constructed, arranged, and operating as herein shown and described.

Also, the windlass and crane in combination with the inclined guide frames, substantially as described.

61,115.—W. W. SUTLIFF, Town Line, Pa.—*Gate*.—January 8, 1867.—A weighted lever on the hinge post has various eyes for the engagement of a hook upon the gate to regulate the amount of force exerted to close it.

Claim.—The lever C, the weight D, and the rod d, constructed and arranged substantially as herein shown and described, in combination with a gate or door, as and for the purposes set forth.

61,116.—EDWARD DE LOSS SWEET, Chicago, Ill.—*Tariff Indicator for Telegraphs*.—January 8, 1867.—Explained by the claim and illustration.

Claim.—In combination with a map M, the arrangement of a tape or its equivalent, divided into spaces or divisions numbered as shown, said spaces being so proportioned as to indicate upon said map the variable tariffs adapted for varying distances, substantially as herein described and shown.

61,117.—THOMAS TAYLOR, Washington, D. C.—*Alloy for Sabots of Projectiles*.—January 8, 1867.—

From 30 to 78 pounds of tin to 120 pounds lead, the proportions of tin varying according to the strength of the charge; the tin is increased for heavy charges, and a small proportion of copper may be added for maximum sizes.

Claim.—An alloy for a composition for metallic sabots for projectiles, within the limits or proportions described, and for the purpose set forth.

61,118.—ELI THAYER, New York, N. Y.—*Belt Coupling.*—January 8, 1867.—The ends of the belt are passed through the clasp and bound by a wedge, which is driven between those portions of them embraced by the clasp.

Claim.—The key as shown in Fig. 2, in combination with the clasp and belt, as shown in Figs. 1 and 3.

61,119.—ELI THAYER, New York, N. Y.—*Boot and Shoe.*—January 8, 1867.—Explained by the claim and illustration.

Claim.—The making the tap soles of boots and shoes in several transverse sections of leather, substantially as set forth.

61,120.—ALEXIS THIRULT, New York, N. Y.—*Distilling Petroleum.*—January 8, 1867.—Three boilers are connected with separate condensing worms, and also with each other. The benzine is driven off from the first boiler and the clear oil from the second. The colored oil is passed into the third boiler. A tar cock in the bottom of the second boiler has a traversing rod to break the residuum shell and keep the bottom clear.

Claim.—First, the apparatus constructed as above described, the object of which is to secure a continuous distillation by one single operation, being a combination of boilers A B C and the tar cock F with the hot-air chamber U, and all the pipes and other parts composing the said apparatus.

Second, the still, composed of boilers A B C, as to their form and combination, for the use and purpose above described.

Third, the tar cock F, as to its construction, the object being to clear the still of all residuum without retarding the distillation.

61,121.—NATHAN THOMPSON, St. John's Wood, England.—*Boring Tool.*—January 8, 1867.—A series of concentric thin cylinders of steel are divided by metal cylinders and attached to a shaft by a diametric pin. The thin steel divides the wood into thin cylinders without loss of stock by making dust or chips.

Claim.—First, the construction of a tool of a thin cylinder and axis, for cutting a hollow cylinder out of wood, substantially as herein shown and described.

Second, the employment of thin steel cylinders *a* and short tubes or cylinders *c* for cutting a series of hollow cylinders out of wood, in the manner and for the purpose substantially as herein shown and described.

61,122.—HOWARD TILDEN, Boston, Mass.—*Coffee Pot.*—January 8, 1867.—The inner chamber serves to receive steam when boiling, which elevates the liquid through the ground coffee, and when the pot is removed from the fire the condensation in this chamber draws the decoction below the grounds.

Claim.—The use of the strainer E, in form as shown, when provided with the rim F, and the air chamber D, in combination with the cylinder C, the tube *g*, and the body of the pot A and B, the whole constructed substantially as described and for the purposes set forth.

61,123.—DANIEL UNTHANK, Spiceland, Ind.—*Portable Fence.*—January 8, 1867.—Explained by the claims and illustration.

Claim.—First, a portable fence having its posts formed of two upright bars or posts A A, connected by pins B B', in combination with the braces C E, either or both, and the notched bars D D' fitted on the pins B B', substantially as and for the purpose set forth.

Second, the bars D' in connection with the blocks or supports F between the bars D' and the bars D below them, substantially as and for the purpose set forth.

Third, the supplemental vertical strips *a** attached to the bars D of the end panel at the angle of the

fence, in combination with the notched bars D* of the panel which forms the other side of the angle, substantially as and for the purpose set forth.

61,124.—RICHARD UREN, Houghton, Mich.—*Apparatus for Washing Ores.*—January 8, 1867.—The box has at the top an endless band travelling on rollers. The pulp is let on at one side and the light particles are carried across the belt into the trough, while the heavy particles are carried forward by the belt and emptied into the boxes.

Claim.—Washing ores or minerals by causing the same to flow across a revolving belt, substantially as and for the purposes described.

61,125.—P. H. VANDER WEYDE, Philadelphia, Pa.—*Refining Petroleum and Lubricating Oils.*—January 8, 1867.—The oil is passed in a small stream through a coil within a steam boiler heated to 320° Fahrenheit, and its volatile parts removed and condensed. The oil residue is passed through a series of vertical filters. The filtering material is drained in a centrifugal machine and revived in a retort.

Claim.—First, the heating of the heavy petroleum in a steam coil in the manner described, thus preparing it for the filter, and in the same time saving and condensing the vapors arising, namely, gasoline, naphtha, and benzine.

Second, the combination of this continuous heating apparatus with a percolator or filter, substantially as described.

Third, the rapid draining, cleaning, and partial drying of the exhausted filtering or percolated material, by placing it in the elongated boxes described, and submitting it to the action of a centrifugal machine.

Fourth, the manner of reviving, by distillation in a retort, the filtering material, producing in the same time a quantity of kerosene for illuminating purposes.

61,126.—JAMES B. WALLACE, Franklin, Ohio, assignor to himself, R. WALLING, and JOSEPH CROOK, same place.—*Invalid Chair.*—January 8, 1867.—The chair bottom may be rotated on the stand, and the upper frame is so hinged and pivoted as to form a chair or couch.

Claim.—First, the leg support E, hinged to the arm rests F, and pivoted to the bottom C below its juncture with the arm rests by the plate H, in the manner described and for the purpose specified.

Second, the bottom C, in combination with the standard B, cyma reversed springs *a a a a*, and legs A, substantially as herein set forth and for the purpose specified.

61,127.—BENJAMIN J. WARNER, Brooklyn, N. Y.—*Watch Case.*—January 8, 1867.—An arrangement for the insertion of photographs into a watch case.

Claim.—The hinged ring *e*, applied between the lid *c* and body *a*, and fitted for the reception of pictures, and provided with catches, substantially as and for the purposes set forth.

Also, the ring *o*, snapping outside of the flange of the opening, receiving the glass or crystal and securing the same in place, as shown.

61,128.—AMOS WILDER, Calais, Maine.—*Blackening Box Holder.*—January 8, 1867.—A single wire is bent into form for holding the box and to answer the purpose of a handle. The jaws are opened by sliding the ferrule or by springing in the sides of the handle.

Claim.—As a new article of manufacture the holder, consisting of the bent wire A B, formed of one piece, as herein described, and having a ferrule D, as herein set forth and for the purpose specified.

61,129.—JAMES F. WINCHELL, Springfield, Ohio, assignor to himself and GEORGE C. STEELE, same place.—*Fruit Step Ladder.*—January 8, 1867.—The supplementary section may constitute a brace support or an extension of the other portion.

Claim.—First, the combination of the ladders A and B, when constructed and arranged to operate substantially as shown and described.

Second, the circular brace C, when arranged as shown for locking the part B in position.

Third, pivoting the ladder B, by means of the hinge D, made to embrace the bars A, as shown and described.

61,130.—JAMES F. WINCHELL, Springfield, Ohio, assignor to himself and GEORGE C. STEELE.—*Fruit-drying House.*—January 8, 1867.—The air is heated in an air-chamber around a furnace at the bottom of the drying chamber, and ascends through the open-bottomed drawers. The flue has a valve by which the caloric current may be passed around a horizontal flue in the drying chamber.

Claim.—First, a dry-house constructed substantially as described, and having the pipe H, with its valve *n*, and the return flue E, combined and arranged for joint operation, as herein described.

Second, the removable bottoms *p*, constructed of wire gauze or its equivalent, arranged to be used in connection with the drawers D, substantially as herein set forth.

Third, providing the drawers D with the guide pieces *t*, as shown and described.

61,131.—A. J. WORKS, Fair Haven, Conn.—*Burning Hydrocarbon Liquids as Fuel.*—January 8, 1867.—Explained by the claims and illustration.

Claim.—First, the combustion of naphtha, crude petroleum, or any other liquid hydrocarbon, on an open surface or receiver, connected or surrounded with air channels in connection with ignited hydrogen gas, the flames of both uniting while in a state of combustion, substantially as and for the purpose set forth.

Second, the arrangement of a series of receivers, two or more, in combination with each other, and with a suitable supply pipe, constructed and operating substantially as and for the purpose described.

Third, the secondary receiver B, in combination with the main receiver A, substantially as and for the purposes described.

Fourth, the central air channel *c*, and annular air channel *d*, in combination with the receiver A, constructed and operating substantially as and for the purpose described.

Fifth, the decomposer F, provided with jet openings *f*, near its bottom, in combination with the jacket E, receivers A B, and air channels *c d*, all constructed and operating substantially as and for the purposes set forth.

Sixth, the hood G, in combination with the jacket E, decomposer F, receivers A B, and air channels *c d*, all constructed and operating substantially as set forth.

61,132.—JOSIAH YEAGER, Berrysburg, Pa.—*Machine for Rounding Leather.*—January 8, 1867.—The guide eyes and hollow cutters are various in size, and the drum may be turned to bring the required cutter into the upper position.

Claim.—The employment of the tubular cutter, arranged and operating substantially as and for the purpose described.

Also, the arrangement of the guide or perforation in relation to the tubular cutter, substantially as and for the purpose described.

Also, the employment of a series of cutters and guides, mounted upon the drum C, or its equivalent, substantially as and for the purpose described.

Also, making the cutter adjustable upon the drum or cylinder by means of the wedge and set screw, or equivalent devices, substantially as described.

Also, the drum or cylinder, mounted in the uprights or standards in such manner as to be free to turn in bearings therein, in combination with a means for setting or holding the said drum, together with the cutters, in any desired or convenient working position, substantially as described.

61,133.—JOHN ALLEN, New York, N. Y., and GASTON D. SMITH, Washington, D. C.—*Finishing Tools, Implements, Machinery, and other articles.*—January 15, 1867.—The articles are coated with fusible metal by the galvanizing process, instead of finishing by the ordinary methods of polishing or painting.

Claim.—First, the finishing devices of machinery, engines, sewing machines, tools, instruments of all descriptions, by the mode and means hereinbefore described, and for the purpose of preserving them from damage by oxidation or corrosion, as set forth.

Second, the restoration of damaged tools and machinery to good condition by the method and means set forth.

61,134.—LEONARD ANDREWS, Biddeford, Me.—*Drill.*—January 15, 1867.—The socket is forced to the bottom of an ordinary blasting hole, and the cutters driven out by blows upon the wedge-ended rod. The cutters are drawn back by springs, which serve, also, to guide the wedge rod. When chambered to the proper size, a bifurcate drill is introduced and the chamber deepened sufficiently. For insertion or withdrawal the bifurcations of the drill are sprung in by an embracing socket.

Claim.—First, the combination of the tube *a*, rod *b*, ring and springs *e f f*, horizontal cutters *g g*, as and for the purposes set forth.

Second, the combination of the double drill, Fig. 5, constructed as described, with the tube *r*, as and for the purposes specified.

61,135.—FRANTZ A. AMBRUSTER, New York, N. Y.—*Turning Lathe.*—January 15, 1867; antedated January 3, 1867.—The pipe bowl is placed on a longitudinally-sliding mandrel and turned by a cutter upon a shaft, actuated by a chain engaging a sprocket wheel on the said shaft. The ends of this chain are connected to two cranks which are adjustable in length, to regulate the oscillation of the cutter head.

Claim.—First, the oscillating spindle E, in combination with the chuck I, carrying one or more tools, and with the longitudinally-sliding back center F, constructed and operating substantially as and for the purpose described.

Second, controlling the oscillation of the spindle E by means of the chain *c* and adjustable cranks *e*, substantially as and for the purpose described.

Third, giving the oscillating motion to the cutter head by means of two shafts *i i'* carrying the cranks *e* and chain *c*, substantially as and for the purpose set forth.

61,136.—LEWIS J. ATWOOD, Waterbury, Conn.—*Apparatus for Bundling Scrap Metal.*—January 15, 1867.—The scrap cylinder is driven up by a hydraulic ram against a plunger attached to the head of the machine. The cylinders may be upon a revoluble disk or arms, so as to be brought under the plunger alternately.

Claim.—The bundling or consolidation of scraps of sheet metal, by the means and substantially as set forth.

61,137.—W. E. BARCOCK, East Pembroke, N. Y.—*Water Elevator.*—January 15, 1867.—A forward movement of the crank puts the friction clutches in operation and elevates the bucket. A slight backward turn frees the clutches sufficiently to allow the bucket to descend.

Claim.—The drum A, shaft B, the head C, the ratchet cone *e'*, and the spiral spring *o*, when arranged and combined substantially as described for the purposes herein set forth.

61,138.—CYRUS M. BAKER, Bingham, Me.—*Cattle Tie for Stalls.*—January 15, 1867.—The chain and rod surround the animal's neck, and the rings have vertical play on the upright standard.

Claim.—The tie-chain herein described, the same consisting of the bar B, chains D and E, and rings G G, when all connected together, so as to be used for the fastening or hitching of cattle and other animals, substantially as described.

61,139.—THOMAS BARBOUR, Boston, Mass.—*Photographic Camera.*—January 15, 1867.—The box is pivoted and hinged so as to allow of vertical oscillation or rotation, and has a longitudinal sliding adjustment. An adjustable plate has openings through which impressions are taken on a plate behind.

Claim.—First, the arrangement of the plate *f f*, racks *g g*, pinions *h h*, rod *i i*, wheel *k k*, and adjustable arm *p p*, as described, and for the purpose specified.

Second, arranging a case upon a pivot so as to turn thereon, in combination with suitable stops, as herein described and for the purpose specified.

Third, the use of the lever *e e* for elevating and depressing the case, as described.

Fourth, the use of the movable plate or frame *f f*, operating as described and for the purpose specified.

61,140.—E. L. BARRETT, Springfield, Ohio.—*Apparatus for Making Envelopes.*—January 15, 1867.—The envelopes are so folded over a combination of plates as to admit of a thick rectangular stuffer, whose form they assume.

Claim.—First, the plates *e, f,* and *g,* in combination with the slides *a, a',* substantially as and for the purpose set forth.

Second, the stop *e,* gauge *d,* in combination with the slide *a,* and plate *f,* substantially as and for the purpose specified.

Third, pivoting or hinging the plate *g e f* to the slides *a, a',* substantially as and for the purpose described.

Fourth, the stuffer *M,* Fig. 7, constructed and operating as and for the purpose substantially as set forth in the herein described process of making envelopes.

61,141.—LOUIS D. BARTLETT, Fitchburg, Mass., assignor to the PUTNAM MACHINE COMPANY, same place.—*Valve of Steam Engines.*—January 15, 1867.—An improvement on the patent of Brown and Burleigh, January 15, 1856. The puppet valves governing the supply and exhaust of steam to the cylinder are actuated by cams on a revolving shaft. The valve stems are guided above in sockets in the top plates of the valve chests, and by removing these plates the valves may be reached or removed.

Claim.—The arrangement of the casings, steam passages, and valves, within the steam chest, in relation to each other, and operating substantially as described.

61,142.—ALONZO BENEDICT, Jonesville, N. Y.—*Neck Yoke.*—January 15, 1867.—The clevis has clips around the yoke, and has a lining—strips of leather—which rests against the under side of the tongue.

Claim.—The curved or U-shaped metallic bars *D D,* attached to the neck yoke by means of clips *C C,* and grooved at their inner parts to receive and clamp the chafing leather *E,* substantially as herein shown and described.

61,143.—MAYEUL BERNABÉ, Toulon, France.—*Protecting Armor Plates.*—January 15, 1867.—After shaping and piercing the plates they are cleaned in an acid bath and then electro-plated with copper in the ordinary manner.

Claim.—The herein described method or process of covering the steel, iron, or cast-iron plates with an insulating and protective coating of copper for neutralizing the electric currents and rendering the plates inoxidizable.

61,144.—SEALY JAMES BEST and JAMES JOHN HOLDEN, London, England.—*Apparatus for Charging and Drawing Gas Retorts, and other like purposes.*—January 15, 1867.—The charging scoops are carried on a frame which is supported on rail wheels. These scoops are in position for insertion into the retorts, where they are inverted to deposit the coal. The ends of the scoops are hinged to the bottom, and are raised for withdrawal. The scoop frame is moved upon rails, and for charging the scoops is run beneath a series of reversible troughs, each having beneath a spout for conveying the coal to one of the scoops. The retorts are discharged by rakes in a frame somewhat similar to the charging device.

Claim.—The apparatus and machinery, substantially as herein described.

61,145.—CARL BEU, Dessau, Anhalt-Dessau.—*Wool Dryer.*—January 15, 1867; antedated January 2, 1867.—A drying chamber is placed vertically between a heater and a blower. Within the chamber is a vertical series of boxes having perforated bottoms. These boxes are supported and delivered one at a time by cams in connection with the lower one. The matters to be dried are placed in the upper box, and gradually descend while drying, as stated.

Claim.—First, the arrangement of a series of drying boxes, placed one above the other, in a suitable case *A,* in combination with a suitable mechanism, whereby an automatic downward motion is imparted to said boxes, substantially as and for the purpose described.

Second, the recesses *t* in the drying boxes *f g h,* &c., in combination with the cams *q,* constructed and operating substantially as and for the purpose set forth.

Third, the stop motion *a' b' c',* in combination with the drying boxes *f g h,* &c., constructed and operating substantially as and for the purpose described.

61,146.—DANA BICKFORD, Boston, Mass.—*Sprinkler for Clothes and Flowers.*—January 15, 1867.—An elastic bulbous reservoir in connection with a pipe and a rose, acting on the principle of a syringe.

Claim.—The combination of the elastic bulb *A,* the valve *B,* the perforated nozzle *c,* all constructed as and for the purpose specified.

61,147.—JOSEPH N. BITTING, sr., Camden, N. J.—*Rudder Bearing.*—January 15, 1867.—A projection on the stem of a rudder engages a recessed inclined edge on a plate which forms its bearing.

Claim.—The projection *e* on the rudder post, in combination with the plate *D* and its inclined recess on the edge, when the latter and the said projection are formed in relation to each other, as described.

61,148.—FELIX BIZARD and PIERRE LABARRE, Marseilles, France.—*Apparatus for Storing Petroleum and other Inflammable Liquids.*—January 15, 1867.—The oil is stored in a submerged tank, being introduced and discharged by pipes. The induction and overflow of the water is also conducted by pipes. The surface level of the oil is shown by a transparent gauge and a try-cock.

Claim.—First, an oil tank of ordinary or suitable construction, provided at the top thereof with a pipe through which said tank is supplied with or discharged of oil, in combination with a pipe, also passing through the top, into and down to near the bottom of said tank, said pipe being branched and provided with cocks and level indicator for regulating the flow of water to and from the tank, in the manner and for the purpose set forth.

Second, the combination, in an oil tank or reservoir, of an elevated man-hole and pipes connected therewith, for supplying or drawing off the oil to or from the tank at a point higher than the top or dome of said tank, as herein shown and described.

Third, in combination with the arrangement claimed in the last preceding clause, the level indicator, when constructed to operate in the manner substantially as described.

Fourth, the channel or depression formed in the bottom of the reservoir, for receiving and collecting the sediment and facilitating the entrance to the dome, substantially as specified.

61,149.—GEORGE C. BOVEY, Cincinnati, Ohio.—*Brick Kiln.*—January 15, 1867.—Partially balanced covers overspread all or a portion of the top during the latter part of the operation of burning.

Claim.—A brick kiln entirely open at top and provided with folding covers, substantially as and for the purposes set forth.

61,150.—C. D. BROWN, Sterling, Ill.—*Planting Hedges.*—January 15, 1867.—The plants are clamped and supported at their proper relative distance between adjustable bars which engage perforated plates in the posts.

Claim.—First, the employment of clamping beams *A A* and posts *B B* in the operation of planting hedges, substantially as described.

Second, providing for adjusting the beams or clamps *A A* vertically as well as horizontally, substantially as described.

61,151.—GEORGE BURKET and SAMUEL M. GASKELL, Bluffton, Ohio.—*Sulky Plow.*—January 15, 1867.—The forward end of the plow beam is hung to the tongue and the rear end to a roller on the frame. The handle may be raised and by throwing forward a slotted hinged plate, retained in that position.

Claim.—First, the attaching of the rear part of the plow beam by a chain or rope *b* to a pulley *d,* on a shaft *H,* on the hounds *a a* of the draft pole, said shaft *H* having a lever *I* attached, and all arranged substantially as and for the purpose specified.

Second, the slotted plate *K* attached to the platform *D,* in such a manner that it may be turned forward to embrace the plow handle and serve as a bearing or fulcrum for it, and be turned backward free from the plow handle when it is necessary to liberate the latter, substantially as set forth.

61,152.—FRANCIS BURROWS, Peoria, Ill.—*Lamp*.—January 15, 1867.—The metallic connection between the burner and reservoir is reduced to a minimum; a water chamber beneath the burner and the heaters in the wick-tube diminish the conduction of heat.

Claim.—First, the chamber C, formed in the manner herein described, and adapted for the reception of water to prevent the heating of the reservoir, as and for the purpose explained.

Second, the combination and arrangement of the reservoir A, two-part wick tube D D', and casing C C' C'', with their several adjuncts, applied and operating in the manner and for the purpose explained.

61,153.—JOHN W. BUTTRICK.—Farmington, Wis.—*Seed Planter*.—January 15, 1867.—The seeding mechanism is driven by a ratchet cam upon the inside of one of the supporting wheels, and it is thrown out of gear by a lever. This driving wheel is prevented from rotating when desired by the transverse movement of a slide bar so as to engage one of a series of pins upon it.

Claim.—First, the cam Z, when constructed and used substantially in the manner and for the purpose set forth.

Second, the combination and arrangement of the cam Z, feed bar Q, spring P, and part M, substantially as and for the purpose set forth.

Third, the combination and arrangement of the cam Z, feed bar Q, and shut off lever K, substantially as and for the purpose set forth.

Fourth, the combination of the wheel A' constructed with the cam Z, and pins c, and the brake G', and operating lever I, when constructed and used substantially as and for the purpose set forth.

Fifth, the combination and arrangement of the shovels U and operating bars or levers R and M, substantially as and for the purpose set forth.

61,154.—A. G. BUZBY, Philadelphia, Pa.—*Case for Pen and Ink*.—January 15, 1867.—The case has two pockets adapted for the pen and ink bottle respectively.

Claim.—First, the pen B, with its flange and collar a, and button c, and the case A, with its cover A', and opening for the reception of the pen, the whole being constructed as described.

Second, the cover A', with its cap d, and recess for the reception of the bottle D, in combination with the case A, and its pen B, as set forth.

61,155.—ADAM S. CAMERON, New York, N. Y.—*Pump Valve*.—January 15, 1867.—Explained by the claims and illustration.

Claim.—First, a valve composed of a metallic case A, in which India-rubber or other suitable material B is confined so as to form faces a b to operate in combination with the seat C, substantially as and for the purpose described.

Second, a valve formed by putting the rubber into the case or recess in a plastic state and vulcanizing it therein, substantially as and for the purpose specified.

61,156.—R. M. and D. CAMERON, Edinburgh, Scotland.—*Pen*.—January 15, 1867.—The tips are slightly upturned to enable the passage over the asperities of coarse paper.

Claim.—The construction of pens possessing the improved qualities in the manner substantially as hereinbefore described and shown in the accompanying drawings.

61,157.—LAZARE CANTEL, New York, N. Y.—*Trunk*.—January 15, 1867.—An improvement on his patent of December 20, 1853. A rubber pipe is partially inserted in the contiguous edges of the top and body of the trunk to render it water-tight when closed.

Claim.—The grooved wooden frames c d, secured to the edge of the trunk, or similar article, by the bands e and f, and hinge h, and suitable nails, in combination with the elastic strip or pipe i, as and for the purposes specified.

61,158.—ROBERT CHAMBERS, Cincinnati, Ohio.—*Railroad Rail*.—January 15, 1867.—Explained by the claims and illustration.

Claim.—First, the compound railroad rail A a e A' a' e' B b, secured or locked together by the same spike

or spikes which fasten the rail to the sleeper or cross-tie, substantially as set forth.

Second, in combination with the aforesaid compound rail, the single-lipped chair E e.

61,159.—NATHAN CLAPMAN, Milford, Mass.—*Cotton and Hay Press*.—January 15, 1867.—The follower has radial projections from its corners which traverse vertical grooves in the frame, and it is actuated by reciprocating ratchet rods, which are operated by a lever rock bar. The ratchets act on the projections of the plunger by pawl wedges which gravitate into inclined recesses to engage the ratchets.

Claim.—Traversing and holding the ratchet rods which work the follower by the stationary locking boxes P P, provided with ratchet wedges or pawls, and connected by vibrating links and crank rock shafts to traversing locking boxes N N, provided with ratchet wedges or pawls to work the press by levers inserted in the holes in the rock shafts and vibrated.

Second, the four arms on the follower, extending through the press box and fastened to the ratchet rods working at the corners of the press.

Third, the use of four rods, or one at each corner of the follower, to move it even and keep it from tipping.

61,160.—JAMES M. CHRITTON, Joliet, Ill.—*Churn*.—January 15, 1867.—The box has side pockets for the reception of heated water. The stops of the dashers are removable. Pipes pass through the lid for the conduction of air through the cream.

Claim.—The water pockets e, in combination with the movable box d, the movable pinion and shaft b and the air tubes f and g, when constructed and operating substantially as described.

61,161.—S. O. CHURCH, West Meriden, Conn., assignor to himself and S. S. Wilcox, same place.—*Can Opener*.—January 15, 1867.—The pivoted catch is brought in contact with the under side of the lid by means of the thumb piece at its upper end.

Claim.—The lever A, provided with a fulcrum a, in combination with a hook C and the handle B, constructed and arranged so as to operate in the manner described.

61,162.—MIRTLLOW R. CLAPP, New York, N. Y., assignor to himself and E. P. JONES, same place.—*Steam Generator*.—January 15, 1867.—The vertical tubes within the fire space contain three plates of such a size as to give mutual support. Downwardly-inclined openings in the plates allow the passage of water.

Claim.—First, the water and steam generating tubes G, exposed to the action of the fire or heated gases, as specified, and provided with diaphragms g, having openings s in them inclining downwardly, substantially as and for the purpose or purposes herein set forth.

Second, the construction of the diaphragms g, within the tube G, whereby they support or retain each other in place, as described.

61,163.—ARTHUR CLARK and THOMAS REECE, Philadelphia, Pa.—*Cracker Crusher*.—January 15, 1867.—An annular piece with inward radial cutters is hinged to a disk with similar cutters placed intermediately. The two parts are brought together upon a cracker by pressure on the handles.

Claim.—The arrangement of section B, with its perforated or bottomless cup C and ribs a, or their equivalents, and section A, with its flange D and ribs b, or their equivalents, both of said sections having suitable handles, and hinged together in either of the modes herein described, and operating substantially as and for the purposes set forth.

61,164.—ORSON COLVIN, Belvidere, Ill.—*Beehive*.—January 15, 1867.—Explained by the claims and illustration.

Claim.—First, the inner case B, provided with inclined sides a a and a perforated top piece e, in combination with an outer box A to receive B; with an air space allowed between, and the ventilating openings j m in the box A, substantially as and for the purpose set forth.

Second, the spare box C, with perforated bottom, registering with the perforated partition plate e and with perforated top piece C, in combination with the

case B, with perforated sides registering with the perforated spare boxes D, whereby air will be admitted into all parts of the hive, in the manner described for the purpose specified.

61,165.—DAVID CONNOR, Fulton, Ill.—*Milking Stool.*—January 15, 1867.—The seat is adjustable upon a bench, which also has a basket rack for the reception of the bucket.

Claim.—The circular frame F, bench H, and seat A when constructed, arranged, and operating substantially as and for the purpose set forth.

61,166.—T. J. CURRIER and A. M. BLACK, Worcester, Mass.—*Tool Rest for Lathes.*—January 15, 1867.—The segmental rest is oscillated in the poppet block to incline the tool by a screw, which engages its intaglio screw rack.

Claim.—The combination with the poppet block A of the tool rest D, shaft H, and screw G, substantially as set forth.

61,167.—J. P. F. DATICHY, West Hoboken, N. J., assignor to himself and JOHN H. BONN, same place.—*Jet Condenser.*—January 15, 1867.—An improvement on his patent of August 30, 1864. The steam is exhausted into the central compartment, and condensed in the upper one, to which the air pump is connected. The water of condensation is conducted from the upper to the lower compartment, from which it is pumped into the boiler.

Claim.—A condenser composed of three compartments A B F, valves a M, rose C, and connecting pipes E G I, all constructed and operating substantially as and for the purpose described.

61,168.—HERBERT DAVIS, Troy, N. Y.—*Fagot for Railroad Rails.*—January 15, 1867.—The pile is composed of steel and of two qualities of iron bars, so disposed as to make a steel face, and with the superior quality of iron in the positions for exerting its durable and tenacious qualities.

Claim.—First, the rolling or making of rails for railroads of a pile composed of a series of iron bars A, provided with a steel cap B, formed or rolled with a pendent flange at each side, and with longitudinal grooves and projections e b at its under surface, and the upper iron bars of the pile rolled or formed with corresponding grooves and projections a d to admit of the steel cap and upper iron bars being locked together, substantially as shown and described.

Second, forming the iron portion of the pile of bars A A' of superior and inferior iron, arranged or disposed substantially in the manner and for the purpose set forth.

61,169.—THOMAS B. DE FORREST, Birmingham, Conn.—*Hoop-skirt.*—January 15, 1867.—Explained by the claim and illustration.

Claim.—Protecting the attachment of the lower hoop to the tapes by extending the tapes below the bottom hoop, and covering this extension with metal, substantially in the manner and for the purpose specified.

61,170.—THOMAS B. DE FORREST, Birmingham, Conn.—*Hoop-skirt.*—January 15, 1867.—By placing the cord on the outside it is retained on the edge of the wire, and being attached to the lower hoop takes the wear from the covering of the latter.

Claim.—Attaching a cord to skirt wire outside the covering which encloses the wire, substantially as herein set forth.

61,171.—THOMAS B. DE FORREST, Birmingham, Conn.—*Binding for Skirts.*—January 15, 1867.—Dress binding whose salient points are capped with metal.

Claim.—A binding having one edge protected, substantially as described, as a new article of manufacture.

61,172.—THOMAS B. DE FORREST, Birmingham, Conn.—*Binding for Skirts.*—January 15, 1867.—A binding of rubber to the edge of a skirt to receive the wear.

Claim.—A binding presenting an india-rubber or similar flexible edge, substantially as herein described, as a new article of manufacture.

61,173.—GEORGE POMEROY DODGE, London, England, assignor to NATHANIEL SHATTOWELL DODGE, Washington, D. C.—*Manufacture of Rubber Belting.*—January 15, 1867.—A strip of woven material is placed upon a sheet of rubber of such a size as to cover the strip. The sheets are then passed into a mold, which folds the rubber around the strip of woven material, after which they are passed between rollers.

Claim.—The mode of manufacturing bands or belts composed of fabrics and gum or sticky substances, substantially as herein described.

61,174.—LEVI W. DOWLIN, Sherbrooke, Canada East.—*Vulcanizing Flask for Dentists.*—January 15, 1867.—The flask is formed in three parts. The teeth are set in the central part, and the others contain the dies for pressing the rubber into shape. The parts are attached together by bolts.

Claim.—The employment of the middle part B of the flask, substantially as and for the purpose herein specified.

Also, the separate union of the parts B and C, before the rubber is packed in by means of screw bolts h h, or their equivalent, substantially as and for the purpose herein set forth.

Also, the combination and arrangement of the counter die part A, with the parts B and C, substantially as herein specified.

61,175.—GEORGE DOYLE, Worcester, Mass.—*Steam Pump Valve Gear.*—January 15, 1867.—The piston-rod of the direct acting steam pump has a spring projecting from an adjustable collar, which engages tension lugs and adjustable tappets to operate the slide valve.

Claim.—First, the arrangement of the spring h, the dogs j j, and the lugs i i, on the valve stem, substantially as and for the purpose specified.

Second, the arrangement of the dogs j j, for putting tension on the spring by restraining it during the stroke or part of the stroke of the piston, substantially as and for the purpose specified.

61,176.—JEHEL C. DRIGGS, New York, N. Y., assignor to MATTHEW T. HIGGINS.—*Sewing Machine.*—January 15, 1867.—The needle operates from below, and the looping device is located above, the table.

Claim.—First, the combination in needle-feeding machines of the horizontally-slotted arm G, operated by a crank or eccentric pin D, and carrying the needle vertically-slotted arm H, with its adjustable branch and spring J, and rotating cam F, for giving to the needle its two-fold motion, substantially as specified.

Second, the combination with a needle working from below up through the table, of a looper L, above the table, acted upon by a spring g, and guide p, and pivoted to a rod or arm o, radiating from a rocking shaft M, essentially as herein set forth, and for the production of a single thread or chain stitch.

61,177.—GEORGE W. DUDDERAR, Unionville, Md.—*Device for Protecting Trees from the Borer.*—January 15, 1867.—About half the perforated metal portion is inserted in the earth, which is packed closely about it. Above the metal portion and attached to it is a water-proof covering to be closely tied to the trunk of the tree.

Claim.—The application of an adjustable appliance to the trunk of fruit trees to protect them, as herein described, using for that purpose the aforesaid cylinder and oil-cloth top or addition, or any other substantially the same, and which will produce the intended effect.

61,178.—J. W. AND W. EBERT, Zanesville, Ohio.—*Head Blocks for Saw Mills.*—January 15, 1867.—The knee of the head block is made to advance by means of a rack and ratchet bar operated by means of two bars, one of which causes the ratchet to move the rack forward, the other bar holds the rack in place.

Claim.—First, providing for adjusting knees upon head blocks by means of rectilinear reciprocating pawls, which are allowed to vibrate vertically, in combination with a lever H, which will admit of said

pawls being engaged with or disengaged from their knees at pleasure, substantially as described.

Second, the locking plates J J, applied so as to take into the racks of adjustable knees of head blocks, substantially as and for the purpose described.

Third, the construction of the bar H, substantially as and for the purpose described.

Fourth, the combination of the locking plates J J, or their equivalents, with rack D, upon the knees C C, and with the bar H, which raises and depresses the pawls b b, substantially as and for the purpose described.

Fifth, the combination of the pawls b b, arms b' b', and angular lever c c, with the reciprocating bar E, and a lever, whose movements are regulated by adjustable stops f f, substantially as and for the purposes described.

61,179.—AUGUSTUS ECKERT, Trenton, Ohio.—*Converting Motion.*—January 15, 1867.—An escape motion. Explained by the claim and illustration.

Claim.—The lever C, with its nose, c, pivoted at one end to the link i, and to the other end to the pendulum D, connected by the rod h to the elbow lever e f, having its fulcrum on the stationary hanger, operating in combination with the escape wheel B, with pins b, in the manner described for the purpose specified.

61,180.—ALBERT E. ELMER, Greenfield, Mass.—*Railway Car Axle.*—January 25, 1867.—The radial abutting surfaces of the compound axle are concave and convex to give a firmer bearing and allow of tightening after wear by further insertion of the stem into the sleeve.

Claim.—Improved railway-carriage axle, made as described, viz: with the concave and convex shoulders d e, arranged and combined with the tubular and cylindrical parts a b, and with respect to the wheels, substantially as described.

61,181.—JOHN R. FISH and H. C. HARTMAN, Fort Wayne, Ind.—*Steam Generator.*—January 15, 1867.—The water is forced through a heater which is within the fire-box.

Claim.—First, the heater B, when placed inside the fire-box of a tubular or fine boiler, in such manner as to be exposed to the direct action of the fire before the heat passes through the flues of the boiler, in combination with the pipe C, and the check valve C', and pipe D, arranged substantially as set forth.

Second, in combination with the heater B, the blow-off pipe E, arranged substantially as and for the purpose set forth.

61,182.—EDWARD FITZ HENRY and ISAAC BALL, Portland, Oregon.—*Machine for Finishing Leather.*—January 15, 1867.—Explained by the claims and illustration.

Claim.—First, the set screws D¹, and rod D, with the springs E, substantially as and for the purpose set forth.

Second, the plate B, pivoted to the plates A, so as to communicate motion to the rubber centrally, and without pressing upon the springs attached to the slickers.

Third, in combination with the plate B, the rods G, and pins G¹, for the purpose of raising the slickers and brushes when not in action, substantially as set forth.

Fourth, the jaws F and I, hinged substantially as set forth, in combination with the hair spring I, substantially as and for the purpose set forth.

Fifth, in combination with the jaws F, the springs K¹, and brushes K, substantially as set forth.

Sixth, the cleaner S, in combination with the slickers F¹, operating substantially as and for the purpose set forth.

Seventh, the lever L, and notched plates O, or their equivalent, in combination with the rods G, attached to the jaw F, substantially as and for the purpose set forth.

Eighth, the arrangement of the points M¹, so as to permit the raising of one or all of the rubbers, substantially in the manner and for the purpose set forth.

61,183.—JOHN G. FLAGG, Philadelphia, Pa.—*Device for Forming Hassocks or Stools.*—January 15, 1867; antedated January 10, 1867.—The carpet is

placed in a mold of the preferred form, and after the filling is inserted, the top piece is pressed over it and confined there for sewing.

Claim.—An apparatus for making hassocks, consisting of the screw D, disk E, mold F, and a suitable frame, all arranged and operating substantially as herein specified.

61,184.—LORENZO D. FORD, Canaan, N. Y.—*Attaching Roofing to Buildings.*—January 15, 1867.—The edges are connected together by a single return fold, which is traversed by the holding nail.

Claim.—The connecting of the edges of the sheets or strips of plastic roofing by means of a lock joint, formed by bending the edges or selvages of the fabric, substantially as shown and described.

61,185.—BENJ. E. FOWLER, Hartford, Conn., assignor to BENJ. F. ELLIS, same place.—*Door Bolt.*—January 15, 1867.—The spindle has a tooth gear which engages a rack on the bolt to move the same. By a longitudinal movement of the spindle a pin enters a notch therein to lock the bolt.

Claim.—The rack bolt b, in combination with the pinion e, spindle d, pin and groove h g, substantially as and for the purpose described.

61,186.—JAMES H. FREY and WILLIAM HECKER, Sharon, Pa., assignors to themselves and E. A. WHEELER.—*Printing Press.*—January 15, 1867.—The platen is supported on four pins which traverse a slot so curved that it shall move as stated in the claim. The inking surface has an inner circular and an outer annular plate, which revolve in opposite directions.

Claim.—First, so constructing and operating the platen B that it shall move bodily in a right line up to and from the form bed C, and also assume an inclined position when at the termination of its outward stroke, the said platen performing these movements without revolving, substantially as described.

Second, supporting and guiding the platen B by means of four bearings a a¹ a¹, which move in slots a², substantially as described.

Third, communicating motion in opposite directions to the plates of the inking table, and also a separate and independent motion to either of the plates e e¹, at will, all by means substantially as described.

Fourth, communicating motion to the rock shaft of the inking roller arms c c' by means of segments b b, which are on a crank E¹ that is connected to the shaft D³, substantially as herein described.

Fifth, providing for giving a rapid and slow motion to the platen and its appendages by the employment of two cranks, in conjunction with the treadle and its rod, either one of which cranks will communicate motion to the shaft of the crank wheels D¹ D², substantially as described.

61,187.—EDWARD P. FURLONG, Portland, Me., assignor to himself and HENRY INMAN.—*Paper Pantalot.*—January 15, 1867.—A removable paper edging for pantalots.

Claim.—A paper pantalot constructed and applied to drawers, substantially as described.

61,188.—P. TENNY GATES, Plattsburg, N. Y.—*Carriage Boot.*—January 15, 1867.—The apron is combined with a dash cover and has an upward ridge to cast off the water. It has perforations for the whip handle and reins.

Claim.—First, the boot A, constructed substantially as described, and used as and for the purposes herein set forth.

Second, the dash cover, provided with its flaps D and straps d, when constructed as set forth and used as specified.

Third, the combination of the dash cover C and boot A, when formed as herein fully described, and used with the dash of a vehicle either stationary or adjustable, in the manner and for the objects described.

61,189.—BURTON GIFFORD, Pelee, Iowa.—*Hog Pen.*—January 15, 1867.—The feeding trough is attached to the side of the pen, and has graduated holes of communication to prevent the larger hogs from crowding the smaller from their portion.

Claim.—First, attaching the trough to the outside of the pen, with graduated openings leading into it

from the inside of said pen, substantially as herein shown and described.

Second, the combination of the hinged cover G, chains or cords H, and sliding board J, with the trough E, and with the perforated side of the pen, substantially as herein shown and described.

Third, forming a portion of the bottom or floor B of the pen of slats or with slots, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of a removable box D with the slotted portion of the floor B, substantially as herein shown and described, and for the purpose set forth.

61,190.—BURTON GIFFORD, Pedee, Iowa.—*Sheep Pen.*—January 15, 1867.—A hay rack and grain trough in the side of the pen communicate with a box projecting from the pen for convenience in feeding.

Claim.—First, forming a feed box D upon or attaching it to, the outside of the sheep pen A, substantially as herein shown and described.

Second, the combination of the sliding board H and G and levers L, with the feed box D, substantially as herein shown and described.

Third, the combination of the adjustable board J with the sliding boards H and G, and with the feed box D, substantially as herein shown and described.

Fourth, connecting the feeding trough B with the feed box D by the spout or channel F, substantially as herein shown and described.

61,191.—H. C. HATTEN and J. P. ANGLEBERGER, New Carlisle, Ohio.—*Machine for Soldering Eave Troughs.*—January 15, 1867.—The trough is clamped to a series of convex blocks on an extended frame. Buttons and curved bars confine the trough while it is soldered between the blocks.

Claim.—A reversible frame for soldering eave troughs, constructed and arranged for use substantially as set forth.

61,192.—J. B. HAWLEY, New Haven, Conn.—*Buckle.*—January 15, 1867.—Formed of one piece of wire; the two ends are coiled near the center of the rear, and then extending to the front form two tongues. A link passing through these loops serves to connect the buckle with any other object and to hold the looped parts together.

Claim.—A buckle constructed substantially in the manner herein described, combined with a hook or eye, substantially as herein fully set forth.

61,193.—WM. W. HENDRICKS, Philadelphia, Pa., assignor to the COOPER FIRE-ARM MANUFACTORY, same place.—*Skate.*—January 15, 1867.—Four levers are pivoted to the foot plate in pairs, and a lug projects upward from each lever to gripe the sole or heel of the boot when the moving ends of the levers are drawn inward.

Claim.—The combination and arrangement of the plate A, the lever jaws D D' E and E', with their lugs d e, and the straps F and F', or equivalent devices for operating the said levers beneath the plate A, the whole being constructed and operating as and for the purpose described.

61,194.—H. R. HILDRETH and W. H. SMITH, Dutch Flat, Cal., assignors to H. R. HILDRETH, GEO. B. HOBBS, and JOHN DIBBLEE, same place.—*Material for Stuffing Mattresses, and for other purposes.*—January 15, 1867.—The fiber is first separated by means of a picker, then boiled in a solution of potash, washed, dried, and curled as hair is curled by twisting into ropes.

Claim.—First, as a new article of manufacture, and as a substitute for the ordinary curled hair, the fiber of the soap plant, when properly treated and manipulated therefor.

Second, treating the fiber of the soap plant substantially as herein described and for the purpose specified.

61,195.—JOHN HINDMARSH, Henry, Ill.—*Corn Plow.*—January 15, 1867.—The plows are adjustable vertically, and may be raised and lowered and moved laterally by a single lever.

Claim.—First, the lever N, in combination with the standard O*, for sustaining the plow in an elevated position when required.

Second, the rods O O, plow beams G G, cross bar P, and screw Q, combined and operating as described.

Third, the combination of the plow beams G G, standards L L, lever N, and brace rods j, all arranged and applied to a mounted frame A, to operate in the manner substantially as and for the purpose specified.

61,196.—HENRY W. HOLLY and SIDNEY L. GEER, Norwich, Conn.—*Manufacture of Artificial Slate.*—January 15, 1867.—Wood, paper, &c., is coated with a material composed of liquid quartz mixed with equal parts of lampblack or other coloring matter and emery or other gritty material.

Claim.—First, the use of liquid siliceous matter or binding material in liquid slating.

Second, liquid slating composed of the ingredients specified, in or about the proportions set forth.

61,197.—JOHN HOLMES, New York, N. Y.—*Smoking Stand.*—January 15, 1867.—An ornamental stand containing separate receptacles for tobacco in its various forms, also its concomitants of pipes and matches.

Claim.—A smoking stand constructed as herein shown and described.

61,198.—PHINEAS B. HOOD, Milford, N. H.—*Sad Iron.*—January 15, 1867.—A metal face and handle attached together through a block of soapstone.

Claim.—A sad iron composed of a metallic face and with a body of soapstone, when constructed and arranged substantially as herein shown and described.

61,199.—WM. D. HOOKER, San Francisco, Cal., assignor to himself and VOLNEY CUSHING.—*Pump Valve.*—January 15, 1867.—The valve has radial arms whose upwardly turned ends have rectangular faces playing in corners of its chamber to keep it to simple vertical reciprocation.

Claim.—The valve A constructed with guides b b b b upon its sides, arranged substantially as described and for the purpose herein set forth.

61,200.—JAMES R. HOPKINS, Dayton, Ohio, assignor to himself and JACOB O. JOYCE, same place.—*Filtering, Evaporating, and Granulating Saccharine Liquids.*—January 15, 1867.—The juice is passed down through a filter with clay and straw in layers, up through another filled with straw, and down through a third filled with marble chips, from which it passes to the evaporating pan. The whole of this pan is covered except a strip along its flaring side, which is left open for the collection and removal of scum. When the sirup reaches 40° Baumé one pint of cold water is added to each eight gallons of sirup, and after stirring from one to three minutes it is drawn off into the granulator.

Claim.—First, the evaporator lid or cover A, as described and for the purposes set forth.

Second, the mode herein described for filtering and purifying the juice, in combination with the granulating process, substantially as and for the purposes set forth.

Third, the mode herein set forth for producing granulation, in combination with the evaporator lid A and the filtering process, substantially as described.

61,201.—BENJ. F. HORTON, Ithaca, N. Y.—*Seed-ling Machine.*—January 15, 1867.—Explained by the claims and illustration.

Claim.—First, the combination and use of the stationary bar C with the two movable bars or slides B B, when made as described, and the use therewith of one or more series of studs in the opening between the bars, or immediately connected with the said opening.

Second, the bars B B, when held in constant parallelism with each other by means of the rods H H H, thus securing a uniform and adjustable opening between the bars and the even sowing of the seed; and the set clamp I and its set screw J, for the purpose of adjusting the opening for the sowing of various seeds or articles.

Third, the arrangement of the studs G, one series on the fixed bar C, and at least one on the vibrating bars B B.

Fourth, the combination of the wheeled carriage, the can E, seed box, vibrating bars, stationary bars,

gear lever, when made as described, the same constituting one whole or machine.

Fifth, the making of the zigzag cam adjustable by set screws, so that it can be applied to the wheels of the horse rakes, and the use of the machine in combination with the wheels and carriages of horse rakes, as shown and described.

61,202.—WILLIAM W. HUGHES and JAMES C. ADAMS, Philadelphia, Pa.—*Flooring for Malt Kilns.*—January 15, 1867.—The upturned flanges of the perforated plates are stiffened by and bolted to continuous strips, which are connected together by transverse bars.

Claim.—First, constructing malt kiln floors of perforated flanged plates, extending over two or more joists stiffened by the side bars or slips G H and the transverse bars or strips J K, the flanges of said plates being also secured together by pins, bolts or rivets passing through the contiguous flanges.

Second, securing the flanged plates, constructed as above described, to the iron joists below by means of clips *m m* and wires or their equivalents.

61,203.—WILLIAM S. HUNTINGTON, Byron, Mich., assignor to himself and C. P. DEVEREAUX, North Newburg, Mich.—*Plow.*—January 15, 1867.—The elbowed lever is oscillated by a draw-bar to clear weeds from the breast of the plow.

Claim.—The iron elbow scraper *a* suspended to the beam A of a plow, in combination with the drawing rod *b*, arranged and operating substantially as and for the purpose herein described.

61,204.—J. LITTLE HYDE, New York, N. Y.—*Regulator for Watches.*—January 15, 1867.—The scale marks are inclined from a radial direction to accomplish the object stated in the claim.

Claim.—So constructing the index and scale of the regulator that the edge of the index shall form such an angle with the lines of the scale that one of the said lines shall always be but partially covered by the index, substantially as herein described for the purpose specified.

61,205.—ALLEN S. JIMMERSON, Greenpoint, N. Y.—*Sweeping Machine.*—January 15, 1867.—A transverse brush and a pair of inclined brushes are rotated by the supporting wheels of the truck. The bristles are clamped between metallic plates which are adjustable on the radial arms of their frames.

Claim.—First, the combination of the transverse rotary brush D with the two oblique rotary brushes C, arranged and operating substantially as herein set forth for the purpose specified.

Second, the construction of the sections F with the brushing splints *i*, clamped between the two metallic strips or plates *h*, substantially as herein set forth for the purpose specified.

61,206.—H. P. JONES, Davenport, Iowa.—*Dough Kneader.*—January 15, 1867.—The kneading board has rotary motion from a hand crank and simultaneous longitudinal movement by the engagement of cog gears on side racks, by which it may be made to travel in either direction.

Claim.—First, the employment of a traversing rotating blade, of a hexagonal form, in conjunction with a box A having flaring sides and ends, substantially as described and for the purposes set forth.

Second, the construction of the blade C with toothed gudgeons *g g* on its ends, in combination with the sliding keepers *c c* and shouldered rack plates B B, substantially as and for the purposes described.

61,207.—JULES JURGENSEN, Locle, Switzerland.—*Stem Setting Watch.*—January 15, 1867.—The bending over of the pendent ring into the space occupied by the guard cap when closed engages the con- trate gear wheel of the spindle with the system of gear wheels connecting with the minute hand.

Claim.—First, in combination with mechanism for setting the hands of the watch, the pendent bow C, constructed and arranged so that by its movement said mechanism is thrown in or out of gear, substantially as specified.

Second, the combination of the cap or guard E with the pendent bow C and hand-setting mechanism, whereby the said cap while closed is made to prevent

the bow from throwing the hand-setting mechanism in gear, essentially as specified.

Third, the combination of the spindle D, pendent bow C, with its eccentric pin *m*, sliding rod *h*, spring *i*, clutch lever *k*, clutch *b*, con- trate wheel *e*, and pinion *d* in gear with the cannon pinion of the watch, substantially as shown and described.

61,208.—A. C. KASSON, Milwaukee, Wis., assignor to himself and N. C. GRIDLEY.—*Auger.*—January 15, 1867.—Explained by the claims and illustration.

Claim.—First, an auger having a twist whose front or working faces are concave, and whose rear surfaces are convex, substantially as represented in Fig. 2 of the drawings.

Second, an auger constructed substantially as herein shown and described, which permits the formation of cutting lips at any point in its length by simply sharpening the edges.

61,209.—WILLIAM S. KELLY, Schenectady, N. Y.—*Pump.*—January 15, 1867.—The piston rod has a valve below a loose piston bucket, the lower end of which forms its seat. The piston has a limited motion upon the rod. The packing is expanded by the sliding upon each other of the two beveled annular plates beneath it; the outer one of these is expandible.

Claim.—First, the construction of the piston B C, with outlets *a a*, and with a valve seat formed in its lower end for receiving a valve D, which is applied on the lower end of the piston rod, substantially as described.

Second, the combination of the flanged tapering collars F G' and packing *e*, or their equivalents, with piston B C *a*, and valve D on the piston rod E, substantially as and for the purpose described.

Third, the construction of the packing expanders F G', substantially in the manner and for the purpose described.

Fourth, the employment of a tapering flanged collar and a split flanged collar under, over and back of the packing, in such manner that the column of fluid above the piston valve will expand the packing as the piston is raised, substantially as described.

Fifth, the pump constructed substantially as herein shown and described, so that the packing *c* is expanded laterally by the column of water being lifted, and the valve D opened and closed by a direct force or pull upon the piston, substantially in the manner described.

61,210.—MARTIN C. KILGORE, Washington, Iowa.—*Steam Generator.*—January 15, 1867.—The boiler is made in two portions with an outwardly projecting connecting flange. Steam pockets occupy a portion of the spaces left between the square sides of the flue space and the outer shell of the boiler. A superheater is placed vertically over the furnace, and within the chimney. The superheater has pipes of connection from its upper parts to the pockets, and from its lower part to the upper part of the steam space within the boiler. Stop cocks carry the water of condensation from the steam pockets outside the boiler.

Claim.—First, the pockets H, constructed substantially as and for the purpose specified.

Second, the dome K, in combination with the tubes L and M, constructed and operating substantially as set forth.

Third, a steam boiler having sections A and B, flanges C and D, flue box E and dome, and tubes and pockets as described, constructed, combined and arranged substantially as herein specified.

61,211.—W. P. KIRKLAND, San Francisco, Cal.—*Marine Motor.*—January 15, 1867.—The passage of the vessel forces water through a longitudinal pipe and water wheel at the bottom of the hold. The wheel works the pumps or supplies a hose for extinguishing fires, &c.

Claim. the pipe A having stop-cocks B B, water wheel D and water pipe G, in combination with any suitable device connected with the said water wheel for transmitting its power, when arranged together substantially in the manner and for the purpose specified.

61,212.—CHRISTIAN F. KNAUER, Pittsburg, Pa.—*Curtain Fixture.*—January 15, 1867.—The left-hand socket is the full size of the roller, and the right-hand socket is open above, and has a toothed segmental rack,

which by reciprocal revolution of the roller cuts a groove in the same to let it down to its bearing at that end. This groove prevents side movement. The tape is wound on the roller, counter to the blind, and passes beneath a spring brake, which may be drawn out by the taper end.

Claim.—The combination of the guard D and stud *m*, and toothed rim *d* on the bearing of a window shade fixture, substantially as specified and for the purpose set forth.

61,213.—EDWARD H. KNIGHT, Washington, D. C.—*Safety Chamber for Oil Tanks, &c.*—January 15, 1867.—The safety chamber is introduced to afford a space into which the oil may expand, and from which it returns when contracting. It is an improvement on his former patent in respect of being detachable and capable of introduction into the tank or barrel at the ordinary opening for filling.

Claim.—The safety chamber operating substantially as described, and so arranged as to be attached to and removed from the tank or barrel as required.

61,214.—WILLIAM KOPLIN, New Castle, Pa.—*Spike Machine.*—January 15, 1867.—The relative adjustment of the moving die knife, and the descending pointer, are such that the motion of the pointer follows the cutting movement of the knife, lengthening the point into a recess of the knife-shaft, the point being withdrawn before the knife is retracted.

Claim.—The arrangement of the moving die *g*, and knife *h*, with the descending pointer *K*, actuated by the cam so as to cause the pointer to follow the cutting movement of the knife and precede the withdrawal of the latter for the purpose described.

61,215.—S. A. KROMER, Doylestown, Pa.—*Gate.*—January 15, 1867.—The gate runs upon two rollers, and its extended braced arm runs between two rollers which preserve the horizontal position of the gate.

Claim.—First, the combination of the arm *J* and the brace *K*, with the rear end of the gate, substantially as herein shown and described, and for the purpose set forth.

Second, the combination of the horizontal track bars *H* and *I* with the gate and with the friction pulleys or rollers *D E F G*, substantially as herein shown and described and for the purpose set forth.

Third, in the arrangement of the pulleys, or rollers *D E F G*, in connection with the posts *B C*, and track rails *H I* substantially as herein shown and described and for the purpose set forth.

61,216.—L. L. LANSTROTH, Oxford, Ohio, and S. WAGNER, Washington, D. C.—*Apparatus for Extracting Honey from the Comb.*—January 15, 1867.—After the "cap" has been cut off the comb it is placed in a wire gauze basket which is rapidly rotated. The honey is thrown out by centrifugal force. The drained combs are returned to the hives to be again filled with honey.

Claim.—First, the frame *T*, with the adjustable arms *b*, and the support or post *D* for supporting and operating the revolving frame *B*, substantially as set forth.

Second, the frame *B*, suspended by a shaft *C* from the frame *T*, and arranged to hold the comb while being rotated, substantially as herein described.

Third, providing the comb holder or frame *B* with adjustable post *l*, or their equivalents, for adjusting it to receive and hold frames or combs of various sizes.

Fourth, in combination with the stationary posts *m*, and the adjustable post *l*, the wire gauze *B'*, or its equivalent, arranged to support the comb and at the same time permit the escape of the honey, substantially as described.

61,217.—R. G. LATTING, New Orleans, La.—*Cotton Bale Tie.*—January 15, 1867.—The central arched rib is bent down into an arched form for strength, and serrated to increase its bite on the hoop. A notch in the open eye prevents the accidental side movement and escape of the hoop.

Claim.—First, the toothed ridge *G g*, as and for the purpose described.

Second, the shoulder *h* in the bar of the loop *C*, as and for the purpose described.

Third, the arched central bar *G*, substantially as described and represented.

61,218.—J. N. LEAVENWORTH, Hamden, Conn., assignor to himself and BELA A. MANE, same place.—*Let-off Mechanism for Narrow-ware Looms.*—January 15, 1867.—The weighted friction brake bears directly on the disk of the bobbin. The consumption of the warp threads causes the weights thereon to rise, and so to lift the levers, release the brake, and cause a delivery when wanted.

Claim.—The let-off mechanism constructed and arranged to operate as described, the same consisting of the weight *I*, suspended by the warp, the weighted lever *E*, and its shoe *f*, bearing on the warp spool.

61,219.—R. W. LEWIS, Beacon Falls, Conn.—*Self-feed for Carding Engines.*—January 15, 1867.—This machine differs from that described in McQuirk and Cole's patent, No. 59,919, in that the waste roving is taken directly from the main cylinder and returned to the second breaker.

First, the doffer ring *d*, arranged in combination with the main cylinder *A*, so as to take therefrom the outside or waste roving.

Second, the combination of the creeper *E*, with the doffer rings *d*, and the main cylinder of second breaker, substantially in the manner described, so as to receive the waste roving directly from the main cylinder and transfer it to the second breaker, substantially as set forth.

61,220.—JAMES W. MALOY, Boston, Mass., assignor to THE AMERICAN MARBLE-CUTTING COMPANY, same place.—*Stone Cutting Machine.*—January 15, 1867.—Improvement on his patent of April 11, 1866. As the cutter revolves its shaft has a vertical reciprocation imparted by the contact of its ratchet wheel and the stud on the stand, and thus the cutter is caused to strike continuously upon the stone.

Claim.—First, the combination with the revolving cutting tool *D* of the toothed wheel *H*, and projection *p*, or their equivalents, for imparting a reciprocating motion to the said cutting tool, as set forth.

Second, the combination of the vibrating shaft *F* with the movable bearing *l* and spring *S*, as and for the purpose set forth.

61,221.—SYLVESTER MARSH, Littleton, N. H.—*Cog Rail for Railroads.*—January 15, 1867.—Parallel bars of angle iron, at suitable intervals, afford bearings for the rollers, which form cogs in the rack, or cog rail, with which the gear of the car truck engages in ascending heavy grades.

Claim.—First, a ratchet or cog rail composed of cylindrical cogs, free to revolve upon their axes or trunnions, substantially as herein shown and described.

Second, a ratchet or cog rail constructed as described, forming the uprights which support the cogs or rollers of angle iron, substantially as herein shown and for the purposes set forth.

61,222.—HENRY MARTIN, Chicago, Ill., assignor to himself, A. N. TOWNE, and A. J. AMBLER.—*Metallic Safety Seal for Railroad Cars.*—January 15, 1867.—The metallic strip is to be attached to the fastenings of a car door in such a manner that the door cannot be opened without breaking the device.

Claim.—A metallic seal consisting of a tapering strip of metal, which is constructed for receiving an eyelet and having its ends secured together thereby, substantially as described.

61,223.—PETER MARTIN, Cincinnati, Ohio.—*Hot Air Furnace.*—January 15, 1867.—The construction of the stove and course of the calorific current may be understood by reference to the claims and illustration.

Claim.—First, the arrangement of the fire chamber *A*, the ash pit *F*, the series of descending flues *J J J* leading from the top of the fire chamber to the ash pit and the ascending flue *O*, leading directly into the discharge flue *O'*, all as herein described and for the purposes set forth.

Second, the combination of the elbows *K L*, collars *M* and flanges *N*, with the fireplace *A*, ash pit *F*, and flues *J* and *O*, as and for the purposes explained.

Third, the combination of the supporting crank *H*, lever *I*, and divided grate *G G'*, all constructed and arranged to operate as described.

Fourth, surmounting the fire chamber of a hot-air furnace with an arched and corrugated sheet-metal crown plate B b, as herein set forth.

Fifth, in combination with the elements of the first claim, the door Q and its accessories, when located as described and operating for the purpose set forth.

Sixth, the sliding shutter Y Z Z', constructed and employed as and for the purposes set forth.

61,224.—FRANZ O. MATTHIESSEN, Jersey City, N. J.—*Manufacture of Sugar.*—January 15, 1867.—The reticulated cylinder of the centrifugal machine discharges into a chamber which is connected by a swivel nozzle with either of two troughs, which receive the liquids discharged from the rotary cylinder.

Claim.—First, the process, substantially as herein described, of separating the products as discharged from the centrifugal machine by first running off the green syrup, and afterward the cleansing liquid or liquoring into distinct vessels or reservoirs for separate treatment or use, substantially as specified.

Second, the combination with the discharge spout D of the centrifugal machine of a swiveling spout E, or spouts controlled by a valve or valves, substantially as and for the purpose or purposes herein set forth.

61,225.—EDWARD MAYNARD, Tarrytown, N. Y.—*Priming Metallic Cartridges.*—January 15, 1867; antedated December 5, 1866.—A thin and shallow metallic cap covers the base of the metallic cartridge, and confines the fulminate at a single point therein, so that cartridges may be safely transported unprimed, and have the primed caps applied when desired.

Claim.—A primed metallic cap for the base of a cartridge when the fulminate is secured at a single point on the inner side of said cap and the priming point or receptacle does not project externally therefrom beyond its base, all substantially in the manner and for the purpose herein set forth.

61,226.—ALBERT MCALPINE, Pittston, Pa.—*Machine for Dressing Barrel Hoops.*—January 15, 1867.—The hoops are dressed to a thickness by means of a revolving cutter wheel, in connection with a guide block and pressure and feed roller.

Claim.—Dressing barrel hoops their entire length to a thickness by the cutter wheel B, when arranged to operate with the guide or head block H, pressure roller U, and feed roller L, all constructed substantially as described.

61,227.—JAMES R. MCCLINTOCK and JOHN K. SCOTT, New Orleans, La.—*Dredging Machine.*—January 15, 1867.—The apparatus has a stirrer for loosening the mud, &c., and a pump for introducing a stream of water to disperse it, for the purpose of deepening a river channel or removing a bar.

Claim.—First, the adjustable frame work or guide C for adjusting and holding in proper position the lower ends of the pipes or hose B, and for supporting the stirrer D, when the same is used as described for the purpose set forth.

Second, the combination of the adjustable guide C, with the pipes or hose B and forcing pumps A, as described for the purpose set forth.

Third, the combination of the forcing pumps A, pipes or hose B, adjustable guide C, with the stirrer D, or its mechanical equivalent, substantially as described for the purpose set forth.

61,228.—LEANDER J. McCORMICK and LAMBERT ERPELDING, Chicago, Ill., assignors to LEANDER J. McCORMICK.—*Harvester.*—January 15, 1867.—In this hinge-joint harvester the tongue is rigidly secured to the main frame, which is mounted upon two driving wheels. One end of the finger beam is hinged to the rear end of the supplementary frame, which is hinged to the forward part of the main frame. The cutting apparatus has a vertical and axial movement independent of the main frame. The motions are obtained by a lifting and locking lever and a rocking lever.

Claim.—First, the combination, as set forth, of the main frame, supplementary frame, and hinged and pivoted finger beam, all constructed and arranged as described.

Second, the combination of the supplementary frame, the hinged finger beam, and the coupling arm

with the rocking lever, when arranged for joint operation, as described.

Third, the combination of the shoe O, locking piece r, and crescent cam s, with the lever S, all arranged as described for the purposes both of locking the finger beam and lifting it horizontally.

Fourth, the combination with the main and supplementary frames of the hinged finger beam, the locking lever, the coupling bar Q, and the rocking lever, all arranged and operating as described.

Fifth, the combination of the cross piece N and coupling bar Q, with the shoe O, constructed and arranged as described.

61,229.—ROYAL B. MILLIKIN, Springfield, Vt.—*Pocket Knife.*—January 15, 1867; antedated January 5, 1867.—One part of the handle swings upon the blade pivot and exposes the photograph.

Claim.—A knife handle in two parts, connected one to the other and to the blade, and otherwise constructed substantially as described.

61,230.—SIMEON MILLS, Madison, Wis.—*Thill Coupling.*—January 15, 1867.—The socket to which the thill is attached is solid with the exception of the slot which admits the pivot. The socket may be attached to the draw bar or to the clip. The slide which closes the slot through which the pivot enters is fastened in position by the end flanges of the thill irons.

Claim.—First, the socket D formed solid with the exception of the slot for the pivot, substantially as described, whether fastened to the draw bar or clip, or an axle band.

Second, the combination of the solid socket D, slide F, and flanges b b, on the thill iron.

61,231.—THOMAS S. MINNISS, Meadville, Pa.—*Locomotive for Plowing, &c.*—January 15, 1867.—The traction engine has an endless track hinged outwardly, with vertical flanges for supporting the wheels or trucks. The clutches are separately operable by levers pivoted on the axles, and act to engage or release the driving wheels. The platform has a cam lever for raising and a caster wheel for guiding.

Claim.—First, an endless chain or track composed of plates B, hinged as described, with vertical flanges E and truck C, in combination with the frame track A and wheel D, as and for the purpose set forth.

Second, the clutch M, operated by lever N, in described combination with wheel D and endless chain or track, for the purpose specified.

Third, the platform O with guide wheel H, arm J, and cam-headed lever I, as and for the purpose set forth.

61,232.—STEPHEN MOULTON, Hartford, Conn.—*Sewing Machine Shuttle.*—January 15, 1867.—Explained by the claims and illustration.

Claim.—First, a shuttle for sewing machines in which the removable bobbin C and adjustable tension spring D are arranged in the manner shown upon a plate A, which is pivoted to case B in such a manner as to cover and protect the parts named, and the thread, when in use, and also that the parts named may be readily exposed for renewal of the threads or adjustment of the tension spring by means of the screw H, substantially as shown.

Second, the manner of arranging the tension spring D, so as to form a bearing for the spring z, which holds the bobbin in place, said spring being inserted in a hole drilled directly through one end of the bobbin support A.

61,233.—JEREMIAH MYERS, Dorchester, Mass.—*Glassware Press.*—January 15, 1867.—The plunger of this press, for forming hollow glassware, is operated by eccentric segment gears which give a rapid motion to the plunger at the earlier portion of the stroke, and a slower but more powerful effect at and near the conclusion of the stroke.

Claim.—The arrangement and combination of the eccentric segment gears n and r, with the platen or plunger c, connecting rods l, and lever s, the whole being connected to operate together substantially as set forth.

61,234.—MYER MYERS, MAURICE MYERS, and WILLIAM HILL, Birmingham, England.—*Apparatus for the use of Smokers.*—January 15, 1867.—The cutter is intended for removing the tip end of the cigar, and the stiletto to act as a probe in making a draft opening, or in connection with an elastic cord as a cigar holder.

Claim.—The sliding, cutting edges, defined as *d* and *g*, and the connecting of the same with a stiletto and means for expanding and holding the parts in position, substantially in the manner and for the purpose set forth.

61,235.—PETER MYERS, Newton, Ill.—*Thill Coupling.*—January 15, 1867.—The thill is hooked to the clips when the forward ends are depressed below their working position, and plates on the ends of the thill iron are thrust forward by springs to prevent rattling.

Claim.—The construction and arrangement of the coupling iron *J*, spring *E*, follower *F*, thill iron *G*, safety button or spring *C*, and grooves *P P*, all for the purposes as above set forth.

61,236.—A. F. NATHAN, New Haven, Conn.—*Skirt Elevator.*—January 15, 1867.—A three-barred slide is placed at a fixed point upon the skirt, and a tape attached to a lower point upon the skirt is passed through the slide and held at the required adjustment.

Claim.—The arrangement of the slide *A* upon the loop *B*, in the manner described, in combination with the tape *C*, substantially as herein set forth.

61,237.—CHARLES NEER, Brooklyn, N. Y.—*Dynamometer.*—January 15, 1867.—The apparatus is designed to ascertain the strain or power exerted in a revolving mechanism where the extent of movement or distance traveled becomes an element in the calculation. The peripheral power scale is combined with a steelyard or other measure of actual force, and the power exerted can be determined by inspection and calculation based upon the number of revolutions.

Claim.—First, the peripheral power scale *e*, in combination with the chain *i* and a steelyard or other measure of actual force, the parts being constructed and combined substantially as and for the purposes set forth.

Second, constructing the steelyard carrier *f* in two parts so as to apply the dynamometer to a shaft without removing it from its bearings, substantially as set forth.

Third, the ring *2* and columns *1*, in combination with the peripheral power scale *e*, for connecting the same to the coupling *c*, as set forth.

Fourth, the power indicator *n* and fork *6*, combined with steelyard head *h*, for the purposes as set forth.

Fifth, the dial *q*, applied to indicate the proportion of speed in combination with the indicator *n*, so as to determine the actual power consumed, substantially as set forth.

Sixth, the friction tester, consisting of the cylinder *r*, the boxes *s t*, in combination with the dynamometer, substantially as and for the purposes set forth.

61,238.—ANTHONY NULSEN, E. HAUZEISEN, and ALBERT WAGNER, Cincinnati, Ohio, assignors to A. NULSEN & Co., same place.—*Brick Machine.*—January 15, 1867.—The clay from the hopper is passed out at the throat by the traveling bottom, and thence between rollers and counterpart traveling bands which form a spout to deliver it into the molds on the endless traveling apron beneath. The latter is operated by claws on an oscillating side frame.

Claim.—First, in the described combination, the hopper *B*, traveling bottom *E*, rollers *C D* and *F*, throat *II*, and shaver or knife *G*, for the purpose set forth.

Second, the compressing rollers *N N'*, when combined with the trunk composed of the two endless aprons *Q Q'*, rollers *R R'*, and back boards *S S'*.

Third, the combination of trunk *Q Q'*, *R R' S S'*, and conducting and separating throat *T U U'*.

Fourth, the described combination of separating throat *T U u*, reciprocating knife *9*, and removable molds *3*.

Fifth, the endless carrier *Y Y' Z z 1*, when combined with the reciprocating hooks or claws *5*, substantially as described.

61,239.—ENOCH OSGOOD, Boston, Mass.—*Cotton Gin and Picker.*—January 15, 1867.—The cylinder is composed of alternate disks of cloth and rubber secured firmly upon a shaft. The cotton is drawn in by the revolution of the cylinder between it and a stationary blade. The seeds are separated by the action of two vibrating toothed clearers.

Claim.—First, the elastic roller *B*, made of rubber and cloth, the latter running edgewise from the center or core to or toward the outer circumference with the flanged metallic rings between the several compound rings as described, the same constructed and operating in the manner as shown and described, and for the purpose set forth.

Second, the elastic roller *B*, made of rubber and cloth wound around its shaft or core spirally, with strips in the manner described and for the purpose set forth.

Third, the combination of elastic roller *B* with the concave bar *C*.

Fourth, the combination of elastic rollers *B B* with the double concave or angular bar *L*, and clearer *M*, as described.

Fifth, the combination of elastic roller *B*, corrugated clearers *D D*, and concave bar *C*, as described.

Sixth, the combination of elastic roller *B*, revolving clearer *E*, and concave *C*, as described.

Seventh, the combination of picking cylinder *P'*, cylinders *v v* and *w*, belts *L L'*, rack *K*, elastic roller *B*, and revolving clearer *E*, constructed, arranged, and operating in the manner substantially as described and for the purpose set forth.

Eighth, in combination with the clearers *D D* the pitman *e*, constructed and operating in the manner shown and described, and for the purpose set forth.

Ninth, the combination of the elastic roller *B* with the revolving doffer *Z*, constructed, arranged, and operating in the manner substantially as shown and described, and for the purpose set forth.

61,240.—B. OWEN and B. PICKERING, Dayton, Ohio.—*Combined Tongs, Lid Lifter, Hook, &c.*—January 15, 1867.—One portion has a divaricated end, and the jaw on the other portion acts against one prong of the former.

Claim.—The above described lid lifter as a new article of manufacture, the same being constructed and used substantially in the manner and for the purposes set forth.

61,241.—ISAAC T. PACKARD, Chicago, Ill.—*Reed and Pipe Musical Instrument.*—January 15, 1867.—The lever and tracker, in the action work of reed and pipe musical instruments, are connected by an elastic band secured around the respective pieces by notches or pins.

Claim.—The use of an elastic band, or its equivalent, for the purpose herein described and set forth.

61,242.—H. H. PALMER, Rockford, Ill.—*Bed Bottom.*—January 15, 1867.—The series of slats are connected by flexible strips which are attached to springs coiled around the side rails.

Claim.—A spring bed bottom composed of a series of parallel wooden slats *D*, connected near their ends by strips *b*, of leather or other suitable flexible material, with wire springs *C* attached to the head and foot pieces *a a* of the frame *A*, and connected to the strips *b* centrally between the slats *D*, substantially as set forth.

61,243.—SIDNEY PARKER, Chicago, Ill.—*Railroad Frog.*—January 15, 1867.—The steel rails are imbedded in and riveted to a block which rests on the bed plate.

Claim.—A railroad frog consisting of the bed plate *B*, plate *A*, and the steel rails *x y* and *z*, combined and constructed as herein shown and described.

61,244.—EDUARDO JUANES Y PATRULLO, New York, N. Y.—*Machine for Preparing the Fiber of Plants.*—January 15, 1867.—Improvement on his patents of March 5, 1861; April 23, 1861; and April 23, 1863. The machine is intended for operating upon tropical plants. The devices are for adjusting the pressure of the apron against the fibrous material when operated upon by the beaters of the drum.

Claim.—The combination of the apron *C* with the sliding frame *D*, operated by the lever *E*, and ar-

ranged substantially as and for the purpose herein described.

61,245.—R. R. PATTISON, Chicago, Ill.—*Knife Cleaner*.—January 15, 1867.—The knife handles are clamped and protected in a box, the blades are exposed in a row to the action of the reciprocating rubber above.

Claim.—First, the bed or cushion J, or its equivalent, upon which the knives, &c., are laid to be acted upon by the scourer, in combination with the cleaning material box or reservoir L, when the two are combined substantially as and for the purpose specified.

Second, the holder M, for the handles of the knives or forks, &c., made in a box form and provided with a cover, plate, or board Q, so hung thereto as to accommodate itself to handles of varying thicknesses, substantially as described.

61,246.—JAMES B. PELTON, Sandusky, N. Y., assignor to D. H. WOOD, same place.—*Carriage Brace*.—January 15, 1867.—Explained by the claim and illustration.

Claim.—The combination and arrangement of the braces G with the ordinary elliptic springs C and the body A, in the manner shown and described, that is to say, the braces forming simple bars attaching to the body and connecting with the upper half of the elliptic springs, so that while both the body and spring are united and braced against rocking and swaying, the springs are unnumbered and allowed their natural, free, and unimpeded elastic action, and the bars hidden from sight, as herein set forth.

61,247.—GEORGE G. PERCIVAL, Brooklyn, N. Y.—*Lighting Gas by Electricity*.—January 15, 1867.—Explained by the claim.

Claim.—The attachment to a gas burner of any kind, or the fixtures thereof, of a secondary pile, which may be charged, as it were, with voltaic electricity, by being properly connected with any suitable source of electricity, and which will retain the charge until given off from time to time, as may be required for the purpose of lighting the gas, the whole substantially as herein described.

61,248.—RUSSELL PHILLIPS, Gardiner, Me.—*Carpenters' Gauge*.—January 15, 1867.—Two gauge heads are secured upon the gauge rod, and slide thereon; they are so arranged that one head will slide past the other.

Claim.—The combination of the stock having the grooves and rails and the two slides on its opposite sides, the slides having the recesses, the lips, the projections and thumb screws, as and for the purposes herein set forth.

61,249.—D'ARCY PORTER, Cleveland, Ohio, assignor to G. S. NEWCOMB & Co.—*Scissors Sharpener*.—January 15, 1867.—The cutter is adjustably attached to an oblique face on the arm of the stock; the gauge is regulated by points, and a set screw on its slotted shank.

Claim.—The adjustable knife C, arm B and stand A, in combination with the gauge D, points a, and screw E, arranged in the manner and for the purpose set forth.

61,250.—IRA W. PRAY and EDWARD FITZHENRY, Portland, Oregon.—*Machine for Scouring Leather*.—January 15, 1867.—Dually arranged sets of articulated rubbers or scrapers are alternately brought into action by the reciprocating motion of a crank.

Claim.—First, a mechanism by which dually arranged sets of rubbers or scrapers L, in a machine for finishing leather, may alternately be brought into action by the reciprocating motion of a crank, substantially in the manner set forth.

Second, in combination with the crank N' and pitman N, the frame A, pivoted substantially in the manner and for the purpose set forth.

Third, in combination with the hinged arms H, with or without the arms I, with the springs K, the parts being constructed and arranged for use substantially as set forth.

Fourth, the springs K, pivoted cross-pieces K' and levers O, in combination with the hinged arms H and I, substantially as and for the purpose set forth.

Fifth, in combination with the table G, we claim the roller E, adjustably suspended by the rods E' and cross bar F, substantially as and for the purpose set forth.

61,251.—THOMAS REECE and ARTHUR CLANKE, Philadelphia, Pa.—*Lemon Squeezer*.—January 15, 1867.—The bulb has flanges which shut upon the rim of the cup, and confine the lemon, whose juice exudes through the slots in the cup.

Claim.—The combination of the two handles C and D, hinged together as shown with the two cups A and B, one provided with a slotted recess, and the other with a flange d, the several parts being constructed and used as and for the purpose herein set forth.

61,252.—H. N. RELYEA, Warsaw, N. Y., assignor to himself and MILLS L. RICE.—*Mill Pick*.—January 15, 1867.—The head is made of malleable iron, and of a truncated diamond form; each end has a wedging socket to receive the shank of a steel blade, which can be detached by a flat-sided wedging key, inserted in a hole through the head, coinciding with the joint between the socket and blade.

Claim.—The diamond-shaped truncated head A, formed of malleable metal, and provided with sockets a a and transverse holes b b, in combination with the hardened blades B B and key c, constructed and arranged substantially and for the purposes set forth.

61,253.—WILLIAM JONES RHEES, Washington, D. C.—*Frame for Artificial Slates*.—January 15, 1867.—The hollow in the frame forms a receptacle for pencils, &c., and the sliding lid is marked to form a scale. The slate frame is also graduated.

Claim.—First, the combination of a hollow in a slate frame, to be used as a receptacle for pencils, sharpeners, and other utensils, with a suitable covering constituting a ruler and gauge, substantially as described.

Second, marking upon said ruler, so arranged, measures of length, substantially as shown and described.

Third, marking upon the frame of a slate measures of length, substantially as described.

61,254.—WILLIAM J. RHEES, Washington, D. C.—*Frame for Slates*.—January 15, 1867.—The frame of the slate is made of boxes, which form receptacles for pencils, &c.; upon the hinged lids are inscribed measures, copies, &c.

Claim.—First, making the frame to a slate of a box or boxes, as and for the purpose substantially as described.

Second, using the box frame of a slate as a receptacle for pencils, rulers, sponge, or any other utensils or other articles, substantially as described.

Third, dividing the box frame of a slate into compartments, as and for the purposes described.

Fourth, making letters, drawings, and measures of length on the box frame of a slate, either outside or inside.

61,255.—WILLIAM RHEINER and L. H. WOLFF, Detroit, Mich.—*Apparatus for Inserting Corks*.—January 15, 1867.—The base piece has at one end a standard, which serves as a bearing for the end of the lever, and at the other end a tube extending through the base piece. A plunger is attached to the lever by a curved rod, and serves to push the cork into the mouth of the bottle.

Claim.—First, the combination and arrangement of the base B, cone A, standard a, holder C, lever D, and plunger b b', in the manner and for the purpose described.

Second, hinging the top F to the part E, and fitting the plunger to said hinged part F, all in the manner shown and described.

61,256.—GILBERT RICHARDS, Cummington, Mass.—*Dish Washing Machine*.—January 15, 1867.—The dishes rest against the inclined screen, and the water is dashed against them by the revolving paddle.

Claim.—The combination and arrangement of the wire screen G, extending longitudinally of the cylindrical vessel A, from one end to the other thereof, the horizontal winged shaft E, and gear wheels C and D with each other, and with the cylindrical vessel A, as herein described and for the purpose specified.

61,257.—GEORGE S. RICHARDSON, Stow, Ohio.—*Fruit Picker.*—January 15, 1867.—The wire basket is mounted upon a pole with guards of unequal length, which are caused to embrace the stem of the fruit, separate it from the branch, and guide it into the pocket.

Claim.—The guards B of unequal lengths, and single curved fingers B, connected with the hoops or bands A, in combination with the socket rings F, bag D, and staff or handle, arranged in relation to each other as and for the purpose specified.

61,258.—JOHN W. RICHARDSON, Sligo, Ohio.—*Harrow.*—January 15, 1867.—The blades present a salient curved edge to divide the clods, are capable of horizontal rotation in their sockets, and of elevation in a gang by the rotation of their common shaft, for the purpose of clearing them of collected trash, or of raising them into a position for transportation clear of the ground.

Claim.—First, the provision in a harrow of the cimeter-shaped blades J, adapted to revolve on their shanks or axes, boxed within the frame, when employed with the chambered metallic boxes H, constructed as represented in figure 2, for the purpose explained.

Second, the arrangement in a mounted or wheel-supported harrow, of one or more shafts K K', journaled transversely of the frame, and armed with teeth or blades L, in combination with the notched rod Q, projection Q, lever N, and treadle R, as and for the purpose set forth.

Third, in combination with the elements of the clause immediately preceding, the handle S, on the rear part of the rod O, for the several objects stated.

61,259.—S. RICHARDSON, Jericho, and J. S. ADAMS, Burlington, Vt.—*Potato Digger.*—January 15, 1867.—The share passes under the hill of potatoes, and throws the dirt and potatoes into a rodded cylinder through which the dirt is sifted. The cylinder is revolved by one of the two wheels which carry the apparatus.

Claim.—The combination of the digger B, cylinder gauge wheels D D' and supporting wheels E E', arranged and operating substantially as described.

61,260.—J. B. RIPPON, Kendall, N. Y.—*Whiffletree Attachment to Plovs.*—January 15, 1867.—The wheels on the ends of the whiffletree enable it to pass the trunks of fruit trees without injuring the bark.

Claim.—The application of the wheel A projecting beyond the end of the whiffletree, as shown in figure 1.

Also, the brace B and pivot a, for the purpose of securing the wheel to the whiffletree, substantially as herein described.

Also, in combination with the wheel A, the long staple C, for the purpose herein set forth.

Also, the special arrangement and combination of the whole thing as herein set forth.

61,261.—WILLIAM H. RODGERS, Brooklyn, N. Y.—*Machine for Covering Wire with Fine Wire.*—January 15, 1867.—The head for the wire is independent from, but in line with, the axis of the revolving head, which carries spools of fine wire to be wound around the wire which is fed along the axis of revolution. The tension is obtained by passing the wire around grooved rollers.

Claim.—The hollow fixed head I, separated from the hollow axis b, in combination with the revolving head, carrying the spools or bobbins of fine wire, and revolved around the axis b, as and for the purposes set forth.

Also, the grooved rollers g, in combination with the revolving head and spools around which rollers g the fine covering wire is wound, to give the required tension from the friction, as set forth.

61,262.—D. E. ROSE, Cincinnati, Ohio.—*Amalgamator.*—January 15, 1867.—The vessel is suspended in a furnace through which extends an inclined tube, which discharges its contents near the bottom. The tube has a propelling screw having a shoulder and elastic collar at its bearing, and a grinding plate at its lower end, which works against a grinding surface attached to the lower end of the tube. Above the

mouth of the vessel is a wheel which removes the waste ore as it rises to the surface of the molten lead.

Claim.—First, the combination of the spring bearing H and inclined sectional shaft B, provided with spiral flange, revolving in the case X, which enters the kettle E near the bottom, substantially as described.

Second, combination of the inclined casing X, provided at its lower end with stationary grinding flange D, and the shaft B, provided with a grinding disk C, introduced through the side of the kettle and operating near its bottom, substantially as described.

Third, in combination with the kettle, arranged as described, the revolving paddle G, as described and represented.

61,263.—A. P. ROUTH, Liberty Mills, Va.—*Draining Machine.*—January 15, 1867.—Explained by the claim and illustration.

Claim.—The adjustable flaring wings G G, applied to the double mold board D in the manner described, and operating to clear away the dirt from the edges of the ditch, as and for the purpose set forth.

61,264.—GILBERT J. RUGG, Worcester, Mass.—*Planing Machine.*—January 15, 1867.—From the feed roller of the planing machine weighted levers are suspended by stirrups, which permit the rollers to be regulated by a crank, or raised or lowered by the inequalities of the board, while preserving the uniform power of the weight upon the roller.

Claim.—The combination of the lever F with roll D, cross-piece G, and rods b and c, when constructed and operating substantially as shown and set forth.

61,265.—WILLIAM G. RULE, New York, N. Y.—*Legging.*—January 15, 1867.—The elastic metal frame has a covering of any suitable material, and, being flexible, is opened and clasped around the leg which it embraces.

Claim.—The combination of the elastic metal frame, substantially as described, with the covering of the same, whether made of leather or other material, for the purpose of making spatterdashes as set forth.

61,266.—ROBERT SANDERSON, Cleveland, Ohio.—*Steam Governor.*—January 15, 1867.—By means of the arrangement of an auxiliary lever and yoke and connected devices, the steam is cut off when, by an accident to or breakage of the governor, a full head of steam is inopportunistly admitted.

Claim.—The auxiliary lever O, yoke N, and pivot joint b', extending through the lever M, in combination with the lever J, pawls K K', lifting toes H, bail P, and yoke L, as and for the purpose set forth.

61,267.—A. T. SCHMIDT, Pittsburg, Pa.—*Manufacture of Paper and Treatment of Paper Pulp.*—January 15, 1867.—The pulp, paper, or cloth is treated with a composition of glycerine, 1; oil of vitriol, 1; and water 9 parts, to strengthen it and to enable it to resist the action of water, acids, and alkalis.

Claim.—The process hereinbefore described of treating paper, paper pulp, and textile fabrics of vegetable fiber with a mixture of glycerine, oil of vitriol, and water, and subsequently with an alkaline bath, or the equivalent of such process, substantially as and for the purposes hereinbefore described.

61,268.—THOMAS D. SHAW, Westfield, Ohio.—*Churn.*—January 15, 1867.—The dashers are provided with tubes inclining from each other, and are revolved, one within the other, in opposite directions, by separate pinions actuated by a common spur wheel.

Claim.—The dashers I and J, provided with tubes L M, in combination with the sleeve N, shaft K, and operating conjointly by the gearings O P and G, as and for the purpose set forth.

61,269.—CHARLES C. SHORT, Osgood, Ind.—*Automatic Fly Brush and Fan.*—January 15, 1867.—The extension arms are hooked on to the hub on the end of the vertical axis, which is revolved by gearing and a spring.

Claim.—The combination and arrangement of the shaft H, automatically actuated by clockwork, and the cross-head H', screw-head I, and the extension arms K K', attached adjustably to the cross-head by hooks K'', substantially as and for the purpose set forth.

61,270.—ISAAC M. SINGER, Yonkers, N. Y.—*Sewing Machine.*—January 15, 1867.—Improvement on Singer's patent of December 11, 1866. A central delivery oscillating shuttle is used. A round needle bar and round presser bar are so connected that each prevents the other from turning. The shuttle, while entering the loop, is relieved of the rubbing action of its guide. The shuttle point is in a plane with one of its sides. The thread extends from the shuttle throat in a line diverging from the track of the needle point. An ear projecting from the butt of the shuttle gives it a broader wearing surface. The bobbin is held in the shuttle by a removable spring-ring, fitting in an annular groove; a branch of the same ring gives tension. Paper, cloth, &c., are interposed between the bobbin and the shuttle. The height to which the feed surface may be raised is made variable. The extent of feed in opposite directions is made determinable.

Claim.—First, the combination of a round needle bar and a round presser foot stem, by means of sliding brackets, substantially as set forth.

Second, the combination of a reciprocating spring shuttle holder with a shuttle guide in such manner that the former, while moving with the shuttle, is caused, during a part of its movement, to press strongly against the shuttle, by the action of the shuttle guide, substantially as set forth.

Third, the combination of a shuttle constructed to oscillate in a sewing machine, with a projecting thread guide for the delivery of thread, substantially as set forth.

Fourth, the construction in a sewing machine of the lateral support for the oscillating shuttle, with a central opening, substantially as set forth.

Fifth, the shuttle constructed with an ear, projecting at its butt, beyond the bobbin socket, substantially as set forth.

Sixth, the combination of the shuttle with a spring-ring so arranged as to hold the bobbin in its socket in the shuttle, substantially as set forth.

Seventh, the combination of the shuttle with a spring-ring provided with a branch to make pressure upon the bobbin, substantially as set forth.

Eighth, the combination of the shuttle with a lining in the bottom of its bobbin socket, substantially as set forth.

Ninth, the combination of the shuttle with a hoop lining in its bobbin socket, substantially as set forth.

Tenth, the combination of several sections of a sectional thread tension, with one movable stock, substantially as set forth.

Eleventh, the combination of the arm of the thread take-up with its stock by means of an adjustable connection, substantially as set forth.

Twelfth, the combination of the regulating lever of a reversible feed mechanism, with a stock carried by said lever, substantially as set forth.

Thirteenth, the combination of the turning regulating plate and feeding instrument of a sewing machine, by means of a bent reciprocating bar, substantially as set forth.

61,271.—HENRY SLATTER, Covington, Ky.—*Composition Fuel.*—January 15, 1867.—Composed of mineral tar diluted with quicklime and water and mixed with fine coal dust, charcoal dust, sawdust, chaff, and 10 per cent. of coarse sand. Mold into blocks.

Claim.—The composition fuel composed and compounded as set forth.

61,272.—ANDREW J. SMITH, New York, N. Y.—*Grain Binder.*—January 15, 1867.—A foot lever is provided at the opening of the gathering frame, the same having notched arms extending in front, upon which the gavel is raked and by which it is carried up within reach of the gathering arm. The twisting device is attached to a block which slides in a slot in the bottom of the frame, and it is provided with gear-wheels which are rotated by a rack at the side of the slots, as the block is carried backward by the gathering arm.

Claim.—First, the lever F, provided with the notched forks E, when arranged and used as and for the purpose herein set forth.

Second, the sliding gear block K, constructed, arranged, and operating substantially as and for the purpose herein specified.

61,273.—ELLIS F. SMITH, Orangeville, Ill.—*Corn Planter.*—January 15, 1867.—One wheel has marking studs on its rim, and on its inner face has a bevel wheel which gears into a pinion connected to the seed slide. A certain proportion is maintained in the construction of the parts, so that the seed drops while a marker is on the ground.

Claim.—The traction wheel A', provided with the markers c c c, in combination with the gear wheels C and D, so constructed that a hill will be planted when the marker is on the ground, for the purposes and substantially as described.

61,274.—SYRANUS STANDISH, Pacheco, Cal.—*Amalgamator.*—January 15, 1867.—The muller arms are formed with curved flanges, and have shoes attached by means of pins which are secured in slots in the muller arms by means of heads. The edge of each shoe is formed with a curved peripheral flange.

Claim.—First, the spiral-shaped flanges or lips M of the rotating muller arms L, substantially as and for the purposes specified.

Second, the shoes M² hung to the muller arms L, so as to be susceptible of a lateral play upon such arms, substantially as and for the purpose described.

Third, the shoes M², having spiral-shaped flanges or lips O upon their outer ends, as and for the purpose set forth.

61,275.—A. F. STAYMAN, Baltimore, Md., assignor to self, J. W. HODGES, and P. DE MURGUIONDO.—*Utilizing Tobacco Dust.*—January 15, 1867.—The tobacco dust is moistened, aggregated, and granulated or pressed into sheets or cakes. The cakes are broken into grains of proper size for smoking, or the aggregated particles may be pressed into cakes of proper size to fit into a pipe.

Claim.—First, the utilizing of tobacco dust, substantially as herein described.

Second, the process herein described of preparing tobacco dust for use.

Third, a material for smoking composed of tobacco dust, prepared in any of the methods herein described, or in any equivalent manner.

Fourth, a granulated smoking tobacco composed of tobacco dust, treated substantially as herein set forth.

Fifth, as a new article of manufacture, the smoking tobacco, composed principally of tobacco dust, and prepared substantially as herein described, whether the same be used in a granular or solid form.

61,276.—O. F. STEDMAN, Ravenna, Ohio.—*Watch Case.*—January 15, 1867.—Inserted into the case of a watch is a broad circular spring which prevents the entrance of dust into the works.

Claim.—The spring L, as arranged in combination with the watch case, in the manner and for the purpose as herein set forth.

61,277.—ELI STUBBS, West Elkton, Ohio.—*Machine for Filing Saws.*—January 15, 1867.—A frame is clamped to the saw plate, and has hinged arms that can be adjusted to the bevel to act as guides in filing the teeth of the saw, whose back rests against the set screws in the clamp.

Claim.—The adjustable clamp A, in combination with the hinged adjustable guides B B, constructed and arranged as described, as a new article of manufacture, applied and used in the manner specified.

61,278.—JAMES H. STURDY, Attleboro', Mass.—*Steam Generator.*—January 15, 1867.—The generator has helical ascending and descending flues arranged to extend around its surface, and communicating at their upper ends, so that the products of combustion which ascend through one flue shall descend through the adjoining one. A cap placed on the upper end of the flue has central passages for the purpose of changing the direction of the gases.

Claim.—A boiler constructed with helical ascending and descending grooves or flues, arranged to extend around it, and made to communicate at or near their upper extremities, substantially as set forth.

Also, the cap B, as made with the central passage g, and one or more chambers e f, the same being arranged in it, substantially in the manner and for the purpose as specified.

Also, the combination of the cap B, or its equivalent, with the boiler formed with two or any other

greater number of helical flues arranged in it, substantially as described.

61,279.—JAMES R. TAYLOR, New York, N. Y.—*Boat Detaching Tackle.*—January 15, 1867.—The eyes of the davit fall blocks are engaged by pivoted hooks at the stem and stern respectively of the boat. The hooks are detained by links, which are simultaneously withdrawn by lever connection with a rotating shaft amidships.

Claim.—Combining with the central windlass or shaft C, and the hooks or bolts *i i'* at the ends of the boat, the rods, levers, and links *b b' d d' f f'* and *g g'* for connecting and detaching boats, substantially as herein described and represented.

61,280.—JAMES R. TAYLOR, New York, N. Y.—*Boat Detaching Tackle.*—January 15, 1867.—The ring-bolt which depends from the fall block is secured to the seat by a latch, which passes through its slotted shank. Anti-friction rollers in a boxing beneath the seat, and in the shank of the bolt, assist the operation of withdrawing the latch.

Claim.—In a boat connecting and detaching apparatus the combination of the slotted ring bolt key and friction rollers arranged to operate together, substantially as herein described and for the purpose set forth.

61,281.—JAMES R. TAYLOR, New York, N. Y.—*Boat Detaching Tackle.*—January 15, 1867.—The hook of the davit fall block engages the ring-bolt on the seat of the boat, and has an extended lever by which it is forcibly rotated to disengage itself from the said ring. A prong on the hook limits its motion in the other direction.

Claim.—In connection with the hook in the davit block, and the ring in the boat, the lever A, with its foot piece *c*, the whole constructed, arranged, and operating in connection therewith, substantially as described.

61,282.—E. S. TORREY, New York, N. Y.—*Elastic Tip for Legs of Furniture.*—January 15, 1867.—The elastic shoe is embraced by the flanges on the divided socket, whose shank enters the vertical axial hole in the leg of the piece of furniture.

Claim.—The combination of soft elastic tips and divided sockets, substantially as herein set forth, for connecting said elastic tips with furniture as above described.

61,283.—JAMES W. TRUMAN, Macon, Ga.—*Tobacco Pipe.*—January 15, 1867.—The flange of the metallic tube holds the conical rubber packing, which forms an extension of the stem, and enters the socket of the bowl.

Claim.—The combination of the flanged tube *b* and rubber packing A, with the pipe stem B, substantially as and for the purpose herein shown and described.

61,284.—PHILO B. TYLER and WILLIAM M. CHANDLER, Springfield, Mass., and L. F. STANDISH, Chicopee, Mass., assignors to REPEATING LIGHT COMPANY, Springfield, Mass.—*Apparatus for Lighting Lamps, Gas Burners, &c.*—January 15, 1867.—For the purpose of lighting without removal of the chimney or globe, a continuous or repeating match is fed by a wheel to the igniter device, which consists of a vibrating arm or roughened surface against which the match impinges.

Claim.—The tube and its appendages for holding and controlling a continuous or repeating match, substantially as herein described, in combination with the wick tube or equivalent gas burner and an igniter, substantially as described and for the purpose specified.

61,285.—SAMUEL S. UTTER, New York, N. Y.—*Cooking Stove.*—January 15, 1867.—Air passes in through holes in the rear plates, and by pipes to the lower part of the oven; traversing the latter it enters a chamber behind the fire box, and thence passes into the fire, being heated in its passage, and forming the medium of removing the fumes from the oven.

Claim.—The air channels *g g*, arranged within the smoke channel *l l*, and employed in connection with the main chamber *e* and additional chamber *d*, as and for the purpose specified.

61,286.—T. VARNEY and A. RIX, San Francisco, Cal.—*Quartz Crusher.*—January 15, 1867.—The reciprocating jaw of the quartz crusher is operated by a toggle connected to the crank of a revolving shaft, the outward pressure being received upon the binder.

Claim.—Combined use of the wrought iron binder K, the toggle bar M and jaws B and E, constructed and arranged substantially in the manner and for the purposes set forth.

61,287.—GEORGE WAGNER, Washington, D. C.—*Boot and Shoe.*—January 15, 1867.—The front two-thirds of one side and the entire opposite side are formed of one piece of leather, and the other third of a side of another piece, leaving an opening on one side, covered by a flap, so that there will be no seams at places where they can rub the foot.

Claim.—The combination of the piece *a b c*, and the piece C, leaving the opening on the side covered by flap D, in the manner described for the purpose specified.

61,288.—W. W. WAKEMAN, Jr., New York, N. Y., and R. ROSS, Brooklyn, N. Y.—*Paint Burner.*—January 15, 1867.—The flame is projected obliquely upward upon the paint through the opening, one side of which is bounded by the edge of the hinged cover.

Claim.—First, the within described apparatus adapted for projecting flame obliquely in a central stream upon painted surfaces, and allowing of being moved about and tilted, substantially as and for the purpose herein set forth.

Second, the cover K *k*, in combination with the disk, formed and provided as above represented, and adapted to receive sufficient quantities of air at the sides, and to expose only a small area of the upper surface of the vessel through which the jet of flame may issue, substantially as and for the purpose herein specified.

61,289.—EDWIN WANT, New Haven, Conn.—*Eye Glass.*—January 15, 1867.—Explained by the claims and illustration.

Claim.—First, attaching the handle D and the arm E, each to their respective bows, and the spring F to the two bows in position relatively to the said handle and arm, so that when closed the two points at which the spring is attached and the two glasses correspond in position, the one with the other, in the manner herein described.

Second, attaching the spring to the bows by means of the square shoulder described, and the nut *t*, substantially as and for the purpose specified.

Third, the handle D and catch pin *d*, when formed in one and the same piece, as and for the purpose specified.

61,290.—WILLIAM WEAVER, Phoenixville, Pa.—*Vegetable Cutter.*—January 15, 1867.—The pinion engages the outer circular rack of the hopper, and the roots or fruit contained therein are thrust by the spiral flanges against the edges of the knives, which are attached to the bed plate.

Claim.—The cylindrical revolving hopper B, its spiral vanes *m*, the plate A and rounded knives *n n*, in combination with the annular rack *d* and pinion *e*, the whole being arranged and operating as set forth.

61,291.—WILLIAM C. WELLS, Parkersburg, West Va.—*Still for Petroleum.*—January 15, 1867.—The fire sheets are secured to the bottom of the still by means of a frame, which may be permanent while the plates are detached, and new ones substituted and secured by internal riveting. The calorific current in the furnace has a reverting action, and passes in contact with the whole bottom of the still.

Claim.—First, the framework B for the bottom of the still and to receive the fire sheets or plate, substantially as described and for the purpose specified.

Second, in combination with the bottom framework B of the still, the return flues G of the furnace, corresponding with the fire sheets C, substantially as and for the purpose described.

61,292.—GEORGE A. WHITE, Boston, Mass.—*Paint and Varnish Brush.*—January 15, 1867.—The binder holds the bristles in place, while the new brush is being "broken in," and forms a continuation of the ferrule. A collar of pasteboard is wrapped

with a binding cord, and the latter secured by the fender wires.

Claim.—Combining with the ferrule *a* the fender wires *c* and binder cord *d*, substantially as described; also in combination with such binder and the paper cylinder *e*, or its equivalent, substantially as set forth.

61,293.—JAMES M. WHITING, Providence, R. I.—*Carriage Hub.*—January 15, 1867.—Tapering collars of rubber are interposed between the tubular portions of the bronzed central portion and the sleeves which form the axle box and caps.

Claim.—First, a carriage hub, made with its central part for receiving the spokes and elastic cylinders of bronze, combined with the conical sleeves of iron, forming in two pieces the axle box and nut for comprising the elastic cylinders, and the external covering for these, and forming the two ends of the hub.

Second, the conical-shaped elastic cylinders or packing.

Third, the ventilated air space between the axle box and the packing.

Fourth, the lips and slots for preventing the turning of the sleeve in screwing and unscrewing, with the holes giving access to the external air, all made and operating substantially as described or their mechanical equivalents.

61,294.—SILAS M. WHITNEY, Galesburg, Ill.—*Cultivator.*—January 15, 1867.—The standards are secured by eyebolts and sockets to the beams, and are braced by eyebolts to angle pieces, fastened to advance points on the beam. The plow is steered by a caster wheel at the rear.

Claim.—First, the securing of the standard *D* to the beam *A* through the medium of the sockets *B* and screw bolts *C*, provided with eyes *a*, all constructed and arranged substantially in the manner as and for the purpose set forth.

Second, the braces *E*, applied to the beam and standards, substantially in the manner as and for the purpose specified.

Third, the caster or gauge wheel *H*, applied substantially in the manner as and for the purpose set forth.

61,295.—D. WIGHT, New London, Conn.—*Coal Scuttle.*—January 15, 1867.—The discharge spout is at the side near the base, and has a cover which is temporarily held up by a catch while coal is being discharged.

Claim.—A coal hod or scuttle, provided with a discharge opening or spout at or near its lower or bottom plate, for the removal of the coal therefrom, substantially as described.

61,296.—J. T. WILSON, East Liberty, and T. J. LOUIS, Port Perry, Pa.—*Car Coupling.*—January 15, 1867.—The pin is temporarily supported on the hook of a pivoted and counter-weighted latch, and by the contact with the latter of the entering link, the pin is freed, and becomes automatically engaged with the link.

Claim.—In combination with the draw bolt *d*, and the flanged or beveled face plate *b*, the coupling lever *e*, when hung from the upper bar of the coupling frame, so as to leave a free space for the reception of an extra link *o* and allow the connecting link *c* to slide back into the coupling frame when necessary, the parts being constructed and arranged substantially as and for the purpose above described.

61,297.—JAMES F. WINCHELL, Springfield, Ohio, assignor to himself, GEORGE C. STEEL, and L. A. SIMONS.—*Alarm for Money Drawers.*—January 15, 1867.—A cleat on the lower rear portion of the drawer engages a latch, and rings the bell, when the drawer is opened or closed. A treadle withdraws the latch to avoid the noise. A spring wire locks the drawer, and is unlocked by the motion of the knob.

Claim.—First, the combination of the drawer *B*, lever *D* and sliding block *F*, and spring *n*, with the bell *G*, all arranged and operating substantially as described.

Second, in combination with the above-named parts, the treadle *E*, for the purpose of enabling the drawer to be closed without sounding the alarm, as set forth.

Third, the locking device, consisting of the knob *C* and spring *b*, arranged to operate as set forth.

61,298.—ROBERT WOLFF, New York, N. Y., assignor to himself and JOHN H. THIELING.—*Brick Machine.*—January 15, 1867.—The tempered clay from the pug mill is admitted into pockets of given capacity, which are then closed. Plungers in said pockets press the clay therein, and on withdrawal of the covers discharge the bricks, which are transferred to endless aprons and removed.

Claim.—First, in connection with the mud box *A* and grinding shaft *B b*, the molding pocket *D*, sliding cover *k*, throat slide *H*, plunger *E*, levers *G I*, and cams *P R S*, all constructed, arranged, and operating substantially as and for the purpose herein described.

Second, a duplication of the above, in connection with a single mud box *a* and grinding device *B b b*, substantially in the manner and for the purpose hereinbefore described.

61,299.—ALBERT A. WOOD, Manlius, N. Y.—*Water Wheel.*—January 15, 1867.—The lips project down between the guide boards of the scroll, and are parallel with the surfaces of the guide board. The sides of the chute are parallel, and deliver the water in an unbroken stream.

Claim.—The adjustable chute-board or lip *b*, extending down between the guide curves, and parallel therewith to conduct the water in an unbroken stream, and always in the same direction upon the wheel, substantially as and for the purpose set forth.

61,300.—ALONZO WOOD, East Henrietta, N. Y.—*Fastener for Shirt Collar.*—January 15, 1866.—Pivoted spring jaws clamp the ends of the collar, and present a stud to the rear for the neck band of the collar, and one to the front for the attachment of the neck-tie.

Claim.—First, the combination of the spring clamping device *a b*, with the stud *l*, operating as described and for the purpose set forth.

Second, in combination with the spring clamping device *a b*, and the holding stud *l*, the stud or catch *n*, as and for the purpose specified.

61,301.—A. A. YEATMAN and J. M. MASON, Washington, D. C.—*Coal Hod.*—January 15, 1867.—A lifting device in the front part of the scuttle allows the dust to fall through into a receptacle at the lower part of the hod.

Claim.—First, placing a sieve *B* of suitable construction with the mouth of a coal bucket, so that the lump of coal may be passed over said sieve, and the dust thereof fall through it, as herein specified.

Second, the combination of the bucket *A*, with chamber *C*, forming shoulder *X* at its top and sieve *B*, when constructed and used substantially as herein specified.

61,302.—EDMUND YEISER and J. S. SHERTZ, Sheridan, Pa.—*Horse Hay Fork.*—January 15, 1867; antedated January 5, 1867.—To the upper end of the sliding bar are pivoted two arms, one extending beyond the case and forming a hand lever, and the other having a projection over which is forced a spring catch, when the sliding bar is thrust down to force out the prongs, thus locking the prongs in elevating position. One of the prongs is made longer than the other, and has a shoulder, within which the other shuts to prevent the hay from clogging.

Claim.—First, the metallic body *A*, provided with a sliding bar *B*, lever *E*, catch *F*, and boot *D*, arranged and operating substantially as herein specified.

Second, the spears *a* and *a'*, connected as described, spear *a'* being slightly longer than spear *a*, spear *a* shutting within a shoulder on the end of spear *a'* to form a perfect joint, the whole arranged and operating as and for the purposes set forth.

61,303.—JAMES YOCUM, JR., Philadelphia, Pa.—*Molding Flask.*—January 15, 1867; antedated January 5, 1867.—By the combination described the core may be formed at the same time as the mold, and retained in its proper position within the latter, avoiding the making of separate cores and of special supports therefor.

Claim.—The detachable bars *G*, with their arms or enlargements *g*, in combination with a molding flask, the whole being constructed and operating substantially as and for the purpose described.

61,304.—HENRY AEUER, Muscatine, Iowa.—*Cabbage Cutter.*—January 22, 1867.—The knives are attached to a horizontally rotating disk, and their curved edges lap so as to make two knives cut on any radial line. The hinged legs of the table may fold beneath the bed.

Claim.—First, the manner substantially as herein described and shown of arranging a series of scroll knives on a rotary bed, and beneath a stationary hopper, so that two or more knives are made to cut at the same time, under the same hoppers, as shown.

Second, the arrangement with a cabbage center bed, such as described, of the frame A B, with box E, hinged legs G G, guard board F, and bracket extension, substantially as described, and for the purposes set forth.

61,305.—CHARLES AUSTIN, Concord, N. H.—*Melodeon.*—January 22, 1867.—A supplementary lever beneath is operated by the depression of the ordinary upper lever and opens the valve keys of additional reeds to add their volume of sound to that of the main reeds.

Claim.—The arrangement as well as the combination, substantially as above specified, of a lever E and one or more additional reeds *i i*, and the operative apparatus thereof, as explained, with the exhaust chamber D and a main reed key A or B thereof, the same being so that on pressing down the said key for the purpose of opening the main reed valve thereof, the lever E shall be moved so as to put in operation each additional reed operative apparatus, whereby its reed or reeds may be sounded simultaneously with the main reed.

61,306.—EDWIN C. AUSTIN, Monroe Village, Wis.—*Tool for Cutting Moldings.*—January 22, 1867.—Side flanges on the cutting tool rest upon the wood and act as pressers to prevent the tearing of the wood while being cut.

Claim.—First, the knives C constructed with the projections or bearings *c* pressing upon the surface of the wood in advance of the cutting edge, substantially as and for the purposes specified.

Second, the tool herein described for cutting rope or screw molding, constructed and operating substantially as described.

61,307.—J. BAILIE and J. GERVERS, Cincinnati, Ohio.—*Dough Mixer and Roller.*—January 22, 1867.—The dough is mixed in the chamber by the revolution of the spiral shaft and by it discharged through a spout to the rolls, which slab and then deliver it to the discharge apron.

Claim.—First, the combination of the rolls D D' with the worm or screw dough mixer A, in the manner and for the purpose set forth.

Second, the combination of the carrying band or belt I and slabbing rolls D D' with a worm or screw dough mixer, in the manner and for the purpose substantially as specified.

Third, the combination and arrangement of the spur and worm gear as shown for regulating the speed and giving a positive motion to the screw A, stabbing rolls D D', and carrying band I', for the purpose and in the manner substantially as described.

61,308.—A. BASSFORD, New York, N. Y.—*Billiard Cushion.*—January 22, 1867.—Explained by the claims and illustration.

Claim.—First, in a billiard cushion the use of metallic ribbon or other hard and elastic strip interposed between two pieces of vulcanized india-rubber of different degrees of elasticity, or within a rubber cushion, substantially as herein set forth.

Second, in billiard cushions constructed substantially as set forth, the arrangement herein described and represented, whereby one block of india-rubber is backed and supported by the other.

Third, the two blocks or strips of vulcanized rubber, of unequal degrees of elasticity as described, in combination with the spring steel ribbon and rubber packing, arranged substantially as and for the purposes herein set forth.

61,309.—JOHN F. BOYNTON, Syracuse, N. Y.—*Apparatus for Carburetting Gas and Air.*—January 22, 1867.—A tight box is placed at some point in the gas pipe between the gas holder and burner and con-

tains a series of tubes extending from the bottom to near the top, filled with fibrous material which conveys the hydro-carbon liquid by capillary attraction to the upper part of the box. Over the upper ends of the tubes is a flat disk which causes the gas or air to flow over the ends of the wicking in a thin stratum, and to become charged with hydro-carbon vapor.

Claim.—First, in a carburetting box or vessel a tube or tubes, whether flat, cylindrical, or of other form, filled with fibrous or capillary material, and so arranged with openings at the bottom that the carbonizing fluid will be constantly drawn by capillary action from the lower and heavier strata, and subjected to evaporation in the upper portion of the vessel, substantially as described.

Second, in a carburetting box or vessel constructed and operating as herein described, so arranging the capillary tubes that the gas in its passage through the vessel will move slowly in a thin stratum over the ends of the wicks containing the carbonizing fluid, substantially as described.

Third, dividing the carburetting vessel into two or more compartments, by soldering one of the plates forming each of the double partitions or wick tubes to the bottom and sides of the vessel, so that two or more different carbonizing fluids may be used in the same vessel, without mixing previous to evaporation.

61,310.—JOHN F. BRIDGET, Washington, D. C.—*Thill Coupling.*—January 22, 1867.—The set screw beneath the socket plate and elastic pad raises the thill iron against its pivotal pin and prevents rattling.

Claim.—The combination of the set screw G and socket plate H and spring K, operating to raise the end of the thill in its bearings, substantially as and for the purpose described.

61,311.—ERASMUS D. BROWN, Buffalo, N. Y.—*Basket Attachment for Pistons of Deep Well Pumps.*—January 22, 1867.—The basket attached above the piston is placed there to catch any rivet or other matter which may fall into the well and impede the motion or dog the piston fast in the barrel.

Claim.—The slotted flaring basket A, for the purposes and substantially as described.

61,312.—SAMUEL BROWN, New York, N. Y., assignor to the BROWN AND LEVEL LIFE SAVING TACKLE COMPANY, same place.—*Boat Detaching Tackle.*—January 22, 1867.—The ring of the davit fall block is engaged by a hook secured by a chain to a casting-off device. An eye on the hook is chained to the ring-bolt on the seat of the boat, and when the hook is cast off the chain acts as a detent, rotates the hook and disengages it from the fall block.

Claim.—A boat-connecting apparatus, composed of the ring *a*, hook *c*, and chain *b g*, and which is disconnected from the block by slacking the chain *g* in the boat to be launched, substantially in the manner and for the purpose described.

61,313.—D. JAY BROWNE, Cambridge, Mass., and STEUBEN T. BACON, Boston, Mass.—*Manufacture of Brandy.*—January 22, 1867; antedated January 14, 1867.—The spirit is obtained by the distillation of a mixture of sorghum brandy and fermented grape skins.

Claim.—First, the blending of brandy or spirits distilled from sorghum sirup, with brandy distilled from fermented grape juice, water, and sorghum sirup, or glucose, substantially as herein set forth.

Second, in the production of brandy from the combination of the above-named materials, the mode or fermenting in close casks or vats, furnished with tubes or coils within, for regulating the temperature of the liquids while fermenting, substantially as herein specified.

Third, in the production of brandy from the above-named ingredients, as necessary to secure success, the process of distilling in vacuo, substantially as and for the purposes herein described.

61,314.—DUNCAN BRUCE, Rossville, N. Y.—*Making Sugar.*—January 22, 1867; antedated January 17, 1867.—The crude juice is placed in a tank and thence run into a vacuum pan exhausted of air, communicating with a vacuum apparatus. After partial evaporation the juice is forced up into a vessel where it is filtered, and thence flows through two other ves-

sels where it is further filtered, and into a second pan where the evaporation is continued. A condenser communicates with the vacuum vessels.

Claim.—First, the combination of the vacuum chamber and condensing chamber, with one or more evaporating chambers, having steam or hot water heaters applied to them, substantially as described.

Second, the combination of one or more filtering air-tight vessels with one or more air-tight evaporators and a condensing chamber D, which communicates with a vacuum chamber E, substantially as described.

61,315.—DUNCAN BRUCE, Rossville, N. Y.—*Apparatus for Decomposing Animal and Vegetable Substances, for Curing Meat, Tanning, &c.*—January 22, 1867; antedated January 17, 1867.—The vacuum chamber has an air-exhausting and air-forcing device. The material to be treated is placed in a vessel in which it is heated and treated by exhausting the air or forcing in moist air. In extracting fats, juices, &c., they are drawn off through a series of filtering vessels. To cure meat the air is first exhausted, brine admitted from a tank and afterward drawn off, the meat dried and cured by means of air and smoke from suitable vessels. Tanning may be effected by a similar treatment of hides.

Claim.—First, an apparatus consisting of a series of air-tight vessels communicating with a condensing vessel, and also with a vacuum reservoir, having a forcing and exhausting engine applied to it, the whole to be used substantially as described in the treatment of vegetable and animal matters.

Second, curing meat by the means and in the manner substantially as herein described.

Third, the process, substantially as described, of obtaining grease from fatty substances, by subjecting these substances to the action of moist heat in a vacuum.

61,316.—S. JOHN CARROLL, Baltimore, Md.—*Preserving Green Corn.*—January 22, 1867.—The unhusked ears of green corn are covered with brine in casks or cans.

Claim.—Preserving green corn in the manner substantially as herein set forth and described.

Also, the new article of manufacture and commerce, green corn preserved substantially as herein set forth and described.

61,317.—Canceled.

61,318.—JOHN B. COLLEN, Philadelphia, Pa.—*Machine for Pressing Fuel into Blocks or Bricks.*—January 22, 1867.—Two hoppers are situated at opposite sides of the frame and communicate with two series of molds. The plungers are operated by a yoke and cams, and enter alternately the molds on each side, first pressing the peat into the molds, and then, by a further pressure, discharging the blocks when the gates are raised.

Claim.—A machine constructed, arranged, and operated substantially as herein described and represented, for the purpose of pressing artificial or natural fuel in a fine or granular state into blocks or bricks for transportation and for burning, as set forth.

61,319.—H. COMSTOCK, Seneca Falls, N. Y.—*Pump.*—January 22, 1867.—Applied within the usual leather-cup packing is a cup of rubber, which, by its elasticity, presses the leather closely to the sides of the barrel.

Claim.—First, the combination of the rubber cup or flange *f* with the leather packing *c*, operating substantially in the manner and for the purpose specified.

Second, the groove *g* in the bottom of the cylinder in combination with the valve yoke *C*, operating substantially as and for the purpose set forth.

61,320.—JOHN G. COOK, Lewiston, Me.—*Dentifrice.*—January 22, 1867.—Composed of chlorate potassa, 7 lbs; prepared chalk, 28 lbs; powdered myrrh, 14 oz; Peruvian bark, 28 oz; sugar, 14 lbs; oil of wintergreen, 8 oz, incorporated, pulverized, and screened.

Claim.—As a dentifrice, a chlorate compound, made up of ingredients substantially as described.

61,321.—L. M. CRANE, Ballston, N. Y.—*Safety Paper.*—January 22, 1867.—Explained by the claims.

Claim.—The inserting or incorporating of one or more threads or strips of gutta percha, or a material possessing like properties, into the pulp or fiber of paper during the manufacture of the same, and in such a manner that said threads or strips will be softened and firmly united to the fiber under the heat of the drying cylinders, substantially as set forth.

Also, as an improved article of manufacture, a safety record paper, made substantially as herein shown and described.

61,322.—W. and F. W. CRIGHTON, Manchester, England.—*Machine for Preparing Cotton, &c.*—January 22, 1867.—Patented in England April 3, 1861.—The spiral beaters are attached to disks upon the upright shaft, which revolves in a case of a conical frustal form. The cotton is introduced into the lower part or bottom of the machine, and is carried out at or near the top; the dirt is either left in the dust box or thrown out between the bars of the grid.

Claim.—First, the arrangement hereinbefore described, consisting of placing the beaters or openers on a vertical axis, and forming the place or opening for the delivery of the cotton at the top of said case, or at a point higher than that at which the cotton is fed into the machine, said machine being also constructed and its parts so arranged that a considerable portion of the dirt will be delivered either at the bottom of the beater case or cone, or through openings at a lower point than that at which the prepared cotton is delivered, substantially as hereinbefore set forth.

Second, the combination with a beater case and beaters, or other similar apparatus for cleaning cotton, of the carrier or series of dirt boxes *d*, substantially as hereinabove set forth.

61,323.—FELIX A. DE BEAUREGARD, Paris, France.—*Blast for Iron and other Furnaces.*—January 22, 1867.—A furnace blast is produced by injecting a current of steam into the pipes leading from the upper part of the furnace. The steam, in passing out of the said pipes, exhausts the air from the furnace, and its place is supplied by fresh air which enters apertures at the lower part. The steam is generated in a boiler surrounding the furnace.

Claim.—Surrounding the furnace by a tank, the water within which is converted into steam by the heat of said furnace and then discharged through suitable pipes or conduits, arranged substantially as herein described, so that the discharge of the said steam shall induce a blast within and through the furnace, as set forth.

61,324.—JULES DELERY, St. Bernard parish, La.—*Steam Generator.*—January 22, 1867.—A valve is placed in the stand or water-supply pipe upon which the boiler rests, and a rod is passed therefrom up through the generator and connected with a lever, a screw-threaded rod and a band wheel, so that by turning the latter the valve can be raised to any required height from its seat to give the attendant the means of controlling the flow of water into any one of the series of generators when a series are used.

Claim.—The isolating check valve *b*, connecting rods *E* and *E*, and lever *J*, in combination with the generator and water-communication pipe, substantially in the manner shown and described.

61,325.—A. J. B. DE MORAT, Philadelphia, Pa.—*Telegraphic Cable.*—January 22, 1867.—The cable is constructed with one or more unbroken continuous tubes or cylinders, made by helically-wound metallic strips insulated internally and externally; the object being to permit stretching without impairing their conductive power.

Claim.—The construction of telegraphic cable by means of insulated tubes or continuous cylinder or cylinders, formed of helically-wound strips in such manner as to preserve uninterrupted linear conduction in case of stretching, as herein set forth, or any other substantially the same, and which will produce these intended effects.

61,326.—GEORGE W. DOOLITTLE, Lincoln, Ill.—*Wheat Drill.*—January 22, 1867.—The series of V-shaped wheels are attached to a hinged frame to

follow in line with the seed sown to force the seed below the surface of the soil, leaving the drills open to be filled with earth or snow for the protection of the plants.

Claim.—First, the jointed frame A C, to which the compressing wheels D E are attached, in combination with the funnels L L, depositing tubes K, angular bars I I, cutter blades H H, substantially as arranged for the purposes herein set forth.

Second, the arrangement of the standard P, lever *m*, easter *n*, for controlling the depth of the drills K or lifting them out of the earth, in combination with the drills or delivery tubes and the mechanism for regulating the quantity of seed, substantially as herein described for the purposes specified.

61,327.—GEORGE H. DOW, Freeport, Ill.—*Washing Machine.*—January 22, 1867.—The rubber is shod with rollers and reciprocates upon a concave bed of rollers. The rubber is attached by toggle arms to the box, and has an end board which acts against a concave at the end of the box.

Claim.—The arms E E', roller upper board C', and pressure board F, in combination with the concave washboard H, lower roller board C, and springs D, arranged as and for the purpose set forth.

61,328.—MAHLON S. DRAKE, Newark, N. J.—*Barrel Bung.*—January 22, 1867.—The bung is made of metal in two portions, and after insertion in the bunghole is expanded by means of a right-and-left screw, which draws the portions together. Elastic rubber is placed between the two portions.

Claim.—As a new article of manufacture, a bung for barrels, casks, or cases, constructed substantially as specified.

61,329.—JOSEPH O. FARRELL, Chicago, Ill.—*Tail-board for Wagons.*—January 22, 1867.—Explained by the claim and illustration.

Claim.—Providing the tail-boards with a double latch, constructed substantially as described, that is to say, consisting of a rod and two rack bars rigidly connected and vibrating in journals in or on the tail-board under the impulse of the hand, or of the spring, so that they shall traverse the openings in the braces I as the tail-board is moved, and when abandoned to the influence of the spring shall afford support to the tail-board by the engagement of the notches, substantially as described.

61,330.—JOHN H. FITZSIMMONS, Sasquehanna Depot, Pa.—*Safety Valve.*—January 22, 1867.—The two puppet valves are placed upon one stem and operate in separate chests; the conducting pipes convey the steam from the lower valve chamber to the upper one. The steam presses upward upon the lower valve, which is of larger area than the upper one, upon which the steam exerts a downward pressure. The difference is compensated for by weights placed upon the valve stem.

Claim.—The combined valves F and E, with valve seats A and C, the steam pipes G G, together with the releasing screw X, as herein described and for the purpose set forth.

61,331.—F. G. and E. A. FLOYD, Macomb, Ill.—*Cherry Stoner.*—January 22, 1867.—The cherries fall from the hopper and are thence pushed in a gang by a plunger provided with a series of faces separated by plates and acting upon the cherries individually. Each stone is detained by a cruciform plate, whose single post traverses a slot in the annular face of the plunger, which expels the fleshy portion.

Claim.—First, the knife or stone retainer *o*, when constructed in the manner shown, and supported on the single arm to permit it to operate in connection with the reciprocating bar *c*, substantially as herein set forth.

Second, the reciprocating bar *c*, having the plates *n* attached and provided with the holes *e*, when used in combination with the knives *o*, substantially as shown and described.

Third, the hopper B, reciprocating bar *c*, knives *o*, and bed piece *e*, all arranged and operating as described.

61,332.—E. G. FORD and H. WEBLE, Delphos, Ohio, assignors to E. G. and J. G. FORD.—*Clamp for*

raising Timber Frames.—January 22, 1867.—The adjustable, jointed metallic clamp is to be attached to the post and the timber on which it rests, and thus hold the foot of the post while being raised.

Claim.—The hinged bars C D, constructed and arranged to operate substantially as and for the purpose set forth.

61,333.—DAVID FROST, Dupage, Ill.—*Shaker Attachment for Threshing Machines.*—January 22, 1867.—By the adjustment described the length of the arms of the shaker is regulated. The shaker arms are arranged in pairs and vibrate between the upper and lower portions of the endless belt to produce a vertical vibration, which shakes the grain out of the straw.

Claim.—The application of the slotted lapping plates, confined together by a thumb screw, to the pitman and vibrating knockers or shakers of a straw-carrier belt, all in the manner and for the purpose described.

61,334.—W. J. GORDON, Philadelphia, Pa.—*Machine for Riveting Buttons to Fabrics.*—January 22, 1867.—The plunger is pointed, rotates as it descends and spreads the end of the rivet. A sleeve on the plunger fits the hollow in the face of the button, and the flanged head of the rivet is bent over toward the fabric, which is thereby clamped against the convexity of the button.

Claim.—First, the lever H, in combination with the spindle D, having a pointed projection *i*, when the lever is provided with a beveled eccentric projection *w*, or its equivalent, and when the spindle is so constructed and arranged, in respect to the lever, that on operating the latter the spindle will turn around as it descends, for the purpose specified.

Second, the combination of the above with the sleeve E, having a projection adapted to the cavity in the button, and with the springs *h* and *n*, the whole being arranged for joint action, as and for the purpose described.

Third, the concavity so formed in the base A, in respect to the head of the rivet, and to the devices for spreading the latter, that on forcing the rivet into the said concavity, the edges of the said head will be turned up, as and for the purpose described.

61,335.—ELLEN M. GRISWOLD, Hagerstown, Md.—*Support for Window Sash.*—January 22, 1867.—A slot made of hinged sections occupies the space between the beading and supports the sash. To support the window partly open one or more of the sections is bent over and the sash is thereby provided with a shorter support.

Claim.—The application to window frames of a sash support composed of the adjustable pieces C C' C'', connected by hinges, substantially as and for the purpose set forth.

61,336.—INCREASE S. HILL, Boston, Mass., and ANDREW BURNHAM, Chelsea, Mass., assignors to LOUIS OSBORNE, Boston, Mass.—*Apparatus for Detaching Boats.*—January 22, 1867.—Curved rods pass round inside of the gunwale of the boat and engage the links on the ends of the fall ropes, locking them to staples at the stem and stern. The rods are connected to a shifter amidships to cast the fall ropes loose simultaneously.

Claim.—First, the arrangement of curved disengaging rods in guides along by the gunwale of a boat, substantially as herein described, when the same are connected with a pivoted lever through the operation of which the disengaging rods are simultaneously retracted, liberating the links by which the boat is suspended.

Second, a graduating coupling in the disengaging rods by means of which the lengths thereof may be so adjusted as to secure simultaneous disengagement of the suspending links, as and for the purpose described.

61,337.—WM. A. HOPKINS, New York, N. Y.—*Can for Paint, &c.*—January 22, 1867.—The can has ears soldered to it which serve as sockets for the handle and as hooks under which the edges of the clamps engage and secure the top to the can.

Claim.—The combination of the can, cover, ears and clamps when the same are combined, constructed,

and operated substantially as shown for the purpose specified.

61,338.—JOSEPH E. HOVER, Philadelphia, Pa.—*Writing Paper.*—January 22, 1867.—The surface of writing paper is coated with pulverized chalk, magnesia, or other substances to neutralize the acid in ink; the chalk may be mixed with a solution of alum before applying it to the paper.

Claim.—Writing paper, the surface of which is coated with chalk or other material which will neutralize the acids in writing inks or fluids.

61,339.—WM. HUSTON, Wilmington, Del., assignor to himself and H. N. WICKERSHAM, same place.—*Apparatus for Obtaining and Applying Motive Power.*—January 22, 1867; antedated January 19, 1867.—The eccentric disks are each connected to a shaft, and each has a recess in which fits a portion of a block or piston, so arranged that steam or other fluid admitted into the said recesses shall so act upon the piston as to impart a continuous rotary motion to the disks and their shafts.

Claim.—First, the combination of the disk F and its chamber X, and the disk F' and its chamber X' with the piston G, the whole being arranged for joint action, substantially as and for the purpose herein set forth.

Second, in combination with the above, the heads B and B', with their recesses and openings arranged substantially as described.

Third, the combination of said disks, piston, and heads, with a casing A.

61,340.—JOEL C. JACKSON, Rochester, N. Y.—*Wrench.*—January 22, 1867; antedated January 17, 1867.—The stop lever and pawl are formed of one piece of metal, and the wrench barrel has ratchet teeth cut in the bottom of a peripheral recess.

Claim.—The peripheral recesses or groove *o*, in the wrench barrel *c*, formed with ratchet teeth in its bottom surface, in combination with the stop lever pawl *d*, within the stock *b*, as and for the purposes set forth.

61,341.—A. F. JOHNSON, Boston, Mass., and M. P. GRIFFIN, Medford, Mass.—*File-Cutting Machine.*—January 22, 1867.—The chisel and the adjuster are arranged face to face in a stock which may be rotated in a horizontal plane, and the stock is enclosed in a head swiveled to the end of the helve so as to be rotated in a vertical plane.

Claim.—First, the combination of a swiveling head with a rotary stock, substantially as described.

Second, the combination of a chisel and adjuster with a rotary stock, in the manner substantially as described.

Third, placing the chisel and adjuster together in the same stock, when constructed and arranged as described.

Fourth, the lever Q, in combination with the tool stock.

Fifth, the adjustable screw jaws T U, in combination with the ratchet *f*, the screw S, and bed B.

Sixth, inserting rubber blocks at the ends and between the bows of the elliptic springs I P, in a file-cutting machine, constructed substantially as described.

61,342.—DAVID JUNE, Fremont, Ohio.—*Cast-iron Chimney.*—January 22, 1867.—The sections of the cast-iron chimney are coupled together, have enlargements above the throats of the grates, and holes at intervals for the reception of stove pipes or ventilators at the successive stories.

Claim.—The section B in two parts C C', with cavities E E, in combination with section B' in two parts, constructed and arranged together as and for the purpose herein described.

61,343.—C. H. KNOX, Mount Pleasant, Iowa.—*Washing Machine.*—January 22, 1867.—By the mode of clamping the gearing together the warping of the lid, when hot and cold water are used alternately, is prevented from affecting the engagement of the gears by which the rubber is rotated.

Claim.—The bolt R, in combination with the clamp T, friction roller L, plates K and F, as set forth.

61,344.—JESSE S. LAKE, Smith's Landing, N. J.—*Self Track-laying Car.*—January 22, 1867.—The team is hitched to the runners, which traverse on wheels having their bearings in transverse sleepers which are attached to an endless band, by which they are consecutively taken up at the rear and laid down in advance of the runners. In turning the unequal draft on the two sides lays the sleepers a little obliquely with the course of the car, and thereby deflects its direction of motion.

Claim.—First, the combination with a truck, car or vehicle of the within-described revolving track consisting of an endless series of trucks or floats I P Q L, connected together by flexible chains, cords or straps K, and operating in the manner and for the purpose specified.

Second, the combination with the runners or ways H H, cylinder G, and crutch M, of the flanges B B' B', the latter B' being hinged or pivoted to admit of lateral adjustment in order to vary the course of the car or vehicle, substantially as described.

61,345.—M. C. LEONARD, Washington, D. C.—*Cartridge Box.*—January 22, 1867.—The wool lining forms a cushion for the metallic fulminate cartridges, and prevents their explosion when subjected to shaking or to blows upon the box.

Claim.—A cartridge box lined with sheepskin or other equivalent material, and for the purpose set forth.

61,346.—T. J. MARINUS, Independence, Iowa.—*Window Shade Supporter.*—January 22, 1867.—The tape is fastened at each end to the window casing, in front and rear of the shade, which rests in the bight of the tape. A fold of the tape is passed through a lever clamp, and by pulling the tape through the latter the shade is raised.

Claim.—In a window shade, the combination of the clamps composed of the lever H, the hollow frame F, and spring I, with the cord for raising the shade, all constructed in the manner and for the purpose herein set forth.

61,347.—CARLISLE MASON, Chicago, Ill.—*Quartz Crusher.*—January 22, 1867.—Two conical, fluted or corrugated crushing rollers run together to crush the stone; the frame is supported by means of tension rods and spring beams.

Claim.—First, the conical crushing disks *m*, having their faces corrugated, substantially as shown, and arranged to operate in connection with each other as set forth.

Second, The tension frame, consisting of the rods *x* and the keys or wedges *a*, arranged to operate in connection with the crushing disks *m*, as shown and described.

Third, in combination with the tension frame as above described, the spring beams *v*, and the set screws *e*, arranged and operating as and for the purpose set forth.

61,348.—JAMES E. MCBETH, New Orleans, La., assignor to himself and J. W. CHAMBERLAIN.—*Eung for Beer Barrels.*—January 22, 1867.—The rubber ring is clamped between the flanges of the socket and caps, and embraces the stem of the faucet.

Claim.—First, the rubber ring D, substantially in the manner and for the purposes described.

Second, the combination of the parts B and C, substantially in the manner and for the purposes described.

Third, the combination of the parts B C and D, substantially in the manner and for the purposes described.

61,349.—HERRMANN MENDEL, Philadelphia, Pa.—*Instrument for Guiding Tailors in Cutting out Coats and Vests.*—January 22, 1867.—The device is shown in the illustration. Its application cannot be briefly described. The parts slip upon each other to assume the required form and proportions.

Claim.—A plate A and adjustable strip E, in combination with an adjustable plate B, adjustable strip C, and strip D, or its equivalent, the whole being constructed, graduated, and arranged substantially as and for the purpose described.

61,350.—ISAAC L. MILES, Charlestown, Mass.—*Printing on Glass.*—January 22, 1867.—The ways are

covered with material which prevents the slipping of the glass, and they correspond in position and form with the rounded surface of the type from which the impression is taken.

Claim.—Transferring an impression from a form of elastic type, having a rounded or curved surface, to a flat plate or sheet of glass, by rolling the latter over and in contact with ways arranged adjacent to and having a curvature corresponding with that of the face of the form of type, as described.

61,351.—D. P. NICKERSON, Cleveland, Ohio.—*Center Board and Box for Vessels.*—January 22, 1867.—The parallel plates of the center board are strengthened by intervening brace plates and edge stays, and it is pivoted in a box planted in the keel and braced by exterior angle irons and stay plates.

Claim.—First, the arrangement of a metallic center board constructed with the two sides G G', the braces I, and stay bolts H, in combination with the metallic box B, for the purpose and in the manner set forth.

Second, the portable metallic center board box constructed with braces C, and angle irons D, as and for the purpose set forth.

61,352.—GEORGE PALMER, Littlestown, Pa.—*Washing Machine.*—January 22, 1867.—The clothes are placed in company with loose balls in a revolving cylinder whose periphery is formed of rollers, and which is rotated in the suds box by gearing and hand cranks.

Claim.—The washing cylinder D D, as constructed with the revolving bars or rollers F F, into which cylinder the clothes are placed and secured to be washed with the balls I I I, constructed as shown and described, the washing apparatus being arranged and combined with the gear wheels *d* and *e*, and the crank handle E, operating substantially in the manner herein described for the purposes specified.

61,353.—GEORGE PALMER, Littlestown, Pa.—*Clothes Wringer.*—January 22, 1867.—The ribs of metal on the wooden core prevent the torsion of the elastic covering. The pressure on the upper roller is derived from a pad beneath a lever, whose detent is a rack on the frame of the wringer.

Claim.—First, placing ribs of metal longitudinally in hard wood rollers for clothes wringer, when covered with elastic substances, substantially as herein set forth.

Second, in combination with clothes wringer rollers as described, the pressure lever Q, ball V, or other equivalent spring and rock bar Y, operating as and for the purposes herein specified.

61,354.—HENRY PAYNE, Sr., Mount Vernon, Ohio.—*Device for Preventing Collision of Locomotives.*—January 22, 1867.—One or more tubes are placed under the cylindrical portion of the boiler of a locomotive and are connected therewith by a steam pipe, so as to propel forward the piston rods, to whose outer ends are attached a cross bar which acts as a buffer against the opposing engine.

Claim.—The affixing to locomotive boilers one or more tubes in such manner as herein described, as that by letting steam into them from the boiler, a shaft will be driven or forced forward from each tube to meet any opposing object, and thus prevent collision of the locomotive with the object opposing, or much diminish its force.

61,355.—JOHN L. PEAKE, New York, N. Y., assignor to himself and LOUIS GUILLANDEU, same place.—*Wrench.*—January 22, 1867; antedated January 6, 1867.—The face of one jaw has a graduated recess whose projecting points bite against the pipe in concert with the tooth on a movable jaw, which is actuated by the engagement of the rack on its back with the segment rack on the end of the lever.

Claim.—The recessed face *a*, on the jaw A, in combination with the tooth *b* on the jaw B, adapted to traverse backward and forward by means of the rack N, segment M, and lever C, all arranged for joint operation, so as to act on cylindrical bodies or pipes of different diameters all in lines at uniform distances from their centers, substantially as herein set forth.

61,356.—JOHN PFEIFER, Philadelphia, Pa.—*Coal Shuttle.*—January 22, 1867.—A concavo-convex bead is run around the lower edge of the hod, lapping closely against a similar surface on the stamped-up base.

Claim.—Producing a close joint between the body A and the bottom B of the said coal hod, by means of the concavo-convex bead *a' b'*, substantially as and for the purpose described.

61,357.—J. C. POLAND, Jr., Auburn, Me., and B. R. COTTON, Lewiston, Me.—*Shuttle Binder for Looms.*—January 22, 1867.—Explained by the claims and illustration.

Claim.—A shuttle binder made as a lever, pivoted at or near its center when arranged with adjusting screws *d d'*, by which the angle of the binder can be changed, and the binder can be fixed in position, substantially as described.

Also, in the arrangement claimed above, mounting the pivot of the binder on a screw, by which the distance of the whole binder is adjusted with reference to the opposite side of the shuttle box.

61,358.—M. M. PREBLE, Kokomo, Ind.—*Fly Trap.*—January 22, 1867.—The flies enter a tube at the dark end of the box, and approaching the light end, pass to the box above. They are killed by a slide piece containing a cup of burning sulphur which is introduced beneath the upper box.

Claim.—The combination of the boxes A and E, and slides G and F, the said parts being constructed and arranged substantially in the manner and for the purpose set forth.

61,359.—DE WITT S. RAWSON, Peru, Ill.—*Stereoscope.*—January 22, 1867.—The box in which the stereoscopic views are packed is so arranged that one side opens out into a bracketed shelf for holding a number of views in position for being viewed successively; the hinged cover with the lenses attached beneath is vibrated into a position vertical to the plane of the pictures and the lenses focally adjusted.

Claim.—The picture box H, the swinging front D, and shelves or brackets E E, substantially as herein described.

61,360.—JOHN E. ROBINSON, Boston, Mass.—*Ice Cream Freezer.*—January 22, 1867.—Several cans are revolved simultaneously from one shaft and gearing placed underneath. Connected with each can is a stationary scraper around which the can revolves. Each can is separately removable from the screw shaft inserted at the bottom.

Claim.—In combination with a freezing vessel *a*, the arrangement of a series of cream cylinders *b*, to be simultaneously rotated within the same, when each cylinder is so mounted as to be capable of disconnection from the driving mechanism and removed from the freezing vessel without disturbing the other cream cylinders, substantially as set forth.

Also, in combination with such an arrangement and method of operation of the cylinders, the stationary scrapers held in place during the rotation of the cylinders, substantially as described.

Also, mounting each cylinder on a screw shaft, and so as to be removable therefrom, substantially as and for the purpose described.

61,361.—E. A. G. ROULSTONE, Roxbury, Mass.—*Trunk Lock.*—January 22, 1867.—The hasp swings on its pin in the plane of the locking mechanism, and is pressed into locking position, displacing the tumbler in the case, whose spur then engages and retains it. When the catch is withdrawn by the key the spring opens the hasp. A shoulder on the hasp catches beneath a flange on the case to relieve the working mechanism when strain is applied to open the lid.

Claim.—The combination of the spring bolt *l*, and tumblers *e*, or locking mechanism when constructed and arranged to lock and unlock, substantially as set forth.

Also, combining with the projection *o* of the bolt, the flange *r* with its pin *p*, for receiving the strain of the bolt, substantially as described.

61,362.—ABRAM ROWE, Macomb, Ill., assignor to himself, LORENZO F. WHITMAN, and REASON A. BOWIE.—*Portable Water Power.*—January 22, 1867.—

Arranged in a suitable case at the bottom of a boat is a spiral current wheel provided with guide channel and gates, and adapted for driving machinery when the boat is at anchor.

Claim.—First, a portable hydraulic motor for operating machinery, consisting of the propeller or screw wheel B, enclosed in a case E, and located in the central bottom portion of a boat A, as herein shown and described.

Second, in combination with the wheel E, arranged as shown, the sluice C in the front end of the boat having its sides converging as represented.

61,363.—JESSE RUSSELL, Bath, Me.—*Abrasive Powder.*—January 22, 1867.—Composed of the graded products of pulverized manganesian garnets and native iron, with the addition of quartz, black mica and actinolite. The peculiar efficiency arises from the persistent angularity of the particles of the garnets, however much reduced.

Claim.—Abrasive powders, made by reducing and grading the material above described.

61,364.—GEORGE E. SELLERS, Sellers' Landing, Ill.—*Utilizing Waste Extracts of Fibrous Plants.*—January 22, 1867.—The waste solutions obtained in the manufacture of paper by treating wood, straw, &c., with boiling water, are evaporated until said solutions attain a sirupy consistency. The extract thus obtained is used to prevent incrustation in steam boilers.

Claim.—First, the vegetable extract of fibrous plants, when obtained in the process of preparing fiber for paper stock, in the manner and for the purpose substantially as described.

Second, the utilization of the vegetable extract of cane (*arundinaria macrosperma*) and other fibrous plants, when obtained from them in the process of preparing their fiber for paper stock without other chemical agencies than water or heat, as a new article of commerce.

61,365.—CHARLES J. SHEPARD, Brooklyn, N. Y.—*Base Burning Stove.*—January 22, 1867.—A chamber filled with non-combustible material intervenes between the fire chamber and the coal reservoir to moderate the heat of the latter. The air passes through this chamber to the fire in company with the results of the water admitted into the chamber from the reservoir above. The position of the door increases its value as a radiating surface.

Claim.—First, the use or employment of the chamber B, constructed and operating substantially as described, for the purpose set forth.

Second, in a stove with the upper or reservoir chamber constructed substantially as shown, a door placed in position relatively to the grate as shown for the purposes herein fully indicated.

Third, the use or employment of water, substantially as shown, for the purposes set forth.

61,366.—JOSEPH NOTTINGHAM SMITH, Jersey City, N. J.—*Hydrant.*—January 22, 1867.—As the discharge tube is depressed, the water between the cups rises toward the outlet, and a further depression sinks the valve and allows the flow from the main through the filter toward the outlet. Raising the tube allows the pressure of the water to close the valve against the seat, which is an inverted cup sustained by an axial bolt from beneath.

Claim.—The tubular flanged valve F, operating substantially as herein specified.

Also, the inverted cup-shaped valve seat D, in combination with the valve F, substantially as herein described.

Also, the filter Ly, arranged in the hydrant as herein set forth.

Also, the combination of the filter tube L, with the valve F, substantially as and for the purpose herein set forth.

Also, the flexible packing Q, in combination with the cups P and T, substantially in the manner and for the purpose herein specified.

61,367.—F. U. STOKES, Cincinnati, Ohio.—*Window Screen for Railroad Cars.*—January 22, 1867; antedated January 6, 1867. Either the glass or the gauze portion of the sash is exposed to the window opening to suit the comfort of the passengers.

Claim.—A sash frame for a railway car window, constructed in such a manner that the upper half may be set with glass, and the lower with wire gauze or analogous material, the whole being combined together in the manner and for the purpose herein set forth.

61,368.—JOSEPH WILSON SWAN, Newcastle-upon-Tyne, England.—*Printing Photographs.*—January 22, 1867.—This refers to carbon printing, in which carbon is fixed by the action of light transmitted by a photographic negative, and received on a surface of gelatine colored with carbon, and made sensitive. The protected portions of the colored and gelatinous surface are afterward washed away by water, leaving the parts made insoluble by the light to form a print. This invention provides a tissue of colored gelatinous matter which allows access of light, and subsequently of water, to remove non-affected portions of the colored matter from the back, as well as the front surface. Further manipulations are cited in the claims.

Claim.—First, the preparation and use of colored gelatinous tissues, substantially in the manner and for the purpose set forth.

Second, the mounting of undeveloped prints, obtained by the use of colored gelatinous tissues, in the manner and for the purpose set forth.

Third, the retransfer of developed prints, produced as above described, from a temporary to a permanent basis.

61,369.—J. P. TIRRELL, North Bridgewater, Mass.—*Manufacture of Shoe Lacings.*—January 22, 1867.—The strip is rounded by being drawn between reciprocating friction surfaces, which intermit and open the traction devices, returning to repeat the action upon another strip.

Claim.—Combining with friction surfaces having a relative reciprocation a co-operating mechanism which shall draw or feed the strip between these surfaces, substantially as and for the purpose set forth.

Also, in combination with such an arrangement or organization, mechanism for releasing the strip from the nippers, mechanism for separating the abrading surfaces, and mechanism for returning the parts to normal position, substantially as set forth.

61,370.—THOMAS WELCH, Churchville, N. Y.—*Hanger Box for Crank Shafts.*—January 22, 1867.—The shaft revolves within boxes which have a capacity for rocking when the line of the shaft varies. The bearing edge at the back of one of the boxes is capable of adjustment by wedge and set-screw toward the shaft, to compensate for wear. The cap forms one side of the casing enclosing the boxes.

Claim.—First, providing the hanger journal of the crank shaft, or other journals of harvesters, with self-adjusting or self-lining bearings, or boxes, substantially as and for the purposes shown and described.

Second, the application of the wedge E with or without a set-screw, when used in combination with the box in which the journal revolves, for the purpose of compensating for the slack that might otherwise occur by the wearing away of the parts.

Third, the set-screw S, in combination with the self-adjusting or self-lining boxes of harvesters, substantially as and for the purposes set forth.

Fourth, in combination with the self-lining or adjusting boxes and journals, the oil reservoir, substantially as shown and for the purposes described.

Fifth, in combination with a set-screw and self-lining or self-adjusting boxes in harvesters, the cap I, or its equivalent, for the purposes described.

61,371.—NORMAN J. WELLS, Huntington, Mass.—*Purifying and Cleansing Sizing for Paper, &c.*—January 22, 1867.—The animal scraps are bleached by means of nitric, sulphuric, or hydrochloric acid, and chloride of lime, after which they are boiled with water to extract the gelatine, alum being added during the process. The rising impurities are skimmed off and the mixture allowed to simmer for a few hours, and subsequently strained through alum.

Claim.—The use of alum, or other equivalent mentioned, in the process of preparing sizing, when used and applied in the manner substantially as herein described and for the purpose set forth.

61,372.—AMOS WESTCOTT, Syracuse, N. Y.—*Cheese Vat.*—January 22, 1867.—The leg is pivoted to a flanged lug on the end of the box, and is made adjustable so as to give any inclination to the bottom of the box, or to level it.

Claim.—The method above described of constructing, attaching, and rendering adjustable the leg D, substantially as and for the purposes set forth.

61,373.—WILLIAM D. WHITMORE, Boston, Mass.—*Piston for Steam Engines.*—January 22, 1867.—A case is attached to the flange plate of the piston head, and is held in position by screws, but is so arranged that it may be removed from the cylinder without removing the piston and its rod. The sectional packing rings, with the springs which keep them in contact with the cylinder, are located within said case, and are easily assembled after removal for repairs.

Claim.—The improved ring section and wedge piston as made, not only with its ring sections and their wedges wholly within and supported by a case C separate from and to be attached to the cap B by screws, but as having the cap B applied to the piston rod A, the whole being substantially as and for the purpose hereinbefore set forth.

61,374.—NEWIEL J. WILLIS, Waltham, Mass., assignor to himself and AMMI BROWN, Boston, Mass.—*Bed Bottom.*—January 22, 1867.—The slat is stiffened by a wire which lies closely against its under surface, and has coil springs at each end which are attached to the slat.

Claim.—The improved construction of the slat lifter B, and arrangement of it and its springs relatively to the slat A, the whole being as described, the part c of such lifter under such arrangement being made throughout its length to bear against the underside of the slat and the springs to extend wholly below the part c and the slat, as explained.

61,375.—JOHN P. ZELLER, Bourbon, Ind.—*Seed Drill and Cultivator combined.*—January 22, 1867.—The machine is adapted to be used as a planter, seeder, or cultivator. The respective wheels have projections to operate the seed slides. The occasional cogs on the rear wheel are for the intermittent motion of the planter slides, and the more numerous cogs on the off wheel are for the rapid reciprocation of the seeder slides. The gang of cultivator teeth is attached when required.

Claim.—First, the frame A, constructed as described, with the hinges d, loop g g, studs h h, loops f f, studs 5 5, and tongue D, in the manner and for the purposes herein fully set forth.

Second, the wheels B and B', with corrugations upon their inner faces and connected to the frame by the short axle cog bars P and metal slides, in the manner and for the purposes specified.

Third, the arrangement of the shaft C with cog segments O O, which mesh into the cog bars P P, and used for elevating or depressing the frame A, in the manner as set forth.

Fourth, the drag L, with shoe M, and roller, constructed as set forth, and used with the frame A, as specified.

Fifth, the arrangement of the detachable drilling device G, constructed as specified, and used in combination with the frame as specified.

Sixth, the corn cultivator attachment H, when used with the frame A, as set forth.

61,376.—ANTON ZSCHILLE GROSSENHAHN, Saxony, assignor to L. T. DOWNES.—*Machine for Raising the Nap upon Cloth.*—January 22, 1867.—This cross-gig machine is designated to be used independently or in connection with an ordinary or suitable finishing gig. The figure shows it in connection with a double cylinder gig, and in connection with the claims sufficiently indicates the novel features.

Claim.—First, A gig or machine for raising the nap upon cloth, composed of the following elements: 1. A mechanism for moving the cloth through the machine so as to present plane surfaces to the action of the teasles. 2. One, two, or more pairs of plane-surfaced, independent teazel plates, with mechanism for moving the same while maintaining their parallelism with the cloth, in arcs of a circle or otherwise, so that each plate shall continuously move toward the cloth, sweep transversely and in contact with the

cloth from the center toward the sides thereof, and then recede and return toward the center.

Second, the means herein described for engaging or disengaging the cloth with or from the teazel plates, and regulating their pressure of contact, substantially as shown and set forth.

Third, the method of teazing cloth by machinery, substantially as herein shown and described, that is to say by imparting to the teazing surfaces the following motions, viz., to and from the cloth and also at right angles to the run thereof, so that the nap shall be raised crosswise from the center, or thereabouts, to the sides, as described.

61,377.—W. A. ALEXANDER, Mobile, Ala.—*Saw Set.*—January 22, 1867.—The blade of the saw is inserted between the cheeks of the block, and the teeth are set by means of a cam upon a pivoted lever.

Claim.—The combination of the lever B, pivoted in the block A', with the recess b and the set-screw c in the block A, forming an adjustable saw set, constructed and operating substantially as herein described.

61,378.—DEXTER B. ANDREWS, Fort Wayne, Ind.—*Composition for Kindling Fires.*—January 22, 1867.—Composed of rosin, 2 lbs; tallow, 4 oz; pine or other sawdust, 4 qts; mix and press into blocks.

Claim.—A composition for kindling fires, compounded from the materials, and substantially as set forth.

61,379.—ROBERT ANDREWS, Milwaukee, Wis.—*Composition for the Manufacture and Preserving of Leather.*—January 22, 1867.—Composed of linseed oil, 1 gall.; neat's-foot oil, 1 gall.; oil of tar, 4 lb; tallow, 10 lbs; beeswax, 1 lb.

Claim.—Making the composition out of the materials named, in the manner named, and applying it to leather in the process of manufacture, or after it is manufactured, and to all articles made of leather, disclaiming everything but the composition.

61,380.—WILLIAM BACHELLER, West Newbury, Mass.—*Corset and Skirt Supporter combined.*—January 22, 1867.—The skirt supporter is made of metal conformed to the shape, and is secured to the corset so as to form an adjunct thereto.

Claim.—In combination with an ordinary corset the skirt supporter, for which letters patent were granted me May 29, 1866, adapted to be worn and secured together in the manner as and for the purpose specified.

61,381.—WILLIAM BAHEME, New Media, Pa.—*Governor.*—January 22, 1867.—On the mill shaft is a pivoted governor ball and arm, which, on a certain increment of speed, comes in contact with and actuates a detaching apparatus to drop the water-gate lever and arrest the motion of the machinery. It is particularly intended for stopping the mill when the grist has all run out of the hopper.

Claim.—The arrangement upon the mill shaft of a pivoted governor ball and arm to actuate a detaching apparatus for the water-gate levers, substantially as described.

61,382.—GEORGE A. BALL, San Francisco, Cal.—*Paper Ruling Machine.*—January 22, 1867.—The surface of the cylinder is divided into sections between which are rods with laterally adjustable nippers. These are automatically operated. Adjustable blocks are inserted between the sections and between the nippers to preserve the contour of the cylinder. Other devices are described in the claims.

Claim.—First, the division of the cylinder into any number of sections, with nippers working between each section, and the introducing of the movable blocks *i i* between each nipper to preserve the circular form of the cylinder in combination with the nippers, substantially as described.

Second, covering the cylinder with india-rubber cloth z, and placing upon the edge of each section where the nippers strike a strip of gutta percha z', as described and for the purposes set forth.

Third, the gauge j, rods l l, and lock nuts m m, affixed to the feed board, in combination with the feed board R.

61,383.—**ABNER BASSETT**, Virginia City, Nev.—*Apparatus for Amalgamating Ores.*—January 22, 1867.—The ore pulp is placed in a cylinder which is traversed through by an axial steam pipe and surrounded by a steam jacket.

Claim.—First, the barrel *e*, or its equivalent, having a hollow shaft *o* passing through it, by which heat is introduced by exhaust steam or otherwise, substantially as described and for the purpose set forth.

Second, the hot-air shell or bath *g*, for the purpose of applying heat by exhaust steam or otherwise to the outside of the vessel containing the pulp, whereby obdurate ores are made to amalgamate more freely, substantially as described and for the purpose specified.

Third, the application of steam or heat to the ore or pulp, both through and around it, without coming in direct contact with it, the said ore or pulp being confined in some suitable vessel, said vessel being enclosed in a shell or bath, for the purpose herein set forth.

61,384.—**WILLIAM BAYHOUSE**, Portland, Oregon.—*Edge Plane for Boots and Shoes.*—January 22, 1867.—The peculiar shaped handle of the tool permits it to be used by both hands. This handle is notched underneath for a slotted plate or gauge, in which is placed the knife or cutter.

Claim.—First, an edge plane having a cutter *D* with straight and concave edges, and the adjustable slotted guard *F*, placed over the said cutter, substantially as described and for the purpose set forth.

Second, the gauge *B*, with slots *b* and *b'*, and the screw *L*, for elevating the cutter, in combination with the screw *G*, and thumb-nut *H*, substantially as described and for the purposes set forth.

61,385.—**AMOS BEAN**, Canaanville, Ohio.—*Sorghum Stripper.*—January 22, 1867.—The spring knives are rooted to the cast-iron box and present curved ends to embrace the stalk which is passed between them. The levers affect the proximity of the knives to adapt them to varying sizes of stalks.

Claim.—First, an improved cane stripper, formed by the combination of the adjustable spring knives *B*, and cast-iron box or frame *A*, said parts being constructed and arranged substantially as herein shown and described.

Second, the combination of the levers *C*, with the spring knives *B*, and box or frame *A*, substantially as herein shown and described, and for the purpose set forth.

61,386.—**JACOB BEESLEY**, Philadelphia, Pa.—*Ash Sifting Device for Grates.*—January 22, 1867.—The sifting device described is placed beneath the grate of a stove or heater so that the ashes discharged therefrom may be sifted without removal or handling.

Claim.—First, a grate *d*, for receiving the ashes and cinders, in combination with the sliding frame *C* and its projections *e e*, the whole being constructed and operating beneath the fire grate of a stove heater or furnace, substantially as and for the purpose herein set forth.

Second, the ribs *c e*, with their recesses *x x*, in combination with a grate *d*, and with the sliding frame *C* and its lugs *e e*, the whole being arranged substantially as described.

Third, the combination of the detachable box *B*, grate *d*, and sliding frame *C*, the whole being constructed and operating substantially as specified.

61,387.—**W. F. G. BEEUWKES**, Holland, Mich.—*Cowl.*—January 22, 1867.—The chimney passes through enveloping casings which isolate it from the roof and prevent conduction of heat to a dangerous extent.

Claim.—The arrangement of the guard pipes or casings *C F*, plate *H*, and short cylinder *J*, for protecting the roof from the heat of the chimney, substantially as herein shown and described.

61,388.—**JEAN GUSTAVE BEQUET**, Paris, France, assignor to **MORITZ PINNER** and **GUSTAVE BEQUET**, New York, N. Y.—*Apparatus and Processes for Rectifying Alcohol and other Spirits.*—January 22, 1867.—The spirits are rectified while in a state of vapor; the devices are described in the claims and illustration.

Claim.—First, introducing chemicals into a recti-

fying or distilling column for the purpose of analyzing or purifying, in whole or in part, the contents of such column.

Second, introducing such chemicals at option either in their natural state or mixed with water or other suitable liquids.

Third, introducing water into a rectifying or distilling column in such a manner as to cause the mixing of such water with all or part of the contents of such column, for the purposes herein set forth.

Fourth, introducing such chemicals, pure or mixed, or such water, into such column, substantially by the means or in the manner herein described.

Fifth, constructing a rectifying or distilling apparatus, in such a manner that one boiler or still can supply and keep at work two columns, or at option more, at a time.

Sixth, constructing a rectifying or distilling apparatus, in which two columns, or at option more, are connected with each other in such a manner that thereby the contents of one column can, in whole or in part, be passed into another column without interrupting the process of rectification, distillation, analysis, or condensation.

Seventh, constructing an analyzer of a series of tubes or cylinders, substantially like the upper compartment of the analyzing condenser *G*³ herein described.

Eighth, constructing a condenser of a series of tubes or cylinders, substantially like the lower compartment of the analyzing condenser *G*⁴ herein described.

Ninth, constructing the analyzing condenser *G*⁴ of a series of tubes or cylinders, and dividing the same into compartments, substantially as described and for the purposes named.

Tenth, providing a rectifying or distilling apparatus with a vessel *V*²⁸ for the reception or distribution of chemicals, substantially as described and for the purposes set forth.

Eleventh, providing a rectifying or distilling apparatus with one or more tubes or vessels *T*²⁹ for the mixing of chemicals with liquids, substantially as described and for the purposes set forth.

Twelfth, supplying each or all of such tubes *T*²⁹ with a float or self-acting stop-cock *50*, for the purpose of regulating the quantity of liquid required in each tub.

Thirteenth, the three-way stop-cocks *75 76 77 78*, or any desirable number of the kind, constructed substantially as herein set forth and used as described.

Fourteenth, connecting such three-way stop-cocks with steam chambers or pipes, substantially in the manner or for the purposes herein set forth and described.

Fifteenth, the pipes *15a* and *15b*, in connection with pipes *16a 16b 16c* and *16d*, and stop-cocks *90 10* and *9*, the whole substantially arranged in such a way as to enable the condensed impurities of any given column to be returned or directed into any given still, substantially as described and for the purposes set forth.

Sixteenth, regulating by means of valves *27a* and *27b* the quantity of vapors required in any given column for rectifying or distilling purposes, all substantially as described.

61,389.—**JEHIAL BORST**, East Cobblekill, N. Y.—*Churn.*—January 22, 1867.—Explained by the claim and illustration.

Claim.—The arrangement of the two dashers, the outer revolving faster than the inner, and both being operated by means of shaft *S*, toothed plate *n*, idle wheel *o*, and gear-wheel *m'*, with its shaft *m*, the several parts being constructed and used for the purposes specified.

61,390.—**JOHN F. BOYNTON**, Syracuse, N. Y.—*Compound for Telegraph Insulators and for other Purposes.*—January 22, 1867.—The compound of hydrocarbons, sulphur, sulphurets, silicious and calcareous substances, forms a non-conducting material for making telegraph insulators, or application to bricks, tiles, wood, &c., to prevent absorption of water.

Claim.—First, as a composition for an electric insulator, a combination of hydrocarbons with silicic acid and silicate of alumina.

Second, the combination of sulphur with the silicate of alumina and silicic acid, for the purpose set forth.

Third, the combination of sulphur, hydrocarbons,

silicic acid, and silicate of alumina, as and for the purpose herein set forth.

Fourth, any combination of silicates with sulphur or hydrocarbons, so arranged or combined that when formed into an electric insulator it will be black or dark-colored, for the purpose herein specified.

Fifth, saturating earthenware, brick, tiles, drain pipes, porous stone, wood, cast iron, and other hard, porous substances, with the compounds herein described, after subjecting said substances to a sufficient degree of heat to expel the air and moisture therefrom, substantially as and for the purposes described.

61,391.—GEORGE W. BRIGHT, Philadelphia, Pa.—*Steam Blower.*—January 22, 1867.—Steam is emitted from the edges of the spiral wings of the blower, causing them to revolve, and generating a blast of air. Steam is admitted through the trunnion and passes through the hub to the hollow wings, the shaft being secured by a collar and nut and the hub closed by a plug.

Claim.—The arrangement of the shaft A, the hub B, the wings C, the screw b, and the nut c, with the jets e, substantially as herein described for the purposes set forth.

61,392.—R. H. BURKE, Greenpoint, N. Y.—*Tool for Cutting off Boiler Tubes.*—January 22, 1867.—A tube which forms the stock of the tool carries a head with inclined grooves, to which the inner ends of the cutters are secured; the movement of the head in one direction by means of a screw forces them out, and in the other draws them in. Supplementary tubes are used to fasten the stock in the tube to be cut when the latter is of larger size than the stock.

Claim.—First, the cutter head G, with feed screw F and tubular nut E, in combination with the cutters H and pipe A, constructed and operating substantially as and for the purpose described.

Second, the supplementary sleeves I, in combination with the pipe A and head G, carrying the cutters H, substantially as and for the purpose set forth.

61,393.—J. BURNS, New York, N. Y.—*Cooler for Coffee, &c.*—January 22, 1867.—The coffee from the roaster is laid on a screen and cooled by a downward column of air induced by a draft fan.

Claim.—First, as an article of manufacture, the portable cooler herein described, the same consisting of the open mounted pan A, with perforated false bottom B and connecting tube D, as and for the purpose specified.

Second, the arrangement of the stationary suction blower E on the floor, with the pipe b below it, in combination with the removable mounted cooler A B C, supported by its tube D, as and for the purpose specified.

61,394.—CALEB CADWELL, Waukegan, Ill.—*Harvester Cutter.*—January 22, 1867.—The teeth project in rear of the link plates, so that the projections upon the driving blocks over which the cutter passes shall engage directly with the blades both before and in rear of the link plates. The cutter passes between suitable guides and underneath a spring roller at the inner end, and is driven by suitable gearing.

Claim.—First, the rotary cutter, consisting of the teeth I and links H, in combination with the blocks G G' g, when constructed and arranged in the manner and for the purpose specified.

Second, the arrangement of the cutter H I, blocks G G', guides M M', roller L, spring L', gearing D E, shaft B, and bevel pinions C C, as herein described and represented.

61,395.—L. B. CARPENTER, Milwaukee, Wis.—*Seafold.*—January 22, 1867.—The four upright posts are secured to a base, within which slides a horizontal platform or frame. This platform is elevated or lowered by means of windlasses and ropes.

Claim.—The combination and arrangement of the posts A, the horizontal sliding timbers E, arms F, crank shafts H, cranks I, ropes J, and pulleys K with each other, substantially as herein described and for the purposes set forth.

61,396.—DEXTER H. CHAMBERLAIN, West Roxbury, Mass.—*Hand Stamp.*—January 22, 1867.—In this canceling stamp the three wheels have respect-

ively facets corresponding to the number of days and months and a given series of years; are mounted on separate axes, and a double thickness of ribbon is passed beneath their type faces.

Claim.—First, the type wheels a b c, of different diameters, mounted upon separate and independent axes, as and for the purpose set forth.

Second, the combination of the inking ribbon with two reels and a stud, in such a manner as to form a double fold of the ribbon underneath the type wheels or die block, substantially as and for the purposes specified.

61,397.—OCTAVE CHANUTE, Chicago, Ill.—*Repairing Railroad Rails.*—January 22, 1867.—A billet or pile for a railroad rail is formed of an old rail, nearly of full length, and a single cap and foot piece previously rolled to the required shape. This is intended to save the expense of cutting into short pieces and working it up from a short pile, as is usual.

Claim.—A pile for forming a railway bar, composed of an old or worn rail and a new bar of iron or steel for the head and foot, or either, substantially as herein shown and described.

61,398.—W. B. CLEVES, Binghamton, N. Y.—*Measuring Funnel.*—January 22, 1867.—The funnel is fixed in place beneath the cock of a cask, and a cock is located beneath it. A glass tube communicating with the bottom of the funnel ascends to the top, exterior to the funnel, and has the scale inscribed upon it.

Claim.—The peculiar construction of the measure A, in combination with the gauge tube B communicating with the inside of the measure above the faucet C, with the single scale to indicate the quantity in the vessel, and the stand D, with the adjustable clamp to hold the measure in its upright position, substantially as described and for the purposes set forth.

61,399.—WILLIAM B. COATES, Philadelphia, Pa.—*Car Coupling.*—January 22, 1867.—The hollow coupling pin has a rod moving in its longitudinal perforation and connected above to the cap and ring of the pin, and below to a slotted catch, in such a manner that when the bolt is dropped in place the slotted catch shall fall across the pin and prevent it from being jolted out; the said catch being drawn perpendicularly by the act of removing the pin.

Claim.—The coupling pin, constructed in the manner and for the purpose described in this specification.

61,400.—CHARLES C. COLE, Northfield, Vt.—*Filtering Tube for Wells.*—January 22, 1867.—Cup-shaped strainers are placed in the tube, whose interior has countersunk strainers protected by hinged or stationary plates.

Claim.—First, protecting the countersunk strainers A by hinged plates D, or stationary plates B, substantially as represented and described.

Second, the combination of the cone or cup-shaped strainers G with the tubing, substantially as herein shown and described.

61,401.—EDWARD S. COLLINS, United States Navy.—*Furnace Shield.*—January 22, 1867.—The frame on which the shield is pivoted is capable of adjustment in a vertical plane, and is secured in the required position to the cheeks of the fender.

Claim.—First, the shield B, so hung or arranged upon a frame C H and G that it can be adjusted to the required angle with regard to the furnace door, substantially as and for the purpose specified.

Second, the combination with the door shield B of the fender A, when arranged together and so as to operate substantially as and for the purposes described.

61,402.—HENRY S. COOK, Boston, Mass.—*Wheel and Axle Connection.*—January 22, 1867.—The wheel is attached to the axle by a coupling. A plate revolving on the axle hub and retained by a collar has catches which engage in holes in the hub plate, and the latter being partially rotated is then locked by a pawl. The plates revolve together around the collar which holds the wheel upon the axle.

Claim.—The improved carriage wheel and axle connection, consisting of the plates a and e, with their

studs *c c c* and openings *f f f*, operating in combination with the collar *h*, as described.

Also, in combination with the above-described arrangement of parts, the pawl *i*, or its equivalent, substantially in the manner and for the purpose as set forth.

61,403.—EDWIN COPLESTON, Wrentham, Mass.—*Head Covering.*—January 22, 1867.—The foundation of the hat or cap is made of cloth, buckram, muslin, &c., stamped into shape, the several pieces being stuck together by glue or cement. It is treated with a composition of starch and oil, and after pressing to the desired form is varnished and flocked.

Claim.—A head covering, produced as herein described, as a new article of manufacture.

61,404.—RENÉ CUPPER, New York, N. Y.—*Extracting Iodine from Sea Water.*—January 22, 1867.—Sea water is decomposed by means of a composition of 1 lb. sulphate of copper, 2 lbs. sulphate of iron, 5 oz. tartaric acid, and 2 ounces of tartrate of ammonia. The water is decanted from the precipitate, which is strained and boiled in a solution of caustic potash. The solution is then separated from the insoluble portion, and upon cooling deposits crystals of iodide of potassium which are removed from the mother liquor.

Claim.—The process substantially as herein described for the purpose specified.

61,405.—CHARLES DANIEL, Lamonte, Mo.—*Washing Machine.*—January 22, 1867.—The slatted cylinder is pivoted in and vertically adjustable in the sides of the tub, and operates in connection with a slatted adjustable frame also pivoted in the tub and adapted to hold the clothes up to the rotating cylinder. A clamp on the frame holds the clothes when a portion requires an extra rubbing.

Claim.—First, the combination of the adjustable slatted cylinder C and the adjustable slatted concave frame G with each other and with the box or tub A, when said cylinder and frame are constructed and operated substantially as herein shown and described.

Second, the clamping device formed by the combination of the movable jointed frame J with the concave frame G, substantially as herein shown and described and for the purpose set forth.

61,406.—WILLIAM A. DEVON, Port Richmond, N. Y.—*Boat Detaching Tackle.*—January 22, 1867.—The rings of the davit fall-blocks are engaged by locking clasps at the stem and stern respectively of the boat. These are simultaneously opened by separate chains connected to a ring amidships, the tension of which operates cam-faced levers and sets free distending springs in each clasp.

Claim.—The combination of the jaws A and B of the pivoted locking clasp C, with its cam-shaped lever *h* and cheek or face piece *i*, for operation on the jaws, substantially as specified.

61,407.—JUSTUS DOERING, Philadelphia, Pa.—*Filter.*—January 22, 1867.—The respective chambers for filtered and unfiltered water are provided with pipes extending nearly to their concave or conical bottoms; these pipes are used as outlets when the apparatus is to be cleaned, which may be done by opening these outlets without otherwise disturbing the filter.

Claim.—First, the perforated vessel B and its pipes *c* and *d*, in combination with the casing A and its pipes *f* and *g*, the whole being constructed and arranged substantially as specified.

Second, an inclined discharge pipe, arranged in respect to the concave bottom of a filter, substantially as and for the purpose described.

Third, the pipe *d*, with its openings *z*, in combination with a filter, substantially as and for the purpose set forth.

61,408.—J. H. DOUTHIT, Albany, Oregon.—*Gang Plow.*—January 22, 1867.—The plow beams are connected and are pivoted to a horizontal bar on the wheeled carriage. They are raised and lowered, or kept on the ground by chains and windlasses operated by a hand lever and crank under the control of the rider.

Claim.—First, the attaching of the plow beams F

F to slides H H, fitted between suitable guides *c c*, at the inner sides of the bars A A, in connection with the foot lever I attached to one of the slides H, and the pin K, passing through any of a series of holes in the other slide H, substantially as and for the purpose set forth.

Second, the windlass L, having the cords or chains M M' attached, and the latter connected to the plow beams F F, to operate in the manner substantially as and for the purpose specified.

Third, the windlass R having a cord or chain A* attached, which is connected to the plow beams F F, one of the bearings of the windlass being fitted in a slide S, and having a pulley U on one end, around which and a pulley W, on wheel D, a belt *h* passes in combination with the lever T, attached to slide S, all being arranged to operate in the manner substantially as and for the purpose set forth.

61,409.—ROBERT E. ELLERBECK, Washington, D. C.—*Skate.*—January 22, 1867.—The sole is grasped between the diagonal clips which are laterally adjustable on the tread plate, and the grasp is tightened by bringing the sole in line with the blade. A projection rises from the front of the heel support, and interlocks with a plate in the front of the boot heel.

Claim.—First, the laterally adjustable clips *a*, attached to the skate on a line diagonal to the longitudinal plane of the blade A, for the purpose of grasping and securely holding the boot or shoe when applied thereto, substantially as shown and described.

Second, the projection *o* having a groove formed therein and arranged to operate in connection with the plate *n*, and secured by the catch *e*, or its equivalent, substantially as set forth.

Third, in combination with the clips *a*, arranged as described, the grooved projection *o* and plate *n*, spring *f*, and catch *e*, arranged to operate as and for the purpose set forth.

61,410.—ALFRED B. ELY, Newton, Mass.—*Machine for Cutting Files.*—January 22, 1867.—The tool stock is lined with rubber, through which passes the shank of the chisel. The tool is separate from the hammer and the chisel slips up and down in the stock. A pin through the shank above the rubber keeps the chisel in place. The arm of the tool stock has a ball at its end, which is socketed in hollows on the inner sides of two legs of metal on the rear of the tool stock.

Claim.—First, lining the socket and grasping the tool in the stock or head with rubber when the parts are arranged and constructed and operate, substantially as and for the purposes described.

Second, connecting the tool holder or head with the arm or shaft, substantially as described.

Third, the spring arm D, in combination with the rubber-lined head, substantially as described.

Fourth, the arrangement of the bars G, with the head and arm, substantially as and for the purposes described.

Fifth, regulating the angle of the cutting edge of the tool to the arm or shaft by means of bars and clamps, substantially as described.

Sixth, the combination of the rubber-lined socket with the vertically swiveling head, substantially as described.

Seventh, the combination of the rubber-lined socket with the vertically swiveling and horizontally turning head, substantially as described.

61,411.—SAMUEL FAY, Lowell, Mass.—*Machine for Opening and Cleaning Cotton.*—January 22, 1867.—The beaters are arranged one within the other and revolve with different velocities and in opposite directions, being attached to a face plate revolving in a vertical plane. The lower portion of the enclosing cylinder is perforated to allow the dust to escape, and the cotton admitted near the axis escapes at a spout arranged tangentially near the lower portion of the casing.

Claim.—The combination of the beaters G H and I J, arranged the one within the other, and revolved with the same or different velocities, and in the same or opposite directions, substantially as herein shown and described.

61,412.—THOMAS F. FIELD, Saugerties, N. Y.—*Changing Water in Steam Generators.*—January 22, 1867.—A short pipe or nozzle is secured by a flange

to the generator, and has a valve upon its inner end which opens inward, and upon its outer end has a screw thread for the attachment of a water supply hose; the pressure of the water being in excess of that of the steam in the generator.

Claim.—The valve D applied to and in combination with the change water-feed nozzle of steam boilers, and operating in connection with a feed pipe or hose under pressure, substantially as and for the purposes herein set forth.

61,413.—LEVI W. FIFIELD, Melrose, Mass.—*Knitting Machine Needle.*—January 22, 1867.—The forked latch is pivoted in the shank of the needle, and has shoulders which rest upon the cheeks of its slot to limit its vibration. The prolongation of the pivot hole in the latch gives it a limited capacity for longitudinal adjustment.

Claim.—The closer or latch, as made furcated, and with one or more shoulders *d*, arranged with respect to the forks, as and for the purpose set forth.

Also, the pivoted closer or latch, as made with the slot *f*, to enable it not only to turn upon but slide on its pin *e*, as set forth.

61,414.—C. L. FRANK, Rockville, Conn.—*Globe Valve.*—January 22, 1867.—Explained by the claim and illustration.

Claim.—The attachment of the disk H to the stem B, by means of the pin which is fast in the stem and working in a groove in the disk, as herein shown and described.

61,415.—STEPHEN M. GOLDEN, Marceline, Ill.—*Churn.*—January 22, 1867.—The dasher rod is attached to a lever which is vibrated vertically by a wrist on the face of the driving wheel. The wrist traverses a slot in the lever.

Claim.—First, the arm D, as operating on the wrist G, shaft B, and adjustable bolt F, as herein described and for the purposes set forth.

Second, the construction of the frame C, with its toothed wheels K and L, fly-wheel H, and adjustable piston D, in combination with the shaft B, and churn A, when arranged and operated as herein described and for the purposes set forth.

61,416.—WILLIAM F. GOODWIN, Washington, D. C.—*Automatic Toy.*—January 22, 1867.—The legs are flexed and extended by the motion of the compound systems of levers operated by a spring and trains of gearing; the articulations and consecution of the motions imitate the natural and cause the automaton to progress.

Claim.—First, constructing the legs of toys or hobby horses with bars or pieces joining them together, making hinged or vibrating joints at the several points where the legs are required to bend, so that when attached or pivoted on the studs S or their equivalents on the shoulders and hips, and acted upon by the rotating of the cranks B', the legs are made to move, bending all the joints, raising and turning the foot, stepping, walking, and trotting with both the fore and hind legs and feet, in imitation of the movements of the horse or animal which the toy is made to represent, in the manner and for the purpose substantially as described.

Second, the cranks B', or their equivalents, operated in any manner or by any means whereby they can be made to rotate, the rotating of which imparts to the legs their vibrating and reciprocating motions, arranged to operate in the manner and for the purpose substantially as described.

61,417.—W. G. GRANT, Wakeman, Ohio.—*Director for Uterine Supports.*—January 22, 1867.—The instrument is used for inserting a pessary which is contracted in the tube till it reaches the required spot; the tube then opens longitudinally and the pessary is ejected by the plunger.

Claim.—The director A, made in two parts or sections B, and connected together substantially as and for the purpose specified.

Also, the pusher E in combination with the director A, substantially as described for the purpose set forth.

61,418.—STEPHEN B. GREACEN, Norwich, Conn.—*Peat Machine.*—January 22, 1867.—Within the cylindrical casing is a cylinder eccentrically journaled and carrying a series of sliding plates operated by a

cam. A hopper above the casing feeds the peat to the pockets on the periphery of the revolving cylinder; these gradually decrease in size radially, and thus condense their contents. The blocks are discharged at an opening in the lower part of the casing.

Claim.—First, the combination with the eccentric outer cylinder B, and irregular cam E, of the revolving inner cylinder D, with its separately operating radial slides *b*, forming sides to the molds, the whole being constructed and arranged for operation together, substantially as and for the purpose herein set forth.

Second, the combination with the revolving cylinder D, slides *b*, and cam E of the knife or scraper *f*, arranged for operation in relation thereto, as shown and described.

61,419.—ALBERT HALL, New York, N. Y.—*Toy Gun.*—January 22, 1867.—The barrel forms a sleeve around the lower portion of the stock and the interior devices are exposed by opening the stock at its longitudinal suture when the barrel is removed. The cylindrical spring uniting the plunger and discharge cup is elongated by retraction rearward till the button engages the sear of the trigger.

Claim.—First, the construction of the stock of a spring toy gun in two longitudinal halves or sections *a b*, secured together by the barrel *c*, substantially as herein set forth.

Second, the cylindrical India-rubber spring *g*, arranged in relation with the piston *f*, barrel *c*, and trigger *k*, substantially as herein set forth for the purpose specified.

61,420.—CHARLES HALL, New York, N. Y.—*Tool Holder for Planing Machines.*—January 22, 1867.—The tool rest has two projecting cheeks, between which the stock is suspended by pins, three on each side, projecting from it and passing through curved slots in the cheeks. The two series of pins are directly opposite one to the other, and of either series two are arranged some distance apart, but in a horizontal plane, near the upper end of the tool stock, and the other near the lower end of the stock, but on a vertical line intermediate between the two upper pins.

Claim.—The combination of the tool stock of a planer, with its support or rest, by means substantially as above set forth, so that the tool stock can move a limited distance in two directions, in the line of cutting, whereby two opposite cutting edges may be alternately brought into operation and held there.

61,421.—WILLIAM HANCOCK, Saco, Me.—*Reversible Butt Hinge.*—January 22, 1867; antedated January 14, 1867.—The plates have tubular portions on each edge, and the pintle being removable they may be associated so as to form a right or left hand hinge.

Claim.—First, the hinge, in combination with the washer, for the purpose specified.

Second, a double round edge hinge, as specified, in combination with a movable pin or pintle, whereby I am enabled to obtain a "right or left hand" hinge movement from one and the same hinge.

61,422.—JOHN HARRINGTON, Menomonee, Wis.—*Machine for Pulling Flax.*—January 22, 1867.—The cams on the faces of the reel heads operate pivoted plates, which as the reel rotates are vibrated and clamped against the radial plates on the reel arms and seize the flax as the machine passes over it. At a subsequent point in the revolution of the reel the pivoted jaw plates open and drop the flax on the platform in the rear of the reel.

Claim.—First, the rotating reel provided with fixed radial plates *c*, and movable plates J, arranged so as to operate as clamps, and as the machine is drawn along pull the standing flax and deposit it on the platform, substantially as set forth.

Second, the cam-shaped grooves L, at the inner sides of the plates M, and the pivoted arms K, to which the plates J are attached, in connection with the rollers *e*, at the inner ends of the arms working in the grooves L, for the purpose of operating the plates J, substantially as set forth.

Third, the shafts *j*, at the outer ends of the plates *c*, in connection with the yielding bars *k*, at the outer ends of the plates J, substantially as and for the purpose specified.

Fourth, the combination of the main frame and plat-

form, with the reel arranged with clamps to operate as set forth.

61,423.—GEORGE HAVEL, Newark, N.J.—*Traveling-bag Frame.*—January 22, 1867.—A double strip of metal is bent into a frame for a traveling bag, making the overlapping lips of two thicknesses, and at the same time leaving a groove between their edges in which to confine the material of which the bag is made.

Claim.—As an article of manufacture the within-described frame for traveling bags, when constructed and used as and for the purpose specified.

61,424.—JAMES L. HAVEN, Cincinnati, Ohio.—*Meat Cutter.*—January 22, 1867.—The cylindrical case has slots through which the knives are introduced, the latter being secured by the projecting ribs on exterior plates; the ribs press the bases of the knives against the sides of their slots, and a single tightening screw at the end of the plate clamps the gang of knives.

Claim.—First, the mode of securing an entire series of meat cutting or mincing knives G, by means of a single set screw L, ribbed plate F, and slotted case A B, substantially as set forth.

Second, the provisions of ribs f, on the side of a meat cutter, whether cast on the case or separately, in combination with a correspondingly ribbed loose part, when arranged so that one lateral movement will firmly hold all the knives, substantially as set forth.

Third, the mode of securing a series of meat cutting or mincing knives G, by means of the lateral movement of a ribbed plate F, against corresponding ribs on the slotted case A B, substantially as set forth.

61,425.—SAMUEL K. HAWKINS, Lansingburg, N. Y.—*Apparatus for Automatically Weighing Spirits and other Liquors.*—January 22, 1867.—The machine receives the liquor as it runs from the still, weighs it, passes it off to the cisterns or tanks, and registers the weight of the liquor manufactured, all by automatic motions. The devices are cited in the claims.

Claim.—First, the automatic weighing machine, constructed and operating substantially as and for the purpose herein described.

Second, in combination with the levers D and C, and the clutch hooks p p, the drop weight E, so arranged that the clutch hooks will alternately lift and drop the weight, substantially as and for the purpose described.

Third, the combination of the balance levers D and C, with the mechanism for operating the valves a and b b, substantially as described.

Fourth, the combination of the balance lever D, the gripping bars G G, the clutch hooks p p, the weight E, and the V-shaped slot V, constructed and operating substantially as described.

Fifth, the dial plate M, in combination with the index m, the ratchet wheel N', the pawl n, and the arm O, operated by a rock shaft, substantially as and for the purpose described.

Sixth, in combination with the balance lever D and its attachments, the sliding weight D', substantially as and for the purpose described.

Seventh, in combination with the lower lever C, and the drop weight E, the elastic platform E', substantially as and for the purpose described.

Eighth, in combination with the lower lever C, the connecting bars H' and h, the lever k' and the valve a, the inclines J and J', constructed and operating substantially as and for the purpose described.

61,426.—T. D. and W. A. HEDGER, Meadow Lake, Cal.—*Revolving Sluice for Saving Metals.*—January 22, 1867.—The endless apron is made of fabric sufficiently coarse to retain the heavier particles which it receives from the feed spout, beneath which issues the stream of water. A scraper at the end removes the refuse, and the entangled metallic particles pass into and are collected in the tank.

Claim.—First, a sluice with revolving belt D, so constructed that the sides will form flexible joints b b in passing around the drums, closing up and forming close joints while passing up and down the incline, forming a sufficient channel between them for the purpose described, substantially as set forth.

Second, the mouthpiece or opening G beneath the platform, so that the sand or pulp which is fed to the

machine may enter a sufficient distance below to give action and force to the water introduced through the opening G to sweep down the incline and carry with it the sand and debris, substantially as described for the purpose set forth.

Third, separating the ore, by passing the valuable portions up the incline, and the debris down to the foot, as waste matter, as described.

61,427.—CYRUS HILL, Dover, Me.—*Composition for Roofing.*—January 22, 1867.—Composed of coal tar, three gallons; linseed oil, one quart; and clay, plaster, and pulverized slate in sufficient quantity to give the mixture proper consistency to spread easily.

Claim.—The composition for covering roofs and for similar purposes, consisting of the ingredients herein named, and united in the proportions substantially as set forth.

61,428.—J. HINDMAN, Olathe, Kansas.—*Corn Husker.*—January 22, 1867.—Improvement on patent of Shaw, November 10, 1857, in respect of the position of the hook, which is curved backward so as to be utilized by the retraction of the arm and hand instead of the radio-ular rotation of the forearm.

Claim.—A corn husker having the tang B turned back and pointing toward the wrist, as herein shown and described.

61,429.—JOHN S. HOAR, West Acton, Mass.—*Bench Vise.*—January 22, 1867.—Combined with the ordinary movable jaw of a bench vise is a supplementary, adjustable, obtuse-angled, triangular jaw secured by a backwardly projecting flange to the jaw, the obtuse angle being against the face of the jaw.

Claim.—First, the adjustable jaw B made as described, also its combination and arrangement with the vise jaw.

Second, the arrangement and combination of the slotted hook C, and its set screw b, with the vise jaw A, and with the adjustable jaw B, made as described.

61,430.—CHARLES HOLLWEDE and JULIUS BRZEZINSKY, New York, N. Y.—*Muff.*—January 22, 1867.—The skin is stretched and formed on a block, the edges being drawn over the ends to the required extent so as to expose the fur to the edge of the lining of the pocket.

Claim.—A fur muff, having its ends turned and set upon a former, by means substantially as shown and described.

61,431.—D. S. HOLMAN, Conneautville, Pa.—*Seed Planter.*—January 22, 1867.—The devices described constitute means for opening the furrows in the ground, regulating the discharge of seed, and covering the seed after being dropped.

Claim.—First, the two seed slides H H', placed one above the other at the upper part of the tubes G, and having springs d bearing against them, in combination with the wheels I and projections e, having pins f g in their peripheries, all arranged to operate substantially in the manner as and for the purpose set forth.

Second, the regulating slides J, in combination with the seed slides H H', arranged substantially as and for the purpose specified.

Third, the combination of the metallic tubes L and covering shares O, all arranged and applied so as to be capable of operating and being adjusted substantially as shown and described.

61,432.—R. L. HOWELL, Baltimore, Md., assignor to himself, E. M. WILKINS, and W. S. BROWNING, same place.—*Burner for Vapor Stoves.*—January 22, 1867.—The flow of oil to the retort is controlled by a valve with a screw stem, and as it issues from the vertical vent tube is deflected by a cone which prevents the hissing of the vapor as it escapes. A chamber in the supply pipe forms a trap for arresting foreign matters on the oil.

Claim.—First, the residuum chamber N N, and the pipe B, arranged substantially as described, in combination with a vapor stove.

Second, the conical headed pin H, within the aperture J of the retort, operated by the screw plug E, substantially as and for the purpose specified.

Third, the retort F having stands L and partition K cast solid therewith, the latter having vent J ex-

tending through it, and valve seat I on its side, as and for the purpose specified.

61,433.—ANTHONY ISKE, Lancaster, Pa.—*Window Sash and Fastener.*—January 22, 1867.—The device provides a ready means for removing the sash from its traversing grooves for the purpose of cleaning or reglazing. The side strips are made removable and are locked in place by the turn button.

Claim.—The tongue and groove connection of the strip B with the sides A of the sash, in combination with the turning button, for either locking both parts A B together, so as to move up and down jointly, or for locking both to the casing, the whole arranged and operating in the manner and for the purpose specified.

61,434.—PATRICK KENNY, New York, N. Y.—*Steamboat Signal Apparatus.*—January 22, 1867.—The movement of a lever by the pilot actuates an indicator traversing the face of a marked dial coincidentally with the sounding of a bell. The levers projecting through a plate having slots extending in different directions, are caused by means of wires to move a lever connected to the shaft of the index by cord attached at different points on its periphery; thus a greater or less extent of movement on the levers will move the index through a proportionate arc.

Claim.—First, the combination of the signal handles with each other in the manner described, so that each signal handle will have a different line of movement, as and for the purpose set forth.

Second, attaching the connecting cords to the index shaft at intervals proportioned and corresponding to the intervals between the signal marks upon the dial, substantially as described.

Third, the combination of one or more levers G, or their equivalents, with the index shaft, substantially as described.

61,435.—DANIEL KIDDER, Franklin, N. H.—*Apparatus for Tethering Animals.*—January 22, 1867.—By the introduction of the spring under the pole the end of it is kept up to prevent the animal from getting entangled in the bridle rein or tether rope.

Claim.—The spring E applied to the pole D, in combination with the stake A, substantially as and for the purpose described.

61,436.—NORMAN S. KINYON, Chenango Forks, N. Y.—*Churn.*—January 22, 1867.—The spiral horizontal blade and the concentric bowed blades are revolved in different directions by their pinions, which engage with a common master wheel.

Claim.—The combination, construction, and arrangement of the dasher blades or floats with the angular blades *s s* on the lower end of the shaft B, substantially as described and for the purpose set forth.

61,437.—GEORGE T. LAPE and JEPHAN LEATHE, New York, N. Y.—*Railroad Switch.*—January 22, 1867.—The switch piece has a lug which rests against the rail, retains it against side pressure, and has a central groove which receives the flange of the wheel and leads it up till it crosses the rail, when it descends into its proper position.

Claim.—The street car replacer, consisting of the side pieces B B, groove A, lug *a*, when constructed and operating as herein set forth for the purpose specified.

61,438.—DAVID P. LEWIS, Huntsville, Ala.—*Cotton Chopper and Thinner.*—January 22, 1867.—A cutter with edges on both sides is arranged in a frame capable of vertical adjustment to regulate the depth of cut. The motion of the cutter is imparted from a wheel driven by bevel gears from the axle of the supporting wheels.

Claim.—A machine for cutting and thinning cotton and for other purposes, constructed, arranged, and combined substantially as herein shown and described.

61,439.—ALPHONSE JULIEN LOISEAU, New York, N. Y.—*Stop Motion for Looms.*—January 22, 1867.—To each warp thread is hung a weight which descends as the thread breaks, and is then pushed by a constantly oscillating plate against a cross bar, which brings into action the proper levers and catches to

check the lay, arrest the movement of the driving shaft, and also slip the belt.

Claim.—The oscillating plate F and cross bar E in combination with weights or rods *a*, dog *e*, catch bar N, and stop K, constructed and operating substantially as and for the purpose described.

61,440.—EMILE LOISEAU, New York, N. Y.—*A Attachment for Holding Skirts together.*—January 22, 1867.—The lower hoop is attached to the skirt by a loop, which encloses the hoop and buttons to the skirt.

Claim.—A strap A whereby a lady's hoop skirt is attached to a petticoat, said strap being made substantially as herein shown and described.

61,441.—ISAAC V. LYNN and GEORGE T. SNOWDEN, Pittsburg, Pa.—*Balance Slide Valve.*—January 22, 1867.—The conical packing ring is interposed between the conical seat on the inside of the cylinder on the back of the valve, and the cylinder which depends from the inside of the chest cover. The object is to obtain a balancing pressure on the respective sides of the valve.

Claim.—The packing ring D, or its equivalent, when used in combination with the cylinders *f* and C, plate B, and valve A, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

61,442.—JOHN McMICHAEL, Philadelphia, Pa., assignor to JOSEPH WRIGHT, same place.—*Wood Turning Lathe.*—January 22, 1867.—The lathe has two revolving disks with cutting edges on their peripheries, and an oscillating frame carrying revolving spindles upon which the handle is fixed. The means for oscillating the handle in contact with either side are described in the claims.

Claim.—First, the rocking frame H arranged with the cutters G and G' and the standing frame A, substantially as hereinbefore described, and for the purposes specified.

Second, combining the cam V with the rocking shaft T and rocking frame H, for giving a reciprocating motion to the latter, substantially as and for the purpose above described.

Third, the combination of the cam lever O with the center J' and lever P, the latter being operated by the lever Q, or its equivalent, substantially as and for the purpose set forth.

Fourth, arranging the sliding handle Y and spring X with the upright W, for the double purpose of giving a rocking motion to the frame H by means of the cam V, and actuating the cam lever O through the intermediate levers P Q, substantially as described and for the purposes specified.

61,443.—BENJAMIN F. MILLER, New York, N. Y.—*Caloric Radiator for Stove Pipes.*—January 22, 1867.—The diaphragm is sustained by angular radial plates parallel to the axis of the radiator. A radial extension of the case at this point preserves the sectional area of flue space.

Claim.—First, the septa or plates *f*, in combination with the diaphragm *e* and radiating case *d*, substantially as and for the purposes set forth.

Second, arranging the diaphragm *e* and case *c* in the manner shown in Figs. 1 and 3, so that the space through which the heated gases or products of combustion pass shall be nearly of equal area to the pipe *a*, for the purposes and as set forth.

61,444.—CHARLES B. MOSELEY and LUCIUS L. WOOLLEY, Medford, Mass.—*Copy Holder.*—January 22, 1867.—The clamp holds the "copy" for a compositor or copyist, and is revolved as the matter is composed to expose a fresh portion to view. The pawl holds the cylinder to its adjustment and the edge of the lid may constitute a line indicator.

Claim.—The cylinder D, or its equivalent, having a spring jaw F, when hung in a suitable frame, substantially as and for the purpose described.

Also, in combination with the above, the swinging lid II, arranged substantially as described and for the purpose specified.

Also, the notched head of the cylinder D, or its equivalent, in combination with the pawl or catch N, for the purpose described.

Also, the iron frame on which the working portion

of the machine rests, and which holds the same in position, substantially as specified.

61,445.—MICHAEL C. MURRAY, West Acton, Mass.—*Railway Chair*.—January 22, 1867.—The base plate has an upward flange which fits into the hollow on one side of the rail and receives a jaw which fits into the hollow on the other side. Rabbits secure the relative longitudinal position of the parts. The notches in the adjacent edges of the rails receive a locking piece, and the nuts of the transverse bolt are secured by a longitudinal locking bar.

Claim.—The improved chair as constructed with the base plate A, separate from and to extend under and support the jaw C, and as having the rabbit a and as provided with the projections c c' and the shoulders b b, arranged with respect to the base plate A and the jaws B C, and so as to extend into and under the rails as specified.

Also, the rails as made with the notches d d arranged in them at their joints or ends, as specified, and to be used with the chair made as explained.

Also, the nut holder D as made with the nut recesses i i and the flange k, or their equivalents.

61,446.—HENRY E. NEWTON, Manchester, N. H., assignor to himself and W. A. NEWTON, same place.—*Broom*.—January 22, 1867.—The spring connection of the handle to the broom gives a flexibility additional to that of the bristles.

Claim.—One or more springs B which connect the handle C with the broom head A, substantially in the manner and for the purpose herein shown and described.

61,447.—JOHN NICHOLSON, Alleghany City, Pa.—*Pump*.—January 22, 1867.—The upper end of the valve chamber or working barrel has a lock furnished with catches and springs, the catches taking hold under the shoulder of a coupling and being held there by means of said springs until released by a collar on the pump rod; the valve chamber and its lock are combined with a yielding seat piece in the tubing.

Claim.—Providing the upper end of the valve chamber or working barrel h of a pump with a lock f f', furnished with catches g and springs e, said lock being used in connection with a coupling A, case C, seat J, nuts K 8 and 9, spiral spring r, and collar l' on the pump rod D, the whole being constructed, arranged and operating substantially as herein described and for the purpose set forth.

61,448.—L. R. NORMAN and W. F. DIETERICHS, jr., St. Louis, Mo.—*Brick Kiln*.—January 22, 1867.—A space for the escape of steam is provided between the two arches which form the roof of the chamber where the articles are burnt. The smoke flues on the top and ends of the air chambers are connected by short transverse flues which terminate in chimneys on the sides of the structure whose inarched walls resist internal pressure.

Claim.—First, the construction and arrangement of the smoke flues D d D' as described and set forth.

Second, the cold air or supply chambers C, and the distribution of the air to the furnaces through a series of orifices c, as described and set forth.

Third, the construction of the vertical walls of the kiln with concave sides so as to resist the interior pressure from the expansive force of the heat and steam.

61,449.—L. R. NORMAN and W. F. DIETERICHS, St. Louis, Mo.—*Brick Kiln*.—January 22, 1867.—Explained by the claims and illustration.

Claim.—First, constructing the sides of our improved brick kiln of double walls to enclose a hot-air chamber when the outer wall is inwardly curved or arched, the inner wall being straight, all substantially in the manner herein described and for the purposes set forth.

Second, the arrangement of a hot-air chamber D over the cold air supply chamber B, between the fire spaces of our improved kiln, constructed and operating substantially in the manner and for the purpose herein specified.

Third, the combination and arrangement of the outer chimneys F, the valves F', and the air chambers A² and D enclosing the kiln, all substantially in the manner and for the purpose herein set forth.

Fourth, the arrangement of the fire boxes with

grate bars extending entirely across our improved kiln, substantially as herein set forth.

61,450.—C. P. NORTON, Roseville, Ill.—*Cultivator*.—January 22, 1867.—The draft pole is supported by an arch upon the axles, and the beams connected to a braced vertical rod depending from the draft pole, the coupling being adjustable vertically. The double shovel plows are managed by the usual handles.

Claim.—First, the pole B, arch C, and supporting wheels D D, constructed and arranged substantially as and for the purpose herein set forth.

Second, the pole B b, fig. 1, sliding box f, loop F, and set screw k, in connection with the plow beam A, all arranged and operated as and for the purpose described.

61,451.—JULIUS A. PEASE, New York, N. Y.—*Hat Body*.—January 22, 1867.—The hat body is made of rawhide split, damped, and stretched on a block with a ring next to the brim, and is thus dried; or it may be tanned on the block. It is then colored, floored, or covered with plush or other material.

Claim.—A hat or hat body made from raw hide or untanned hide, substantially as before described.

61,452.—EDWARD L. PERRY, New York, N. Y.—*Cot or Covering for Rolls for Spinning, &c.*—January 22, 1867.—The three or more layers which form a cot or covering for the roll are united by cement.

Claim.—A cot or covering for rolls of spinning or other machines, when made or composed of three or more separate layers or thicknesses joined together, of which the outer layers a and b consist of leather, and the intermediate layer c of fibrous or elastic material, substantially as described.

61,453.—H. PIERCE and J. B. BUTTON, Cleveland, Ohio.—*Oil Tank*.—January 22, 1867.—The tank is formed on sills whose intervening keys are arranged so as to form a circular base. The two floors are at right angles to each other, and each at an angle of 45° with the sills. A circular groove in the sills receives a brace against which the planks of the first floor abut. The second floor is above the lower edge of the tank.

Claim.—First, the arrangement of the sills B, keys C, abutment braces F, in combination with the foundation floor G, for the purpose set forth.

Second, the construction and arrangement of the bottom G', placed within the tank, the inlayer d' in combination with the tank H, angle irons b and floor G, for the purpose and in the manner set forth.

61,454.—LUKE A. PLUMB, Biddeford, Me.—*Combined Lamp, Coffee Pot, and Boiler*.—January 22, 1867.—The device has the functions cited, the coffee-pot and boiler having a central flue which forms a chimney for the lamp upon which they are imposed when adapted for associated use.

Claim.—First, the tube D, attached to a cone C, of the burner of the lamp when used in connection with a vessel provided with a central draft tube to fit over said tube D, substantially as and for the purpose herein set forth.

Second, the employment or use in a vessel provided with a central draft tube for a lamp of a vessel E, provided with two or more removable chambers J, substantially as and for the purpose specified.

Third, the combination with a lamp of two or more vessels E H, provided with central draft tubes arranged so that the draft tube of one vessel will extend above its top to admit of the lower end of the tube of the other vessel being fitted upon it, substantially as and for the purpose set forth.

61,455.—OSCAR T. POTTER, Scott, N. Y.—*Carriage Jack*.—January 22, 1867.—The jointed arm is pivoted to the post and extended by the depression of its attached lever.

Claim.—The arrangement of the arm b with its fork d and crooked lever m, in combination with the standard a, when used as and for the purposes set forth.

61,456.—TIMOTHY J. POWERS, New York, N. Y., assignor to FITCH and VAN VECHTEN, same place.—*Cartridge Filling Machine*.—January 22,

1867.—Automatic devices feed the cartridge shells to the machine; feed the gunpowder into the shells, the bullets to the machine and to the loaded shells, where they are rammed upon the charge. Other automatic devices crimp and close the mouths of the shells around the bullets. Automatic contrivances carry the shells from the shell-feeding to the powder-feeding device, thence to the bullet-feeding and inserting devices, thence to the crimper, and finally to the discharge.

Claim.—First, the spring or contractible crimping die or device for closing the mouths of the shells on to or in the bullet, constructed to operate substantially as described.

Second, said contractible crimping die, or its equivalent, in combination with an intermittent shell carrier for operation together, essentially as herein set forth.

Third, the combination of an automatic bullet-feeder with an automatic shell-carrier, substantially as specified.

Fourth, the combination of an automatic shell-feeder, shell-carrier, and bullet-feeder, for action together, as herein set forth.

Fifth, the combination with an automatic bullet-feeder, of a bullet take-up or slide, to deposit the bullet over the shell.

Sixth, in combination with an automatic bullet-feeder a divided or opening and closing conducting die, to guide the bullet to its place in or over the shell, and to hold it while the charge is being rammed, substantially as specified.

Seventh, providing the bottom of the powder hopper, or space intervening between it and the charge measurer or distributor, with an independent bush and rubber packing, or their equivalent, for operation together and in combination with the distributor, essentially as and for the purpose herein set forth.

Eighth, gripping the shell, while being crimped, by an independent slide, or its equivalent, arranged to close upon the mouths of the shell chambers in the carrier, and afterward, to open and retire therefrom, essentially as specified.

Ninth, the combination in one machine of an automatic shell-carrier, bullet-feeder, powder-charger or measurer and distributor, and crimping device or die, for operation together, substantially as herein set forth.

Tenth, while not claiming irrespective of the mode herein described, raising the shell at certain points within its chamber in the carrier, I do claim, in combination with an intermittently rotating carrier provided with chambers substantially as described, the lifting rod *i*, arranged to raise, during a pause in the motion of the carrier, the shell further up within its chamber, and then to retreat, essentially as and for the purpose herein set forth.

Eleventh, elevating the upper end of the shell, prior to crimping, above the top surface of the carrier, and retaining it there while crimping by means of an intermittently reciprocating rod *e*, arranged to operate in connection with the carrier and suitable crimping device, substantially as specified.

61,457.—JAMES S. RALSTON, Indiana, Pa.—*Vise.*—January 22, 1867.—The two cam disks have a connecting rod which passes through the jaws of a vise. By turning the rod the disks close the jaws and are retained in that position by a pawl catching upon a ratchet upon the periphery of one of the disks.

Claim.—In combination with the A A' of a vise the cam disks C C, placed on a coupling rod B, for opening and closing the jaws, to be held to their work by the ratchet wheel *e* and spring dog *e*, constructed and operating substantially as herein described.

61,458.—ANDREW RANKIN, Philadelphia, Pa.—*Butt Hinge.*—January 22, 1867.—A roller is applied between the two plates so as to receive a portion of the lateral strain, which is ordinarily wholly received by the pintle. The roller occupies a slot in one barrel, and the axis of the roller is an axial screw pin.

Claim.—The roller *m*, adapted to the two plates of a lift-off hinge, substantially in the manner and for the purpose herein set forth.

61,459.—SMITH E. G. RAWSON, Saratoga Springs, N. Y.—*Globe Clock.*—January 22, 1867.—The globe time piece exhibits the difference in time between

places of differing longitude. The mechanism is contained within the sphere, exposing on the outside of the globe only the dial plate, pointers, and the pedestal support.

Claim.—First, providing for the winding up of a globe clock through an aperture in the shaft or axle of rotation of the globe within which the clock is contained.

Second, having the winding up shaft of a globe clock coincident with the axis of rotation of the globe within which the clock mechanism is contained.

Third, sustaining a globe clock upon an adjustable support C, or its equivalent, substantially as described.

Fourth, supporting a globe clock by means of a vertical spindle upon a pedestal in such manner that the globe can be rotated about a vertical axis, substantially as described.

Fifth, the combination of a fixed index *k* and movable index *n* with a globe which is rotated automatically, substantially as described.

Sixth, sustaining a globe which is rotated by means of clock-work upon a tubular shaft in such a manner that the clock spring can be wound up without detaching the sections of the globe, substantially as described.

61,460.—WILLIAM G. REDMAN, Louisville, Ky.—*Dental Plugger.*—January 22, 1867.—The pressure of the plugger upon the gold in the cavity of the tooth gives movement to a hammer which strikes upon the extremity of the plugger. The intermission of the pressure permits the extension of the spring and raises the hammer.

Claim.—First, the casing as represented in form by A and A', containing the bar D D', the let-off bar *f*, the spiral spring *h*, the spring and stop *z* and *z'*, the disks V and V', the partial disk or joint piece *w*, and the swivel joint E, constructed substantially as described for the purpose specified.

Second, the arm or lever C, connected with the spring helve by slot and bolt, substantially as described.

Third, the spring helve *b*, and its connection with the case at 11, and also the spring *d* acting against the helve.

61,461.—J. W. REYNOLDS, Hyde Park, Pa., assignor to himself and S. H. CUTLER.—*Car Truck.*—January 22, 1867.—The king bolt is placed on a socket applied to the cross bar of the truck to which the spring is attached. The springs rest on longitudinal bars connected to the pedestals which bear upon the axles. The latter are lubricated through openings in the outer sides of the boxes.

Claim.—First, the construction and arrangement of the pivot or king bolt D of the truck on a socket C, applied to the cross bar B, substantially as and for the purpose set forth.

Second, the combination and arrangement of the springs I, bars G, and the boxes F, substantially as and for the purpose specified.

Third, the openings *d* in the outer sides of the boxes F, in combination with the slides *e*, substantially as and for the purpose set forth.

61,462.—M. S. RICHARDSON and ERASMUS A. POND, Rutland, Vt.—*Valve Gear for Direct Acting Engines.*—January 22, 1867.—The series of piston valves are operated by a system of levers arranged within the cylinder and steam chest, and actuated by the contact of the piston at each end of its stroke.

Claim.—First, the piston valves connected with and directly actuated by a system of levers operated by the steam piston as herein described, so as to effect the induction and eduction of steam to and from the steam cylinder.

Second, the combination of the piston valves with an oscillating lever actuated by auxiliary levers arranged within the steam chest and cylinder, substantially as shown and set forth.

Third, the combination with a system of levers located within the steam chest and cylinder, and actuated by the steam piston as described, of the cylindrical plungers or piston valves sliding in recesses formed in the steam chest on each side of the central steam admission and exhaust chambers, substantially as herein shown and specified.

61,463.—JOHN ROBERTSON, Brooklyn, N. Y., assignor to himself and ABRAHAM BARTHOLF.—*Extracting Oil from Seeds.*—January 22, 1867.—The seeds are pulverized in a steam-jacketed cylinder, and the oil extracted by means of a centrifugal machine.

Claim.—First, the process substantially as herein described of treating seeds or other substances for the extraction of oil by subjecting the same to the action of beaters in a heated cylinder or case, essentially as herein set forth.

Second, the within-described process of extracting the oil from seeds or other substances reduced to a pulp by exposing the same to the action of a centrifugal machine, substantially as specified.

Third, the combination with a centrifugal machine of revolving beaters, working in a cylinder or case as described, and to which steam is or may be admitted for separate but joint action on the material from which the oil is to be extracted, essentially as specified.

Fourth, the arrangement in a loose or detachable manner within the revolving cylinder or holder of a centrifugal machine, and so as to rotate with said holder of the reticulated cylinder or screen in which the material is placed for action, as described.

61,464.—ALMON ROBINSON, McLean, N. Y.—*Peat Machine.*—January 22, 1867.—A series of molds are attached to an endless chain which passes over rollers and under the hopper which supplies them with peat. A band of woven material passes entirely round the chain and is pressed into the molds, forming a lining to each. As the molds pass over the roller they open and the peat is thrown out by means of the lining. The peat is pressed in the molds by a plunger.

Claim.—First, the carrier molds *a a*, arranged relatively to each other, and to the grinding and depositing mechanism *D¹ D²*, or their equivalents, substantially as and for the purpose herein set forth.

Second, the presser *G*, in combination with the carrier molds *a a*, and arranged to operate relatively, substantially as herein specified.

Third, the slack cloth *g* arranged on the presser *G*, so as to be pulled off by a motion commencing at the edge or edges, as represented and described, for the purpose herein specified.

Fourth, the slack cloth *M*, arranged as herein shown relatively to the section of molds *a a*, so as to unfold, peel off, and expel, in the manner and with the effect substantially as herein specified.

Fifth, the roller *I*, arranged to pass into and out of the several molds, and replace the slack cloth *M*, or its equivalent, in the manner herein shown.

61,465.—JUAN A. ROBINSON, jr., San Francisco, Cal.—*Amalgamator.*—January 22, 1867.—The design is to prevent the deposit of base metals from the solutions of their sulphates in the amalgamation of silver ores.

Claim.—An amalgamator constructed of copper and wood, or an alloy of copper, with frictional surfaces, substantially as and for the purpose described.

61,466.—GEORGE W. ROGERS, Lancaster, N. Y., assignor to himself and JOHN D. SHEPARD.—*Manufacture of Soap.*—January 22, 1867.—The boiling soap is forced into the cooling frames by means of a force pump until a pressure of 200 pounds to the square inch is attained. This pressure is maintained until the soap is cooled.

Claim.—The within-described manufacture of soap by subjecting the material to a high pressure at a moderate temperature, substantially as and for the purpose herein specified.

61,467.—ADALINE ROSE, Bath, N. Y.—*Carpet Sack.*—January 22, 1867.—Straps are added on each side of the handle and extend to the bottom of the sack. The straps are held in their places by loops, and are shortened by buckles to draw up the bottom of the sack and reduce its size.

Claim.—The carpet sack *A*, with the straps *B* and buckles, and with the keepers *C*, as and for the purpose specified.

61,468.—JOHN ROSS, Greenville, Mich.—*Pump.*—January 22, 1867.—The lower section is bored for piston chambers and communicating pipes, and its

upper end carrying the eduction valves is slipped into the upper portion of the stock. The plunger rods are worked by racks and pinions, and the vent tube above the eduction valve worked by a rod which reaches the surface.

Claim.—First, the arrangement of the bore *B*, bores *F F*, chamber *C*, chambers *L M*, and piston rods *P R*, secured to racks *S T*, in combination with the stock *A* and valve cylinders *H I*, and operating substantially as described for the purpose specified.

Second, in combination therewith, the vent tube *X* of the chamber *C* and notched rod *A'*, arranged to operate substantially as and for the purpose specified.

61,469.—ISAAC ROWELL and FRANCIS E. MILLS, San Francisco, Cal.—*Mounting Photographs for Exhibition.*—January 22, 1867.—The paper is carefully cut away from the outlines of the portrait figure and a substitute background placed behind it in another plane, diverging upwardly from the plane of the figure and intersecting the latter at the lower edge. By this means salient effect is obtained.

Claim.—First, arranging or mounting photograph likenesses on a plane divergent from the plane of the background and foreground, substantially as and for the purposes herein set forth.

Second, the picture frame or case *A*, with the sloping back for holding the background and likeness on separate and divergent planes, substantially as and for the purpose described.

Third, the combination of parallel wheels revolving independently around the same axis, for the purpose of changing the grouping and scenery of the picture, and bringing different figures in juxtaposition successively, substantially as set forth.

61,470.—ISRAEL LONG, Terre Haute, Ind.—*Plow.*—January 22, 1867.—The plow beams occupy positions outside of the wheels and are attached to the axles. The position of the plows is controlled by levers within reach of the driver.

Claim.—First, the adjustable beams *F F*, occupying positions at opposite sides of the machine and outside of the wheels, and each adapted for the attachment of one or more plows, substantially as and for the purpose herein specified.

Second, the combination with the plows *G G'*, beams *F F*, of the collars *E E*, fitted to turn upon the ends of the axle, and adjusted by means of levers or otherwise, as and for the purpose specified.

Third, the combination of the plow beams *F F*, collars *E E*, levers *H*, and notched bars *I I*, all arranged and operating in the manner and for the purpose herein set forth.

Fourth, the adjustable double-tree *K*, in combination with the independent hounds *D D'*, whereby the draft may be transferred to either side of the machine, substantially as and for the purpose described.

61,471.—GEORGE H. SANBORN, Boston, Mass.—*Machine for Separating Iron from Sand.*—January 22, 1867.—The sand passes along a concave trough, being advanced therein and ultimately discharged by the oblique plates of magnetized iron which project from the periphery of the cylinder. The iron in the sand is collected by the magnets, brushed from them, and received in a drawer.

Claim.—The use of the cylinder *B*, when provided with the magnets *g g g*, one or more rows arranged substantially as and for the purposes described, in combination with the brush *C*, the hopper *D*, the spout *E*, the trough *F*, and the drawer *J*, substantially as and for the purposes set forth.

61,472.—GEORGE W. SCOLLAY, St. Louis, Mo.—*Embalming Bodies.*—January 22, 1867; antedated January 19, 1867.—Explained by the claims.

Claim.—First, embalming dead bodies or preserving them from putrefaction, by introducing an anti-septic gas or gases into the arterial or vascular system, substantially as described.

Second, embalming dead bodies or preserving them from putrefaction by the introduction of an antiseptic gas or gases into the bowels, stomach, or lungs, substantially as set forth.

Third, embalming dead bodies or preserving them from putrefaction by combining the internal and external application of the gases thereto, substantially in the manner described.

61,473.—JOHN SEEMAN and SILAS P. CATROW, Middletown, Ohio.—*Clothes Dryer.*—January 22, 1867.—A hinged slatted stand supports a frame whose two sections are separately pivoted, but may be interlocked with each other by scarf joints to hold them in horizontal position for a clothes rack.

Claim.—In combination with the hinged frame B, the frame E hung thereto and locking together, substantially as described for the purpose specified.

61,474.—JOHN S. SHAPFER, New York, N. Y.—*Petroleum Still.*—January 22, 1867.—The still is surrounded by brick-work, and contains a coil which communicates with a superheater. Steam is supplied to the superheater from a generator, and the products of combustion, after passing through the flues in the generator and superheater, pass into the space between the still and the brick-work surrounding it.

Claim.—First, the arrangement of the boiler, superheater and still, by which the heat from the boiler is made to pass through the superheater, and then through under and around the still.

Second, the arrangement of the furnaces L L, collar C, and dampers N N N N, in combination with the coil F, for superheated steam within the still.

Third, enclosing a petroleum still in brick-work with two side channels, one above and the other below the collar C, and a third beneath the still, substantially in the manner and for the purpose described.

Fourth, placing the eyeglass Q in a tube connected with the still, so that the operation within the still can be seen, although enclosed in brick walls with channels for smoke and hot air between the masonry and the still.

Fifth, the air pipe S, when applied to a petroleum still for regulating the vacuum.

61,475.—BENJAMIN SHIVERICK and THOMAS L. CALKINS, Philadelphia, Pa.—*Railroad Switch.*—January 22, 1867.—The switch lever is contained within an enclosure and so arranged as to obstruct the door and prevent egress until the lever is moved and switch returned to the main track. Combined with the movable rails is a sliding bar, having inclined shoulders, working in fixed and corresponding slots in such a manner that the switch is moved by the longitudinal movement of the bar.

Claim.—First, the switch lever I, contained within a building or enclosure, and arranged in respect to the door of the same, substantially as set forth.

Second, the combination and arrangement of the frog rails D and D', and switch rails E and E', the bar H, with its inclinations x and y , guiding plates G and J, and rods F and K, the whole being arranged for joint action, substantially as and for the purpose herein set forth.

61,476.—GEORGE SHOVE, Yarmouthport, Mass.—*Cranberry Gatherer.*—January 22, 1867.—The side plates and guard wires direct the plants to the rake, whose collected fruit is received in the pocket behind the rake head.

Claim.—The combination as well as the arrangement of the guard wires or guards c with the inclined comb or series of wires $b b b$.

Also, the combination as well as the arrangement of the guards c , the inclined comb, and the trough B.

Also, the combination as well as the arrangement of the side plates $a a$, the comb $b b b$, the guards $c c$, and the trough B, the whole being substantially as hereinbefore explained.

61,477.—EARL A. SMITH, Waterbury, Conn.—*Buckle.*—January 22, 1867.—The buckle has two frames, the larger of sheet metal, one side convexed to receive the minor frame of wire, closing around at one side and forming a joint. One end of the belt is fastened to the central bar, and the other end is passed upward and through the rear space of the buckle, over the central bar and downward and outward with the first end. The duplicate belt is bitten and held secure by its own tension.

Claim.—The combination of the bow part, Fig 4, with the lever part, Fig. 3, when they are constructed, connected, and fitted for use substantially as herein described and set forth.

61,478.—E. J. SMITH, Washington, D. C.—*Gridle or Cooking Utensil.*—January 22, 1867; antedated

January 10, 1867.—The two dish-shaped cast-iron plates have projecting ears, and when placed together form a hollow dish to contain nests for cakes, &c. The gridle is supported by its projecting ears, which form journals whereby it is turned over upon a rim placed upon the pot-hole of a stove or range.

Claim.—As a new article of manufacture the cooking utensil herein described, composed of plates B B', removable nests a , and support A, substantially as and for the purpose set forth.

61,479.—WILLIAM W. SMITH, Montrose, Pa.—*Transplanting Tray.*—January 22, 1867.—The tray has removable partitions, and is designed to hold a variety of plants taken up for house protection during winter. The shifting boards allow the plants to be inserted or removed without seriously affecting their roots.

Claim.—A plant tray, constructed substantially as described, for the propagation and growth of plants and flowers, as herein set forth.

61,480.—NATHAN H. SPAFFORD, Baltimore, Md.—*Machine for Combing and Assorting Bristles.*—January 22, 1867.—The bristles are first partially straightened upon an endless apron, and then fall directly upon another apron which passes the bristles to the comb. An automatic guard holds the bristles while the comb passes through them. Automatic jaws seize the bristles and draw them out, when by movable fingers they are carried to the receptacle, whose sides have a jarring motion to assist in gathering, straightening, and adjusting them.

Claim.—First, the endless apron and feed roller E e, with the picker E' on the shaft F, having a continuous motion as described, in combination with the intermitting endless apron and feed roller E' e', operated substantially as herein set forth, for the purpose described.

Second, the comb J, with its appurtenances, consisting of the comb stock and teeth stem J', gauge plate K, arms K', and spring L, all combined substantially as and for the purpose set forth.

Third, the manner of operating the comb J by means of the shaft g and crank wrist I, in combination with the sliding stem J' and its socket, and with the adjustable joint K and cams m, m, substantially as set forth; and this I claim whether the intermittent motion of the comb be derived from the action of the segment H in the pinion h, or from any equivalent device.

Fourth, the comb J and its appurtenances, in combination with the gauge plate M, operated by means of the rock shaft L, stud n, and toe n', or their equivalents, substantially as and for the purpose hereinbefore set forth.

Fifth, the jaws O, furnished with one or two yielding lips, and the levers O' O', in combination with the cams R and springs s, and either with or without the toggle-joint levers q q, all combined with and operating by means of the windlass P' and chains, or any equivalent device, substantially as and for the purpose set forth.

Sixth, the dogs u u on the shaft v', in combination with and operated by the tumbler t, slotted bar v', and lever v, or its equivalent, substantially in the manner and for the purpose described.

Seventh, the endless platform w w, arranged substantially as described, and having an intermittent motion in combination with the endless apron W' over the deposit box W, for the purpose set forth.

Eighth, the sweeping fingers x' x', operating as set forth, and by means substantially as described, in combination with the moving platform w w.

Ninth, the cam Y, rods y y, and studs y' y', when combined substantially as herein described, for the purpose of giving a tremulous lateral movement to the sides of the box W, for the object set forth.

Tenth, the combination of the jaws o with the comb J and the endless apron and feed roller E' e', each with their several appurtenances, arranged and operating substantially as and for the purpose set forth.

61,481.—JOHN STEPHENSON, New York, N. Y.—*Street Car.*—January 22, 1867.—An improved mode of hanging horse cars; the pedestals have pendant jaws connected by vertical yokes or bolts to the springs in such manner that motion is permitted in all directions. Housings are applied to the axle

boxes; clog arms connect the axle boxes with the truck.

Claim.—First, the pedestals B, formed or provided with pendant jaws *a a*, in combination with springs D, located at each side of the axle box, and applied or arranged in such a manner as to admit of a universal motion or pendulous vibration of the car body, substantially as shown and described.

Second, the inverted T, connecting the lower ends of the jaws *a a* of the pedestals, and arranged or applied in relation with the axle boxes, substantially as and for the purpose set forth.

Third, the truck M, constructed with its horizontal side bars not under the springs or pendants, but at the sides thereof, and free therefrom, and connected with the axle boxes C or the housings G by means of the arms N, substantially as described.

Fourth, the yoke, or housing G, with one or both of the arms as described and applied to the axle boxes C, either with or without the elastic substance *b'*, substantially as and for the purpose specified.

Fifth, the clog arms N and O, both or either of them connected with the axle boxes, or with the yokes or housings G, substantially as and for the purpose specified.

61,482.—JOHN STEPHENSON, New York, N. Y.—*Roof for Railroad Cars.*—January 22, 1867.—The canopy covering the platform is detachable, and a smaller canopy or "frontlet" covers the windows above the door.

Claim.—First, the canopy D for the covering of the platforms of cars constructed separately from the roof and body of the car, and attached thereto substantially as and for the purpose specified.

Second, the smaller canopy or "frontlet" F, applied to the ends of the car roof A, over the end ventilators C, substantially as and for the purpose set forth.

61,483.—F. STROTHMANN, Louisville, Ky., assignor to PETERS, WEBB & Co.—*Sounding Board for Pianos.*—January 22, 1867.—The vibratory action of certain parts of the sounding board is cut off and concentrated upon those portions where vibration is necessary to confer sonorosity. The isolation of the portion is attained by curved bars placed above and beneath the sounding board and secured to the frame.

Claim.—The improvements in sounding board for pianofortes and other musical instruments herein specified, the same consisting in separating or dividing the board, substantially as and for the purpose specified.

61,484.—SENIUS E. TOTTEH, Brooklyn, N. Y., assignor to himself and C. L. TOPLIFF.—*Can Opener.*—January 22, 1867.—The spur on the end affords a fulcrum to assist the cutting edge in penetrating the tin.

Claim.—A tool A, provided with a sharp-edged end *c*, from which projects a pointed tooth *d*, substantially as and for the purpose described.

61,485.—WILLIAM H. VAN GHESON, Passaic, N. J.—*Cork Screw.*—January 22, 1867.—The screw is rotated by pressing the upper sleeve upon the steep thread of the middle section. A catch fastens the thread and prevents the rotation when the cork is withdrawn in the usual manner.

Claim.—First, constructing the upper part B of the stem, in the form of a twist, spiral, or screw, turned in a direction the reverse of that of the lower part A, substantially as and for the purpose set forth.

Second, the combination with the stem A B, constructed substantially as described, of the tube E, plate H, or its equivalent, spring catch I, and handle F, the whole working together in the manner and to accomplish the result set forth.

61,486.—CHARLES VOGEL, New York, N. Y.—*Machine for Cutting Files.*—January 22, 1867.—The devices consist of mechanism for feeding the file blank to the cutter; a file bed so constructed that files of varying sizes can be secured therein; a cutter so hung that the force with which it strikes the file blank can be readily adjusted to the depth of cut required; and of a pressure foot bearing upon the file blank just in front of the cutter to hold the blank upon its bed; this pressure foot is capable of adjustment according to the amount of pressure required.

Claim.—First, the sliding carriage D, for the file blank, arranged to move forward and backward upon the bed piece A, or its equivalent, when operated through a driving shaft Z, to which it is connected by a shaft screw-cut N, screw-threaded shaft O, gears P² and Q, shaft R, having ratchet wheel S, with which engages a pawl T, that is operated through a pitman rod V, hung to an adjustable box W of the crank arm X at one end of the shaft Z, substantially as and for the purpose described.

Second, the combination with the file bed or block of the notched plate K, for receiving the tang of the file, and side clutches or jaws L or M, each arranged and applied to the said block, so as to be operated substantially as and for the purpose described.

Third, the springs O², constructed and arranged as described in combination with the lifting beam D² and eccentric or cam pulleys T², substantially as and for the purpose described.

Fourth, the combination with one or more of the springs O² of the lifting arm W², arranged with regard to the same as and for the purpose specified.

Fifth, the arm J³, attached to file carriage D, in combination with the lever G³, connection rod H³, catch L³ and m³, and notched arm e³ of the beam shaft O³, when all arranged and connected together so as to be operated by the arm J³, substantially as described and for the purpose specified.

61,487.—RUDOLPH VOLLSCHWITZ, New York, N. Y.—*Boot and Shoe.*—January 22, 1867.—The flexible strip is attached below the bottom of the gusset, and is of a width equal to the length of the openings in the zigzag loops attached to the edges of the upper. By pulling on the cord the flexible strip is drawn through the loops and fastens the boot.

Claim.—The combination of a flexible wedge B, with zigzag loops *a*, attached to the opposite edges of the slit or opening in a shoe or gaiter boot, substantially as and for the purpose described.

61,488.—JAMES WALKER, Cincinnati, Ohio.—*Cork Extractor.*—January 22, 1867.—The collar is adjusted by means of different sized thimbles to the neck of the bottle, which stands in a frame, furnished with telescopic sliding ports. A corkscrew is then turned into the cork by rotating, a tube fitting in the above mentioned collar. A lever cam then raises the tube, corkscrew, and cork.

Claim.—First, the arrangement of an adjustable guide E, cylindrical stock E, collar I, crank H, and cam-headed lever J J' K, for the purpose set forth.

Second, the provision, in combination with the above, of the thimbles L, of equal external but dissimilar interior diameters, as and for the purpose explained.

61,489.—J. H. WALKER, Worcester, Mass.—*Machine for Cutting Soles.*—January 22, 1867.—The sole leather is spread upon the table under the platen. The cutting block having been adjusted, the die is placed upon the leather under the platen. The treadle is then depressed, throwing the clutch into operation, when motion is imparted to the shaft and the platen forced down on the die, which cuts a sole from the leather.

Claim.—First, the combination and arrangement of the broad table D for supporting the side of leather, with the adjustable bed or cutting block L, and the reciprocating platen K, substantially as and for the purposes set forth.

Second, the combination and arrangement with the table D, bed L, platen K, and shaft J, of the peculiarly constructed frame composed of the parts marked E H H' and G, substantially as described.

61,490.—LEWIS WEAVER, Canton, Ohio.—*Hand Corn Planter.*—January 22, 1867.—A tubular hopper on the hoe handle has an opening and a sliding gate, which is moved by pressure upon the piston, depositing a graduated amount of seed upon the ground.

Claim.—The bar L, in connection with the valve standard C and opening N, substantially in the manner and for the purpose specified.

61,491.—GEORGE WEBB, Williamsport, Pa.—*Railroad Chair.*—January 22, 1867.—The flanged gibs rest upon the base of the rail, and are secured in the slots of the chair by split keys.

Claim.—First, the joint plate A, resting on the ties C, in combination with the flanged clamp D, and rail B, constructed and secured in the manner as and for the purpose specified.

Second, the combination of the joint plate A, flanged clamp D, gibs *d*, split keys *e*, as and for the purpose specified.

61,492.—J. R. WEISIGER, Danville, Ky.—*Pump.*—January 22, 1867.—The pump stock has three chambers and three connecting pipes; each of the latter has a ball valve and seat, and the lower partition of the tube is similarly furnished. The action is double, two of the valves being induction and two eduction.

Claim.—The pump cylinder or tube A, provided with a piston B, partition plate D, and valve G, in combination with the tubes H J L, having valves I K M respectively, when all arranged with regard to each other so as to operate substantially in the manner and for the purpose described.

61,493.—THOMAS J. WELLS, St. Anthony, Minn.—*Peat Car.*—January 22, 1867.—The rectangular frame is mounted on wheels, and has a series of shelves pivoted at one side and resting at the other side upon intervening posts. Shoulders formed upon the up-rights serve to support the legs when the shelves are raised to an inclined position.

Claim.—A car for transporting and drying peat, constructed with a series of frames, arranged substantially in the manner as herein shown and described.

61,494.—GEORGE C. WESTOVER, Paducah, Ky.—*Churn and Egg Beater Combined.*—January 22, 1867.—The vertical shaft has radial wings and spiral beaters with serrated edges, and the interior of the cylinder has horizontal and vertical beaters to arrest the vortical motion of the liquid.

Claim.—The construction and combination of the churn with its devices G H I J L M, as herein described and for the purposes set forth.

61,495.—GEORGE WILLIAM WHITE, Greensburg, Ind.—*Lime Kiln.*—January 22, 1867.—The kiln has three or more doors in front; the rear has about half the area of the front; the partition near the rear has apertures for the passage of smoke.

Claim.—The horizontal taper lime kiln A, when constructed as described, and provided with the doors *b*, and dividing perforated partition C, in the manner and for the purposes set forth.

61,496.—ISAAC WHITNEY, Dayton, Ohio.—*Washing Machine.*—January 22, 1867.—The corrugated roller has its bearings in-side bars which are supported by elastic bands from the top of the tub. The cylindrical brush revolves the corrugated roll, is driven by the treadle and a band, and gathers soap from the detachable band above.

Claim.—First, the hinged soaping box I, with its bars *n n*, and removable trough L, adapted to contain either bar or soft soap, substantially as described. Second, the combination of the brush roller F, with the corrugated wooden roller E, substantially as described.

Third, in combination with the brush roller F, and corrugated wooden roller E, the treadle *k*, substantially as and for the purpose set forth.

Fourth, the arms C, operating independently of each other by means of the elastic bands D D, in combination with the corrugated roller E, in the manner and for the purposes described.

Fifth, the combination of the corrugated wooden roller E, brush roller F, treadle *k*, gear-wheels H *c*, arms C, springs D, and soaping cover I, and troughs K and L, substantially as and for the purposes set forth.

61,497.—L. C. WING, Concord, Mass., and A. R. BRADEN, Waterboro, Me.—*Window Fastener.*—January 22, 1867.—The short arm is attached to the blind; the pivoted perforated plate is attached to the window sill; two toggle arms unite the two, and a spring bolt locks the fastener at the required adjustment.

Claim.—An improved window blind fastener, formed by the combination of the arm A, bars B and C, perforated plate D, and spring bolt E, with each other,

substantially as herein shown and described and for the purpose set forth.

61,498.—LEONARD WOODWORTH, Morrison, Ill.—*Clothes Dryer.*—January 22, 1867.—The \wedge -shaped standards are hinged at the apexes, and are connected by pivoted bars so that not only may the legs of the standards be approached, but the middle pair may be raised, and the whole apparatus budded together into a cluster, occupying small space.

Claim.—The braces D D, in combination with the standards A A B B B B, and bars *e e e e*, substantially as and for the purpose set forth.

61,499.—NATHAN WRIGHT, Jersey City, N. J.—*Tool for Cutting off Boiler Tubes.*—January 22, 1867.—The pointed cutter is, by means of an eccentric, thrust radially out from the turning shaft through a mortise in a sleeve which surrounds the shaft, and through the wall of the tube; a stub upon the shaft then comes in contact with a shoulder on the end of the sleeve, by which, the shaft continuing to turn, the cutter is forced around, and thus made to sever the tube.

Claim.—A tool for dividing or cutting off boiler and other tubes, constructed substantially as described, or in any other equivalent manner, so that a thrusting cut is given to the tool, and whereby the continuance of the same action that thrusts the cutter through the tube also serves to complete the operation of severing the same by a draw cut, essentially as specified.

61,500.—WILLIAM H. WYLLY, Savannah, Ga.—*Life Boat.*—January 22, 1867.—The keel is raised into a stem at each end; the rudder being attached optionally at either end of the boat. The sides consist of elastic, air-proof bags whose edges are attached to the keel, and which are inflated to increase the buoyancy. The boat is capable of collapsing for storage, the row-lock and seat supports being hinged to the keel.

Claim.—The boat consisting of the gutta-percha or elastic sides A B, keel C, copper covering *b*, flexible tube *c*, force pumps D, bars I, seats J, supporting bars *ff'*, rudder D', when all are constructed and arranged as herein set forth and for the purpose specified.

61,501.—JOHN ASHWORTH, North Andover, Mass.—*Eye of Wire Heddles for Looms.*—January 29, 1867.—The eye is formed of two interlocking loops so as to present a continued surface to the threads on the points of strains, and prevent its running into the angle.

Claim.—A wire heddle eye for loom harnesses, made by interlocking loops of two wires, substantially as set forth.

61,502.—CHARLES W. BAILEY, Boston, Mass.—*Boot and Shoe.*—January 29, 1867.—The catches upon a metal plate attached to the shoe bottom enter holes in a plate on the upper surface of the heel, and are secured by a spring plate.

Claim.—The heel latch C, made as described and represented.

Also, the arrangement of the latch, its spring, the cap and catch plates, their catch holes and catches, with each other, and a heel and sole, as specified.

61,503.—HENRY D. BARNES, New Haven, Conn.—*Shingle Machine.*—January 29, 1867.—The knife has a draw cut. The stuff rests against a block whose oscillation is limited by set screws. The shingle passes between the knife and a spring so that the knife on its upward stroke carries the shingle with it to be discharged by the next shingle.

Claim.—The combination of the cutter D, and the adjustable guide H, and the spring I, constructed and arranged to operate substantially in the manner described.

61,504.—WARREN S. BARTLE, Newark, N. Y.—*Bedstead Fastening.*—January 29, 1867.—A hook on the end of a screw bolt traverses an end cleat on the rail and engages a transverse pin within a recess in the post.

Claim.—The combination of the appended wrench *d* and the nut *c* with the hook *a*, all as described and set forth in the foregoing specification.

61,505.—BURROUGHS BEACH, West Meriden, Conn.—*Sash Fastener.*—January 29, 1867.—The ratchet face of a cam within the jamb engages the edge of the sash to sustain it. The cam is depressed by a spiral spring, or raised by a lever. The latter has an arm which engages a notch on the cam to lock it.

Claim.—First, the combination of the lever E, and the cam D, constructed respectively with arms I and F, and so as to operate substantially in the manner described.

Second, the combination of the lever E and cam D, when constructed with the lip f, and the notches c, so as to operate to lock the cam, substantially in the manner described.

61,506.—DARIUS BEARDSLEY, Ithaca, N. Y.—*Exhausting Air from Fruit Cans by Steam.*—January 29, 1867.—The cylindrical vessel is surrounded by an annular chamber closed at the top and open at the bottom. Within the mouth of this vessel is secured a bulging chamber extending partly into the vessel above, within which water is placed and heated by means of a lamp. When the vessel and chamber are filled with steam the apparatus is inverted upon the cover of a fruit jar. Cold water is then poured into the annular chamber, which condenses the steam and creates a partial vacuum.

Claim.—First, the herein described method of exhausting air from fruit cans or jars by the condensing of steam.

Second, the double convex chamber extending into the steam chamber E, for the purposes specified.

61,507.—JACOB BECK, Williamsville, Ill.—*Wagon Seat.*—January 29, 1867.—The seat hooks which catch upon the side of the box are attached to the seat by rubber springs.

Claim.—The wagon seat A, provided with suspension rubber springs a, in combination with a wagon box provided with two or more rods c, substantially as and for the purposes specified.

61,508.—THEOPHILUS F. BERTRAND and PETER SAMES, Rockford, Ill.—*Plow.*—January 29, 1867.—The colter has a limited oscillation and is vertically adjustable in its frame, which is attached to the side of the beam.

Claim.—First, a vibrating colter, when limited in its vibrations, substantially in the manner and for the purpose set forth.

Second, adjusting the colter vertically, substantially in the manner and for the purpose described.

61,509.—LEWIS T. BLAKE, New Haven, Conn.—*Milking Cows.*—January 29, 1867.—Revolving rolls on triangular revolving frames operate in combination with recessed spring plates to expel the milk from the teats by a grasping, stripping, and releasing action.

Claim.—The combination of one or more sets of rolls c or d, rotated in the manner described with their respective pressure plates G or H, substantially as and for the purpose specified.

61,510.—ALONZO T. BOON, Galesburg, Ill.—*Window Sash Supporter.*—January 29, 1867.—An upwardly, laterally diminishing recess in the sash edge contains a free friction roller to sustain the sash at any altitude. A pivoted lever has a bent end to enter the recess and hold down the roller, and a straight arm to fasten the sash by engaging a notch in the jamb.

Claim.—The curved lever C, as constructed and arranged to operate on the pivot d, in combination with the right angled box a, for the control of the roller therein and its combination with the notches f to serve as a fastener, substantially in the manner as herein described.

61,511.—WILLIAM BRADLEY, Lynn, Mass.—*Nutmeg Grater.*—January 29, 1867.—The nutmeg box consists of two cylinders, the corresponding openings through which are closed by a partial revolution of the inner one. The grating plate may be slipped out for renewal.

Claim.—The combination and arrangement of the box A, and its rotary tube B, with the spout and rasping plate as specified, such box and tube being made with openings through their sides and with a stopping lip b,

and the plate D being applied to the space C, substantially as described.

61,512.—MARTIN BRENNEMAN, East Donegal Township, Pa., assignor to himself and SAMUEL EBY, Elizabethtown, Pa.—*Cultivator.*—January 29, 1867.—Convertible into a plow, harrow, cultivator, or scraper.

Claim.—The special arrangement and construction of the frame A A' B C D, in combination with the reversible handles E, and holes 10 12 13 14 and 15, adapted for the reception and application of the axle and wheels L M, scrapers O P, all constructed and operating in the manner and for the purpose specified.

61,513.—IRA S. BROWN and CHARLES N. BROWN, Providence, R. I., assignors to themselves and J. MASON GROSS, same place.—*Saw.*—January 29, 1867.—The shank of the tooth extends into a recess in the saw plate, so that a slide carrying a pin enters into a slot in each tooth, which, in connection with projections on the tooth that overlock one another, holds the whole series of teeth in place.

Claim.—First, a saw tooth B, so constructed as to interlock with the tooth on either side thereof, and mutually sustain and be sustained by such adjacent teeth, substantially in the manner herein set forth.

Second, the arrangement of the locking device F f G, or equivalent mechanism, by which several or all of the teeth may be fastened by one operation, substantially as above described.

61,514.—EBENEZER BUEL, Silver Creek, N. Y.—*Bee-Feeding Apparatus.*—January 29, 1867.—The valve regulates the entrance of bees. Explained by the claims and illustration.

Claim.—First, the drawers D D, for containing material for the bees to feed upon, in combination with the box A.

Second, the float W, of perforated paper, prepared by saturation with beeswax and buoyed with cork or other light substance.

Third, the introduction of a current of pure water into the apparatus or within access of the bees without their passing out of the hive into the open air, either under a float or through a spout with ribbed or corrugated bottom.

Fourth, the valve V, either arranged as described, or in a fixed position.

Fifth, the apparatus for conveying water in a continued current within access of the bees in the feeding apparatus.

Sixth, the coating of a bee-feeding apparatus with beeswax, thus rendering it the better adapted to the habits and tastes of the bee.

Seventh, in combination with the box A, the drawers D, the float W, of perforated paper, the valve V, the provision for introducing a current of pure water to pass through the apparatus, the apparatus for conveying the water, and the coating of beeswax on all the inner surfaces of the apparatus, when constructed and used for the purposes set forth.

61,515.—WILLIAM C. CHAMBERLAIN, Dubuque, Iowa.—*Churn.*—January 29, 1867.—The winged dashers have slotted stays and are pivoted to vertically revolving arms. The socketed angle irons afford attachment for the feet, and the inside grooved strips attached to the cover arrest and return the impinging stream of milk.

Claim.—First, the construction of the dasher of a churn of cross arms F F', having secured to them the pieces g g, and hinged to them the blades h h, the latter being attached by their free ends to the arms by means of slotted stays j j, and pins i i, substantially in the manner herein described and for the purpose specified.

Second, the socketed angle a a', constructed and applied to the churn box, substantially as described.

Third, the curved and grooved strips J j, applied to the cover G, so as to operate as set forth.

61,516.—ORLANDO CLARKE, Rockford, Ill., assignor to himself and ISAAC UTTER, same place.—*Sugar Cane Mill.*—January 29, 1867; antedated January 18, 1867.—The can is fed by a narrowing spout between the rolls; the juice is received in a pan, the rolls are kept clean by a scraper and the bagasse delivered onto a discharge board.

Claim.—The arrangement in a cane mill, substan-

tially as described of the frame, the rollers, the feeding tube, the pan, and the scraper, for the purpose set forth.

61,517.—CHARLES COLAHAN, Alton, Ill., assignor to himself and JOHN FEITIG.—*Baling Cotton.*—January 29, 1867.—The upright box has doors upon the side for removing the bale. The inside at the lower end has a follower, retained at any desired point by notches. The cotton is pressed by a weight to the desired density, when the weight is removed and the cords tied.

Claim.—First, the weight C, and follower E, in combination with the spring g, blocks e, and notches b, substantially as and for the purpose set forth.

Second, the arrangement of the casing or frame A, doors B, pulley B', rope D, and weight C, in combination with the notches b, follower E, provided with blocks e, and spring g, operating conjointly, substantially as and for the purpose set forth.

61,518.—JESSE D. COTRELL, Milford, Mass.—*Spindle Bolster for Spinning Frames.*—January 29, 1867.—The helical bushing is removable for cleaning, repairs, &c., and when placed in the bolster, fits a spiral groove therein; the cap holds it in place and allows of its removal. The notch opens a communication to an oil cup beneath.

Claim.—The combination of the separate helical bushing with the bolster, such bushing to be used therein, substantially in the manner and for the purpose described.

Also, the bolster as made with a chamber a and a screw cap C, or its equivalent, as specified, to receive and hold a helical bushing, to be arranged within the bolster and used as and for the purposes explained.

Also, the bolster as made with the helical bushing-receiving chamber, and with a passage or notch in the lower part thereof, to lead out of the said chamber and into the oil cup when the bolster is arranged upon such a cup, as specified.

61,519.—GEORGE COX, Reading, Pa., assignor to F. WILCOX and G. L. JENKINS.—*Wadding Waste Machine.*—January 29, 1867.—This machine is intended to utilize the waste usually lost in making wadding from ordinary cotton waste. It is placed in the carding room about a foot above the floor, so that the same endless apron that takes the web from the carding machines shall run under the inclined passage and take also the waste from the machine. A drawer receives the dirt and sand.

Claim.—First, the combination of the picker cylinder B, enclosed passage W, feed rollers F G, endless apron C, and drawer X, or their equivalents, respectively in the manner and for the purpose substantially as shown and described.

Second, the parts last mentioned, in combination with the gearing for giving motion to the feed, substantially as shown and described.

61,520.—THOMAS CROSSLEY, Bridgeport, Conn.—*Finishing Felted and other Goods and Fabrics.*—January 29, 1867.—The fabric is passed between heated rolls, the one plain and the other corrugated.

Claim.—A woven or felted cloth of wool, fur, silk, cotton, or other material, either dyed, colored, or printed, and subsequently corrugated as described, as a new article of manufacture.

61,521.—HENRY DAVIS, Abingdon, Ill.—*Self-Adjusting Trestle.*—January 29, 1867.—The extension beam of the trestle is supported on slotted standards which are vertically adjustable in the legs and then secured by clamp screws. The extension braces are adjustable to suit the varying conditions.

Claim.—The construction and arrangement of a trestle, in the manner and for the purpose herein described.

61,522.—DANIEL M. DONEHO, Beaver, Pa.—*Safety Bridle.*—January 29, 1867.—The ring of the bit is suspended on each side from a ring on the cheek strap by a running strap, which connected primarily to the bit ring passes up and through the cheek ring; the running strap is then carried down through the bit ring and connected to a safety rein; the latter is also connected to the gag rein, so that pulling upon the safety rein shortens up the gag rein, and at the

same time draws up the bit toward the ring on the cheek strap.

Claim.—The strap G connecting the bit ring F and safety rein I through the cheek strap ring D, in combination with the gag or riding rein K, all arranged to operate substantially as and for the purpose specified.

61,523.—JAMES DOWD, Boston, Mass.—*Wagon.*—January 29, 1867.—The platform is arched upwardly in front where it rests upon the front axle, giving the front carriage room to turn short; the seat and foot board are supported upon the elevated portion attached to the platform.

Claim.—First, the improved jigger, as made with the neck or arm B, combined and arranged with its platform A, the sweep frames, their supporting springs and front axle, the whole being substantially as described.

Second, the application of the driver's seat, or the same and the foot rest, to the arm or neck B, extending from the platform A and over the front wheel sweep frames and axle, as set forth.

61,524.—JOHN S. EDGAR, Janesville, Wis.—*Portable Fence.*—January 29, 1867.—The post is divided longitudinally, and each portion has a metallic flanged foot, the latter being hinged together. The sections of post are spread and the feet forced in; the approach of the portions of the post spreads the feet into their holding position.

Claim.—First, the feet B B, when constructed and used substantially as and for the purpose set forth.

Second, the combination of the feet B B, sections A A', and bars C, substantially as and for the purpose set forth.

61,525.—HORACE EVERETT, Philadelphia, Pa.—*Joint for Tinned Iron Vessels.*—January 29, 1867.—The edge of the upturned flange of the bottom is spun into and soldered in a circumferential depression in the cylindrical portion of the vessel.

Claim.—The within-described joint for tinned plate vessels, that is to say, the flange b and channel x on the plate B, and the flange a on the plate A, projecting partly across and into the said channel, and there soldered all as set forth.

61,526.—FRANKLIN EWER, Honeoye Falls, N. Y.—*Gate.*—January 29, 1867.—The gate swings on a vertical axis upon the end of a sliding panel which is retracted to bring the gate broadside against the end of the fence. A bar pivoted to the post and one end of the gate vibrates the latter as the panel is slipped longitudinally. The catch is made in two sections with a mid-link and engages posts on each side of the carriage way.

Claim.—First, the combination of a swinging gate A with a sliding section or panel B, substantially as described and for the purpose specified.

Second, the combination with a swinging gate A and sliding section or panel B of the connecting arm D, operating substantially as and for the purpose set forth.

Third, the combination of the double-acting catch n n with the swinging gate A and sliding section or panel B, operating in the manner and for the purpose substantially as described.

61,527.—HENRY FASSMAN, New Orleans, La.—*Cotton Bale Tie.*—January 29, 1867.—The shank of the button is inserted through openings in the respective ends of the hoop, and the said ends are drawn against the shank by the expansion of the cotton, while the inner bent flange prevents retraction.

Claim.—A hoop lock constructed in the shape of a hook, and of a flat form with legs a b, of different lengths, and a short curve or neck c, and with or without a shoulder d, substantially as and for the purpose set forth.

61,528.—JACOB FELBER, St. Louis, Mo.—*Governor Cut-off for Steam Engines.*—January 29, 1867.—The variable cam on the stem, which is raised or depressed by the vertical motions of the governor balls, makes two revolutions to each stroke of the engine. The two distinct fields of the cam have different radii, and act upon the short arm of a lever connected at its other end to the stem of a balanced cylin-

der valve which governs the admission of steam to the cylinder.

Claim.—First, the cam C¹, when constructed substantially as herein set forth, so as to produce a variable cut-off.

Second, the construction and arrangement of the balanced cut-off valve E³, as described.

Third, the adjusting nut E, in combination with the valve rod E¹, for the purpose of regulating the opening of the ports e¹, as herein set forth.

Fourth, the combination and arrangement of the cam C¹, the lever D, and the valve E³, substantially as herein set forth.

61,529.—J. R. FERGUSSON, Brooklyn, N. Y.—*Refrigerator.*—January 29, 1867.—A vertical channel divides the refrigerator into two separate chambers, each partitioned into three receptacles. Air circulates between the interior and exterior walls. Two front doors and one on top afford access.

Claim.—The refrigerator box, with its openings S' and t, doors C and J, constructed as set forth, receptacles M S C and R, interior walls P P, channel D, and ice box E, all arranged and used in the manner substantially as herein specified.

61,530.—F. G. FOWLER, Springfield, Ill.—*Wind-mill.*—January 29, 1867.—The wheel has vertical pivoted wings, which are feathered by connection to a stationary eccentric so as to present oblique surfaces to the wind; the vane is attached to the shaft of the eccentric, which is caused to occupy a position corresponding with the direction from which the wind blows.

Claim.—First, the eccentric e, in combination with the sails S, hung on pivots placed on their vertical central line, and revolving in the manner and for the purpose substantially as described.

Second, the vane V, in combination with the eccentric e, and sails S, arranged in the manner and for the purpose substantially as shown.

61,531.—CHARLES FREETSMA, Paterson, N. J.—*Pattern Chart.*—January 29, 1867.—Each block is pivoted in its place in the frame, and its faces are painted with distinct colors. These are exposed to view in such manner as to constitute a pattern or design.

Claim.—First, a pattern chart composed of a series of movable blocks, the different sides of which are colored in different colors, substantially as and for the purpose herein described.

Second, the combination of the covering rods c with the polygonal pattern blocks, substantially as and for the purpose herein set forth.

61,532.—JOHN GOMERSALL, Mansfield, Mass., assignor to himself and E. WINSLOW, West Roxbury, Mass.—*Composition for Oiling Wool.*—January 29, 1867.—Composed of 84 galls. salt water; 7½ lbs. aqua-ammonia; 4 galls. lard oil; 8 oz. Irish moss; 2 ½ lbs. borax, and 2½ lbs. sal-soda; incorporate and strain.

Claim.—The within-described composition for dressing wool or shoddy, consisting of the ingredients mixed in the proportions substantially as set forth.

61,533.—E. A. GOODES and E. L. MILLER, Philadelphia, Pa., assignees by mesne assignments to THE AMERICAN BUTTON-HOLE, CORDING, BRAIDING, AND EMBROIDERING MACHINE COMPANY.—*Button-holding Sewing Machine.*—January 29, 1867.—The eye-pointed perforating needle vibrates in a plane slightly inclined; the looper is on a horizontal axis and passes up from beneath the cloth plate, through and over the edge of the button hole; the path traversed by the needle thus crosses that traversed by the looper.

Claim.—The arrangement and combination herein described of the inclined vibrating needle arm E, its eye-pointed needle n, and the vibrating loopholder or carrier b, for the purpose specified.

61,534.—HENRY P. GREGG, Roscoe, Ohio.—*Seeding Machine.*—January 29, 1867.—The measuring cup is filled as it goes down, and the grain that had passed the opening at the top is dropped from the valve on to the ground. In the upward movement grain is admitted into the valve box from the measuring cup after it is raised out of the hopper, and the upper valve closes before the measuring cup returns into the grain.

Claim.—The valve box B, valve C, valve seat and measuring cup D.

61,535.—JOHN Y. HAMILTON, Clinton, Mass., assignor to GEORGE CROMPTON, Worcester, Mass.—*Shuttle for Narrow Ware Looms.*—January 29, 1867.—In the shuttle is a spring to create tension upon the bobbin; the pirn is so hinged as to be swung out from the shuttle without removal therefrom for reception or change of the bobbin. A spring is applied to the hinged pirn to keep it in normal position.

Claim.—In connection with a device for creating tension upon the bobbin, the arrangement of the pirn to swing, and the application of the spring to keep the pirn in normal position with respect to the shuttle, substantially as described.

61,536.—AUGUSTUS HARRINGTON, Warsaw, N. Y.—*Pipe for Wells.*—January 29, 1867.—The tube has a spear at its lower end; its series of perforations are lined with wire cloth and separated by ribs.

Claim.—The tube A, having a series of four or more perforations a, said perforations being lined with wire screens x, in combination with the ribs b and spear B, when arranged in the manner substantially as and for the purposes specified.

61,537.—WILLIAM HARRIS and CLINTON BROWNING, Rush Run, Ohio.—*Nut.*—January 29, 1867.—A spring stop attached to the nut engages the plate on which the nut is screwed and prevents the unscrewing of the latter except by a tool which raises the stop.

Claim.—The nut A, in combination with the stop D, provided with a spring point f, constructed and arranged to operate substantially as and for the purpose set forth.

61,538.—C. R. HARVEY, New York, N. Y.—*Frame, &c., for Hot Air Registers.*—January 29, 1867.—The register frame has a metallic flanged exterior by which it is supported in a shallow rabbet of the floor, and an interior made of cement or similar incombustible, comparatively non-conducting material.

Claim.—As a new article of manufacture, a compound register frame, consisting of an exterior metallic supporting frame, provided with an exterior flange, as described, and an interior frame composed of an incombustible, bad conducting material, substantially such as is described, applied to and supported by the exterior frame, substantially as set forth.

61,539.—OREN T. HAYES, Hastings, Minn.—*Carpenter's Square.*—January 29, 1867.—Near the angle of the square are slots for the pivotal attachment of plates, which may be set at any angle with the inner and outer edges of the square, for the purpose of laying off angles of work or miters.

Claim.—A square provided with a graduated scale of angles, and one or more curved slots at the intersection of its limbs for the attachment of an adjustable plate B, applied and operating substantially as and for the purpose specified.

61,540.—EDWARD A. HILL, Chicago, Ill.—*Apparatus for Instruction in Telegraphing.*—January 29, 1867.—The apparatus is arranged to vary the strength of the current by passing it through a greater or less number of battery cups, or by throwing on ground wires or escapes at any part of the circuit. The batteries are arranged in the center of the apparatus for the inspection of the instructor, while practically at the ends of the line, as in actual practice.

Claim.—First, the combination of the two batteries C C with a series of wires x y z, and their terminal points a b c, and the movable arms D D, connected with a wire q, or its equivalent, arranged and operating substantially as herein specified and shown.

Second, the employment of a series of escape wires r s t u and their terminal arms M N O P, in combination with a plate or plates L connected with a ground wire Q, arranged and operating substantially as herein shown and described.

Third, the arrangement of the two terminal batteries C C with the circuit through the same, so as to be placed at the center of the line upon each side of the instructor's desk, substantially as and for the purposes shown and set forth.

61,541.—B. HUBBE, New York, N. Y.—*Rotary Lard Press.*—January 29, 1867.—The oil is separated from the lard by centrifugal force. The grated cylinder is on a vertical shaft and has a solid bottom and a lining of fabric.

Claim.—First, the lining E made of cloth or other suitable fabric of sufficiently fine texture for the purpose, in combination with the cylinder A, constructed and operating in the manner set forth.

Second, the annular grate D, lining E, and rings *i*, in combination with the bottom F and shaft B, constructed and operating substantially as and for the purpose described.

61,542.—EDWARD B. JUCKET, Roxbury, Mass.—*Steam Generator.*—January 29, 1867.—The cylindrical shell contains a fire box, below which is an annular water chamber connected with the water space above the fire box by a series of vertical concentric tubes, which traverse the fire box and through which the water circulates. From the crown sheet of the fire box a series of smoke tubes pass up to a chamber above, which receives the products of combustion and passes them to the chimney.

Claim.—The combination and arrangement of the series of tubes E; the fireplace A, the annular chamber G, the water vessel or drum F, the pipes D, the drum B, and the discharge pipe C, the whole being applied together substantially in the manner and so as to operate as hereinbefore set forth.

61,543.—JOHN F. KELLER, Greencastle, Pa.—*Seed Drill.*—January 29, 1867.—The square openings are made in the adjacent edges of two strips which are singly or collectively attached to the operating lever. The regulating plates and the edges of the slides are made sharp to prevent clogging. By withdrawing one slide from operation the opening is diminished but is left square.

Claim.—First, enlarging and diminishing both the length and width of the feed holes of seed planters, in order to prevent clogging and secure uniformity of discharge, whether slow or fast, substantially as set forth.

Second, the arrangement and combination of two pieces M and M' of the feed slide, substantially in the manner and for the purpose described.

Third, the sharp-edged plates R, (fig. 5.) in combination with the sharp edges of the slides M M', substantially as set forth.

Fourth, the use of the half bolt (fig. 7) for locking the strip M to the lever O, substantially as set forth.

61,544.—JOHN F. KELLER, Greencastle, Pa.—*Seed Planter.*—January 29, 1867.—The axle arms are secured by bed plates to the frame and strengthen the spindles against the strain incident to driving the gear wheels by means of the hub. The gears which rotate the agitator of the guano attachment are enclosed in a boxing.

Claim.—First, the combination of the gear wheel L with the pinion M and gear wheel N, substantially as set forth.

Second, the peculiar axle O, with the bed plate O', for fastening the axle to the frame, substantially as described.

Third, protecting the gear wheels of wheat drills or seed planters against sticks, weeds, and other obstructions by means of a box or its equivalent, substantially as described.

61,545.—JOHN F. KELLER, Greencastle, Pa.—*Seed Planter.*—January 29, 1867.—An improvement on his patent of Sept. 26, 1865. The share is pivoted to a draft bar and its upper end pivoted by a link and rock bar to a cylindrical rubber spring, which is placed between disks and condensed by the backward vibration of the share, which it returns to place when the obstacle is passed.

Claim.—First, in the arrangement of a flexible boot or shovel plow with a lever and spring, placing the fulcrum of the lever between the boot and the spring, substantially in the manner and for the purposes set forth.

Second, the vibrating seat I for supporting the spring, in combination with the lever, substantially as set forth.

Third, the use of the washer W, or its equivalent,

in combination with the cap S and spring I, substantially as described.

Fourth, the above-described arrangement of the thumb screw T and guide pin P, for compressing the spring, and thus increasing the tension of the same, substantially as specified.

61,546.—C. W. THEODORE KRAUSCH, Philadelphia, Pa.—*Increasing Traction in Locomotives.*—January 29, 1867.—A train of cars is attached to the long arm of a coupling bar, the short arm of which is secured to a fixed point upon the locomotive. The strain produced upon the coupling bar will produce the pressure of the lever upon a roller serving as a fulcrum and thus increase the traction.

Claim.—First, the means, substantially as herein described, of increasing adhesion of driving wheels of locomotive engines upon their rails, consisting in transferring a portion of the weight of a car or engine tender to the locomotive frame by the act of starting the locomotive, substantially as described.

Second, the employment of steam or other power, in conjunction with a coupling lever S, or its equivalent, for the purpose of enabling the engineer to increase or diminish the weight upon the engine frame at pleasure, substantially as described.

61,547.—FREDERICK LOOS, Germantown, Pa.—*Button.*—January 29, 1867.—The shank of the button is threaded internally and is traversed by a screw inserted from the back, and with its head bearing against a disk, whose edges rest against the cloth.

Claim.—The combination of the screw c, concave-convex disk b, and serrated shank b a, the said serrated shank and disk being of unequal diameter, all substantially as described for the purpose set forth.

61,548.—SAMUEL LOVE, Indianapolis, Ind.—*Railroad Bumping Post.*—January 29, 1867.—The three members, sills, posts, and braces, are bolted together and a part of the strain transferred from the posts and thrown upon the sill beneath the locomotive.

Claim.—The arrangement of the ground sills, 4 4, in relation to the bumping post, its timbers and braces, 1 2 3, in such a manner so that the ground sills shall extend under the railroad track, receiving thereupon the weight of the car, in the manner and for the purpose herein set forth.

61,549.—WILLIAM H. MAY, Bridgeport, Conn., assignor to THE ORNAMENTAL WOOD MANUFACTURING COMPANY, same place.—*Initiation of Open Carving in Wood.*—January 29, 1867.—The wood is stamped on the face and then the back cut away to a point beyond the bottom of the depression, leaving the device open.

Claim.—As a new manufacture, imitations of open carvings in wood made by first subjecting the wood to a pressure of dies, and subsequently cutting the wood away at the back, as set forth.

61,550.—GEORGE L. MAYES, Buffalo, N. Y.—*Bronzing Machine.*—January 29, 1867; antedated January 14, 1867.—The horizontally revolving arms, on the lower end of the vertical shaft, carry fur brushes for bronzing the sheets of paper which are fed consecutively beneath them on the endless feed apron. A grooved roller distributes the bronze from a hopper. The sheets are steadied by adjustable wheels which traverse their margins. Paues of glass in the sides of the machine permit inspection. The feed apron is tightened by a set screw and the pressure of the brushes regulated by the vertical adjustment of the rotary shaft.

Claim.—First, the vertical rotary shaft A and brushes C and D, as described when used in combination with the feeding mechanism of a machine for bronzing printed sheets of paper or other equivalent material.

Second, in combination therewith of one or more lights of glass, or other transparent substance, for the purposes specified.

Third, the grooved roller O, as and for the purposes described.

Fourth, in combination with the endless apron Y, of the thumb screws C', the boxes C', plate C', set screws K' and C', as and for the purposes described.

Fifth, the adjustable feed-wheels A', in combination with the bands or belts as described.

61,551.—CLARK MCINTOSH, Utica, N. Y.—*Seed Sower*.—January 29, 1867.—The openings are arranged in line, in the bottom of the tray, with gaps in the series occupied by the oblique blocks of the agitator, which is reciprocated upon the perforated plate.

Claim.—The seed sower constructed and operating substantially as described.

61,552.—CHARLES H. MILLER, Dayton, Ohio.—*Cloth Gathering Attachment for Sewing Machines*.—January 29, 1867.—The piece of cloth to be gathered passes freely between the rigid base and the spring lip; the piece of cloth which is not to be gathered, but is to be stitched to the gathered piece, passes between the rigid lip and the slightly yielding adjustable lip. By pressing together these latter lips by means of a thumb screw, a drag is given to the upper cloth sufficient to pull back and gather the lower cloth.

Claim.—First, the combination of the two tension guides *b c*, constructed and arranged and operating conjointly, as shown and set forth for gathering one piece of cloth upon another, as they are sewed by a sewing machine, substantially as described.

Second, the combination of the two tension guides *b c*, with the slotted base plate *A*, box *B*, and set screw *D*, the whole being constructed, arranged and used in the manner and for the purpose specified.

61,553.—JOSEPH MILLER, Cuba, N. Y.—*Car Coupling*.—January 29, 1867.—The oscillating bumper has catches and flange on the head to interlock with similar heads on the opposite car; the draw bar has an endwise motion; is released by rotary motion imparted by means of levers; is adjustable vertically by wedges, to coincide with its fellow on the other car, and has vertical openings to admit the ordinary coupling pin for the engagement of the coupling link if required.

Claim.—First, draw heads *A*, with interlocking hooks *m n*, and flanges *n*, substantially as described. Second, the oscillating or turning hooked draw heads *A*, which are adapted for having connected to them the common coupling links, substantially as described.

Third, interlocking or hooked turning and sliding draw bars, constructed and operating substantially on the principle herein set forth.

Fourth, an adjustable stirrup *C*, in combination with the sliding wedge *F*, and adjusting rod *e*, substantially as and for the purposes described.

Fifth, the lever or rod connected to the lever arm *h'*, which latter is secured to a collar *h*, through which the draw bars have an endwise movement, substantially as described.

Sixth, the combination of a spring *j* with the devices which are employed for oscillating or turning the draw head and its bar, said spring being so applied as to act upon the draw heads to keep the hooks thereof together, substantially as explained.

Seventh, the combination of the turning and sliding draw bars with spring *b b*, substantially as and for the purposes described.

61,554.—ROBERT HENEAGE, GEO. MILSON, and HENRY SPENDELOW, Buffalo, N. Y.—*Combined Pulley and Cable*.—January 29, 1867.—The traction of the wire rope in the groove of the pulley is secured by an elastic ring in the latter, which assists the adhesion of the wire.

Claim.—The combination of the wire cable *H* with the grooved pulley *D*, and intervening packing *i*, constructed and operating substantially as described.

61,555.—JOSEPH H. MOORE, Chicago, Ill.—*Ventilating Apparatus for Railroad Cars*.—January 29, 1867.—The current of air generated by the motion of the train passes through openings, whose doors act as gatherers and impinges upon inclined fans, which are enclosed in a reticulated cylinder; the latter revolves in water by the impulse derived from said fans, and removes the dust from the air before it enters the cars.

Claim.—First, the fans *C*, when located inside of the case *A*, and rotating the perforated cylinder *B* by the same current of air that passes into the car in combination with such cylinder, constructed of netting or open work, substantially as specified.

Second, the combination of the cylinder *B*, rotated

by the fans *c*, located inside of the case, with a water bath substantially as described.

Third, the doors *E*, constructed and attached so as to operate as doors and wind gatherers, substantially as specified.

Fourth, the combination and arrangement of the perforated or gauze cylinder *B*, with the fans *C*, doors *E* or *F*, and both with the case *A*, substantially as and for the purposes specified.

61,556.—NATHAN P. MULLOY, Waltham, Mass.—*Knife Cleaner*.—January 29, 1867; antedated January 19, 1867.—An improvement on patent No. 20,391, May 25, 1858. Explained by the claims and illustration.

Claim.—An improved knife polisher as made with the fork cleaner, or, in other words, the piece of leather *i*, and its supporter *h*, arranged and combined with the knife polishing bed and its plunger, applied and to operate together substantially as set forth.

Also, the combination of the trough *k* with the knife polishing bed and plunger, applied together in manner and so as to operate as explained.

Also, the combination and arrangement of the leather-receiving slots *l l* with the trough *k*, the bed *A*, combined with the plunger as set forth.

Also, the arrangement and combination of the apron *g* with the plunger bed and trough, arranged and combined substantially as set forth.

Also, the arrangement and combination of the guide *n* with the bed *A* and the plunger *H*, when arranged and combined as and for the purpose set forth.

61,557.—JOHN MURPHY, Brandon, Vt.—*Composition for Polishing Shoes*.—January 29, 1867.—Composed of black lead, silver, lead or carbonate of iron, with molasses or other saccharine matter, muriate of tin or zinc, and water.

Claim.—The combination of the ingredients above named, as *wc* in the proportions specified as also in any and all other proportions, and in greater or less quantities.

Also, the right of substituting and using any other compound made substantially of the same materials hereinbefore specified, though known by any other name.

61,558.—THERON OUTWATER, Oleott, N. Y.—*Washing Machine*.—January 29, 1867.—The clothes are attached to a gate, which reciprocates vertically between the corrugated surfaces of two spring pressure bands attached to removable frames in the suds box.

Claim.—The arrangement of the convex spring wash boards *B*, attached to removable frames *C*, and of the swinging bars *D*, or equivalent, for retaining and holding open the boards; where the said parts are combined with the clothes frame *G* and gate *H*, constructed as described and for the purpose set forth.

61,559.—H. D. PALMER, Cleveland, Ohio.—*Roller for Wringing Machines*.—January 29, 1867.—To prevent the torsion of the covering on the metallic core, the latter is slotted or made in sections, and a piece of cloth is lapped upon it so as to bind firmly and form a basis for the elastic covering.

Claim.—First, the rubber or other nonabsorbent cloth-supported coverings *B b c*, whether they are made or vulcanized directly upon the shaft as described, or separately, and afterward applied to the shaft, substantially as described.

Second, securing a cover *B* upon a slotted or sectional shaft *A*, by means of a divisional coil or canvas connection *e*, the termini of which underlap upon the shaft as shown, substantially as described.

61,560.—WILLIAM PANTON, Quincy, Mass.—*Stuffing Hides and Skins*.—January 29, 1867.—The metallic drum revolves within a wooden casing, into which steam is admitted, and has a thermometer extending through one of its journals and terminating in the interior; a thermometer is also attached to the casing. The hides and stuffing are placed in the drum.

Claim.—The hide-stuffing machine, as composed of the cylinder *A* and the steam case or box *B*, made and arranged substantially in manner and so as to operate as and for the purpose stated.

61,561.—PHINEAS PARDEE, New Haven, Conn.—*Vermis Trap*.—January 29, 1867.—This insect trap is placed around the trunk of a tree or otherwise, and its entrance has a series of bristles which permit ingress and prevent egress.

Claim.—A case provided with an opening or openings B, beneath a plate C, and having the entrance protected by elastic wires, or their equivalents, placed around the said opening parallel to the entrance, and bearing upon the bottom or side of the case, as and for the purpose specified.

61,562.—L. D. PENY, Laura, Ohio.—*Self-Skimming Sorghum Evaporator*.—January 29, 1867.—The juice passes along a serpentine course in the pan, and at three distinct intervals the scum is removed by overflow openings which successively remove the green, brown, and white scum. The clear sirup then passes the gated opening into the finishing division, whence it is drawn through a pipe.

Claim.—The pan A, as constructed with the divisions 1 2 3 4, gate B, skimming openings D, and trough E, when arranged, combined, and operating as herein described and for the purposes set forth.

61,563.—DANIEL W. PEPPER, Philadelphia, Pa., assignor to H. EVERETT, same place.—*Securing Caps to Metal Cans*.—January 29, 1867.—The rim of the cover is reamed down upon the upturned flange around the opening in the top of the can.

Claim.—The can A, with its opening A and flange e, and the cap B, with its flange i, when the two are fitted and secured together as described.

61,564.—GEORGE W. PERRY, Providence, R. I., assignor to A. PERRY & Co., Boston, Mass.—*Steam Generator*.—January 29, 1867.—The generator is formed of a series of vessels with horizontal corrugations whose convexities protrude into the counterpart concavities of the adjoining chambers, so as to form a serpentine flue between them.

Claim.—The improved boiler or generator as composed of a series of vessels constructed, arranged and connected in manner as hereinbefore explained, and as represented in the accompanying drawings.

Also, each section or vessel A made with the convexities of the corrugations of its opposite sides to project in opposite directions with respect to each other, and with the ends and top and bottom of such vessel closed, in manner as above set forth, and as exhibited in the said drawing.

61,565.—SAMUEL L. POTTER, Wyandotte, Mich.—*Fagot for Railroad Rails*.—January 29, 1867.—The steel bar for the cap of the rail of T shape is so arranged in the pile that when finished a considerable portion of the steel will be enveloped in the iron and a more perfect weld secured.

Claim.—A pile or fagot for railroad bars, constituted of iron and steel bars, arranged substantially as herein represented and described.

61,566.—GEORGE W. PRICE, Bloomington, Ill.—*Gang Plow and Cultivator*.—January 29, 1867.—The four plows attached to the frame may be arranged to throw the soil toward or from the row of corn to act as a cultivator, or all in one direction to act as a seedling plow.

Claim.—First, the combination of the vibrating beams G G and the braces I I, connecting them with the draft pole E, the outside plows K K, connected by the sheaths b b and the rods d d with the beams G G, and the inside plows L L connected by the swivel couplings g g to the standards s s, and the rods e e to the braces I I, arranged and operating substantially as and for the purposes herein described.

Second, forming the shovels or shares K K L L in such a manner that if a line were drawn in its oblique section, as shown in figure 3 of the drawings, the same would stand at an angle of about 23° from the standards b b e e, to which the shovels or shares are attached, and said plows having such a bevel that the point of the cutting edge when throwing inwardly shall be upon the inside of a line confined in the direction of the length of the standards b b e e, and said point when throwing outwardly shall be upon the outside of said line for the purpose of preventing any lateral pressure, substantially as herein set forth.

61,567.—WILLIAM D. PRINDLE and CHARLES M. YERK, Tiffin, Ohio.—*Atmospheric Churn*.—January 29, 1867.—Air is driven through the hollow shaft by the bellows above, and is distributed through the perforated diaphragm. The cream may be tempered by water in the vessel around the shaft.

Claim.—First, in combination with a movable bellows C, which is applied on the cover B of the churn box, the pipes b b', perforated diaphragm F, and water chamber G, arranged substantially as described.

Second, the construction of the air pipe b' with a perforated foot c, a perforated and flanged diaphragm F, and a water receptacle G upon it, to be used substantially as and for the purposes described.

61,568.—TROMAS RODDA, St. Louis, Mo.—*Balanced Steam Engine Valve*.—January 29, 1867.—The tubular throttle valve has two faces and moves vertically in a cylindrical chamber. The valve is nearly balanced, the major pressure being downward and due to the greater area on the upper end of the valve.

Claim.—The construction of the valve with its cross piece B' with reference to the openings and construction of the pipe A, arranged as herein set forth.

61,569.—M. D. SAFFORD, Boston, Mass.—*Ironing Table*.—January 29, 1867.—One end of the ironing table is clamped to the edge of a common table. Folding legs to support the other end are carried on a frame sliding beneath the leaf, and are kept extended by a brace when in use.

Claim.—First, the combination and arrangement of the carriage M, the legs B B, the brace C, and the grooved cleats H H, or their mechanical equivalents, made substantially as described and for the purpose set forth.

Second, the combination of the bracket D and thumb-screw E with the table A, sliding legs B B, and the brace C, when the whole is constructed substantially as described and for the purpose set forth.

61,570.—M. SCHMIRK and P. McCOLLUM, Fayette, Mo.—*Quilting Frame*.—January 29, 1867.—The side bars are hinged for folding, and are supported on hinged legs. Rods connect the sides. A roller for winding the quilt has end ratchet wheels and pawls.

Claim.—The frame A, the legs B and C, the connecting piece D, in combination with the rollers a¹, the ratchet wheels a², and their pawls a³, the holes a⁴ a⁹ a¹⁰, the hooks a⁶ a⁷, the eyelets a⁸ and b¹, the pin c¹ and its corresponding holes, the hook d, and the slit c², as and for the purpose specified.

61,571.—HENRY SEARLE, Rochester, N. Y.—*Oil Ejector*.—January 29, 1867.—A pipe with an exit spout at top and an inwardly opening valve at bottom traverses the greater length and issues from the upper end of a larger pipe furnished with a similar valve at bottom. The annular space between these pipes is connected with one end of the cylinder of an air pump, so that the alternate pressure and attenuation of air shall draw liquid through the outer valve and force it through the inner one and through the spout. The other end of the air pump cylinder is connected to a similar device.

Claim.—First, the arrangement of two or more ejectors for raising oil or other fluids from wells and other deep places, with each other, and with pipes and cocks, or valves, substantially in the manner and for the purpose described.

Second, the arrangement of two or more cocks, or equivalent valves E F G and H, in combination with the pipes A and B, for the purpose of changing the action of a column of compressed air or other fluid alternately from one ejector to another, substantially in the manner and for the purpose described.

Third, the combination of the pipes A B C D and cocks or valves E F G H with independent ejectors a and b, for the purpose of making the chamber of each ejector act alternately as a compressed air chamber, and as an exhausted receiver.

61,572.—GEORGE E. SHAW, Pittsburg, Pa.—*Fire Test Torch*.—January 29, 1867; antedated January 17, 1867.—A lamp is pivoted to a clamp which is secured to the reservoir containing the oil to be tested. A set-screw on the wick tube regulates the position of the lamp when in use. The lamp is brought into horizontal position when the oil is to be tested.

Claim.—First, the torch or lamp G, pivoted, suspended, or hinged to the clamp D, or to a piece of a fire tester for carbon oil, so that it can be made to occupy either the vertical position or the horizontal position represented in figure 2 of my drawings, or any other positions between the same, in the manner substantially as set forth.

Second, the combination of the clamp D, screw C, pivoted piece E, and screw H, with the lamp G, tube T, and screw R, to make an adjustable fire-test torch, substantially as and for the purpose specified.

Third, the screw R, in combination with the tube T, piece E, and clamp B, for regulating accurately the position of the fire band in relation to the oil undergoing the test.

61,573.—HENRY F. SHAW, West Roxbury, Mass.—*Planing Machine.*—January 29, 1867.—A revoluble disk carries the journal bearings of the double-headed cutter shaft. The two cutters, when brought to the working position, will revolve to the right or left, respectively, to favor the grain of the wood.

Claim.—The combination of a cutter shaft, having cutters at each end, with a device for turning it end for end, and thus by crossing the band giving the shaft a reverse motion, substantially as described and for the purpose set forth.

61,574.—ALBERT SNYDER, Jackson, Mich.—*Potato Digger.*—January 29, 1867.—The potatoes are dug by forks attached to an endless carrier. The forks have two series of teeth of different elevation, which act as a trough to carry the potatoes above a riddle, into which they are dropped, and whence they fall into a trough below.

Claim.—First, the double-pronged fork C, when constructed substantially as and for the purpose set forth.

Second, the combination of the fork C, rods 5 6, projecting screen K, gearing *o d z*, when constructed and used substantially as set forth.

61,575.—PHILIP SOMMER, Newark, N. J.—*Wrench.*—January 29, 1867; antedated January 17, 1867.—The two jaws slide upon each other, and lugs upon them are pivoted to the handle so that its oscillatory movement will cause lateral movement of the jaws to grip or release the nut. The pivot of connection slides within a slot in one of the lugs.

Claim.—The combination of the jaws C D, staff B, and roller *e*, constructed, arranged, and operating in the manner substantially as shown and described, and for the purpose set forth.

61,576.—PHILO O. SOPER, San Francisco, Cal.—*Hay Knife.*—January 29, 1867.—The back bar is bent forward near the bottom and carried below the blade to cause the feed of the cutter.

Claim.—First, the point A, in combination with the blade B, to act as a self-feeder.

Second, the construction of the blade B.

Third, the bearing of the shank C, for the uses and purposes as set forth.

61,577.—I. N. STANLEY, Brooklyn, N. Y.—*Apparatus for Desulphurizing Ores.*—January 29, 1867.—The desulphurizing chamber is surrounded with flues through which the caloric currents from the furnace are compelled to pass on their way to the chimney. Within the chamber is a stirrer provided with conveyors and operated by gear wheels. The pulverized ore is placed in the center of the oven and carried by the conveyor to the discharge hole near the outside.

Claim.—First, an oven B, revolving arms F F, and upright shaft K, operated by means of gears G G and horizontal shaft H, or their equivalents, substantially as described.

Second, the conveying the ores or other material, while being operated upon, from the central part of oven B to the circumference, and there discharging them, or from the circumference to the center, as may be desired, by means of conveyors A A connected to arms F F, as shown on figure 3, substantially as described.

Third, the use of fire-clay, plumbago, or graphite enameled iron, or other metals, or any other refractory material for the construction of conveyors A A, and

for the protection of the upright shaft K and arms F F, that are exposed to the action of heat and gases, substantially as described.

Fourth, the construction of flues C C, underneath the oven B, so as to give a uniform heat; also flues D D, leading from underneath the floor and over the arch of oven B, in its passage to the drying floor or chimney, substantially as described.

Fifth, a stationary floor of the oven B, substantially as described.

Sixth, the supplying the necessary oxygen for the proper treatment of ores or other material for which the oven may be adapted through the supply pipe V, box M, shaft K, and arm F F, and openings W W, through said arms F F and conveyors A A, thereby preventing the arms F F from becoming too much heated when in action, substantially as described.

Seventh, the outlet W, for conducting gases or other volatile substances, and pipe O, with its connections to condenser N, and the steam or air jet Q, for the purpose of exhausting the gases, &c., from oven B; also chambers when used in connection with this furnace, which may be required for the treatment of such ores as cinnabar, zinc, lead, &c., or the manufacture of sulphuric or other acids, and for conducting the same through water, thence to the furnaces T T through pipes P P, where both the gases and steam or air are to be used to assist combustion when not otherwise disposed of, thereby economizing fuel, substantially as and for the purposes described.

Eighth, the hollow shaft K and arms A A, for the purposes named in the foregoing specifications, or their equivalents, substantially and for the purposes described.

61,578.—JOSHUA STEVENS, Chicopee Falls, Mass.—*Sash Fastener.*—January 29, 1867; antedated January 19, 1867.—A weighted or spring cam sustains the sash in position, and acts on a catch to fasten the latter when the window is closed.

Claim.—The cam *b*, finger or pawl *c*, and plate *a*, whether operated by a lever or a crank, all combined and arranged substantially as described.

61,579.—JOHN B. TARR, Chicago, Ill.—*Railroad Rail.*—January 29, 1867.—A tenon is cast on one end of the rail, to be secured into a socket upon an adjoining rail.

Claim.—Constructing solid railroad rail sections, with tenons formed on one or both ends which are adapted to fit into the ends of rail sections having sockets formed in them, the said tenons constituting part of the metal of their rails, substantially as described.

61,580.—JOHN B. TARR, Chicago, Ill.—*Metallic Pavement.*—January 29, 1867.—Rectangular slabs of metal have side projections and depressions at the ends and at mid-length, respectively, by which they are attached. The slabs are reinforced at the depressions.

Claim.—The metallic slabs A, constructed with interlocking projections and depressions, substantially as described.

61,581.—S. N. TAYLOR, Horicon, Wis.—*Universal Joint.*—January 29, 1867.—The radial projections of the socket act upon the projections of the ball to communicate rotary motion and allow inclined movement to its shaft.

Claim.—First, the shell B, provided with internal radially projecting flanges *e*, having their outer ends rounded off as shown.

Second, the shell B, in combination with the head A, when said parts are constructed as shown and described.

61,582.—FRIEDRICH VILLARD, Mount Eaton, Ohio.—*Crucible Tongs.*—January 29, 1867.—Explained by the claim and illustration. The jaws are adapted for grasping crucibles of different diameters.

Claim.—The arrangement of the bars A and hinged circular segments B and C, combined together to form one or more crucible tongs, substantially as described and set forth.

61,583.—SAMUEL WALKER, Boston, Mass.—*Narrow Ware Loom.*—January 29, 1867.—The guide

has a forward movement before the batten has completed its rearward movement, and before the shuttle commences its lateral movement, so as to bring the guides sooner into contact with the shuttle than if they were stationary, thus pushing the shuttles across the warp spaces by a continuous and positive movement.

Claim.—First, operating the shuttles of narrow looms by means of a path cam wheel H, in combination with the system of levers, connecting rod, and the cords or straps *n n'*, substantially as described.

Second, reciprocating the guide bar and guides by means of devices, such as described, or their equivalents, substantially as and for the purpose set forth.

Third, the combination of the roll *r'* with the levers *l* and *m*, the sliding weight *w*, and tension cord *t*, arranged and operating as and for the purpose set forth.

61,584.—L. F. WARD, Elyria, Ohio.—*Mail-bag Catcher for Railroad Cars.*—January 29, 1867.—Two rods are united at or near the point of attachment to the car and form an acute angle; the outer rod projects beyond the car and clasps the mail bag that is hung upon a crane, guides it into the angle and delivers it into the car.

Claim.—First, the combination and arrangement of mail-bag catchers when attached to a railroad car in the manner and for the purpose herein set forth.

Second, the combination of the arms B and C with the stem A, helical spring S, and handle D, in the manner and for the purpose set forth.

Third, the arrangement of the mail-bag supporter consisting of the crane stem E, braces X and *x'*, spring F, and irons *e'* and *f'*, in the manner and for the purpose herein set forth.

61,585.—WILLIAM L. WASHBURN, Brooklyn, N. Y.—*Ventilator for Windows, &c.*—January 29, 1867.—Improvement on his patent of July 2, 1861. The flap valves operate in connection with flanged shelves, and are closed by sudden gusts while remaining open under other conditions.

Claim.—The combination with a stationary or adjustable frame A, of two or more sets or pairs of swinging or flap valves and flanged shelves, substantially as and for the purpose hereinabove specified.

61,586.—JOSHUA WEBSTER, Malden, Mass.—*Manufacture of Peat Fuel.*—January 29, 1867.—The inclined trough contains a sliding frame carrying a series of scrapers and pressing rollers. The peat is thrown into the hopper and passes into the trough, in which it is pushed forward by the scrapers and pressed by the rollers, the water escaping between the slats.

Claim.—The arrangement in connection with a hopper or other crude peat receptacle, of a series of scrapers operating in connection with a stationary incline or bed, substantially as set forth.

Also, and in combination with such scrapers and incline, the series of presser rolls, operating substantially as set forth.

61,587.—GEORGE A. WELLS, Oskaloosa, Iowa.—*Combined Lantern, Foot Warmer and Water Heater.*—January 29, 1867.—The apparatus has panes in its sides, and may be used as a lantern, or as a foot stove, by turning over the upper hinged portion and exposing the surface of the mat for the feet; or as a heater by placing the pan in the necessary position.

Claim.—The arrangement of the device forming a foot warmer, lantern, and water heater, constructed and operating as described.

61,588.—HENRY WETTSTEIN, Philadelphia, Pa.—*Coverlet.*—January 29, 1867.—In this coverlet any of the different well-known styles of weaving, such as plain, twill, marseilles, honeycomb, damask, &c., may be introduced; but they are not arranged in a succession of stripes, each stripe being made up of one kind of weaving; but all or any number of the styles introduced may appear in the same longitudinal or transverse line.

Claim.—A coverlet woven substantially as herein specified, as a new article of manufacture.

61,589.—LORENZO D. WHEELER, Fitchburg, Mass.—*Oscillating Seam Rubber.*—January 29, 1867; antedated January 21, 1867.—The leather is clamped

upon the rest by the descending clamp, and the rubber reciprocated upon it to flatten the seam.

Claim.—First, the combination and arrangement of the clamp F and table D with bed piece A, slide frame J, and slide K, substantially as and for the purposes set forth.

Second, the combination with clamp F, constructed as shown and described, of table D and spring I, substantially as and for the purposes set forth.

Third, the combination with frame J of slide K and springs Q, as and for the purposes stated.

61,590.—HENRY M. WHITMARSH, Abington, Mass., and SILAS S. PUTNAM, Dorchester, Mass.—*Clothes Hook.*—January 29, 1867.—The hook is pivoted to a holder secured in the required position, and may be upwardly rotated out of danger with passing objects when so desired; a spring retains it in closed position.

Claim.—The pivoted hook C, with its slot *e*, so arranged that it may be closed up, and thus occupy less space, substantially as described.

61,591.—FRANKLIN W. WILLARD, New York, N. Y.—*Spoon.*—January 29, 1867; antedated January 12, 1867.—Attached to the back of the spoon and handle is a small tube extending from a point near the extremity of the bowl to and a little beyond the end of the handle, the object being to form a spoon combined with a sucker tube.

Claim.—A tubular handle to the spoon for the use and purposes substantially as set forth in specification.

61,592.—JAMES M. WILLIAMS, Connorsville, Ind.—*Blower.*—January 29, 1867.—For the purpose of preventing the reaction of the pistons upon the air from interfering with its ingress, it is admitted at two slots, one on each side of the median line, and in a direction in partial coincidence with the required direction of its motion.

Claim.—The construction of the three-vaned fans B B, used in combination with the semi-cylindrical case A, having openings at the ends for the admission of air; and the deflecting board *d*, arranged so as to leave a slot for the admission of air between it and case A, operating in the manner and for the purpose specified.

61,593.—ALONZO H. WOOD, Boston, Mass.—*Gas Regulator.*—January 29, 1867.—Attached to the upper end of the valve rod are a series of inclined vials partly filled with mercury and resting upon rollers beneath. These self-adjusting weights increase or diminish their force upon the disk as they are raised or lowered by the greater or less pressure of the gas upon the under side of the disk.

Claim.—An automatic gas regulator attachment having the functions, and possessing the characteristics, substantially as set forth.

61,594.—LUM WOODRUFF, Ann Arbor, Mich.—*Gate Latch.*—January 29, 1867.—The pin on the stile of the gate runs upon a block projecting from the face of the post, and is there retained by a slotted spring block which yields to it and then engages.

Claim.—The pin A; the rest B, the slotted latch C, and the vertical looped rod F, when arranged substantially in the manner and for the purposes above specified.

61,595.—A. S. BABBIT, Keeseville, N. Y.—*Bed Bottom.*—January 29, 1867.—The socket has flanges which are engaged by the spiral spring, and affords a flanged bearing for the bed slat.

Claim.—The casting A, with its ears *a a* and shoulders *x x*, when constructed substantially as described and used for the purposes set forth.

61,596.—STEBEN T. BACON, Boston, Mass.—*Apparatus for Generating Carbonic Acid Gas.*—January 29, 1867; antedated January 17, 1867.—The saccharine or farinaceous matter is fermented in an upper vat, and from that passes into the tun, where it is tempered by a coil pipe, the outer vertical portion of which has a steam jacket. The gas passes from the tun to the purifier, where it is washed in water, and from which it escapes to the reservoir.

Claim.—The arrangement herein described of the apparatus for facilitating the generation of carbonic acid gas from saccharine or farinaceous matter.

61,597.—H. P. BALL and A. L. GRAVES, Albany, N. Y.—*Shears*.—January 29, 1867.—The blades of the shears consist of pivoted plates adjustable upon the jaws.

Claim.—Adjusting the knives or blades C C upon the jaws B B of the shears, substantially in the manner and for the purpose herein specified.

61,598.—WILLIAM E. BASS, Lawrence, Mass.—*Weft Bobbin*.—January 29, 1867.—This is an improvement on Pearl's patent, No. 53,655. The object is to better secure the winding of the woolen yarn and to prevent the liability of the cop being pulled off when steamed prior to weaving.

Claim.—The improved weft bobbin as made with the series of swells *a a'*, arranged on its body as set forth.

Also, the arrangement of the taper of the portion *b*, with the series of swells *a a'*, of the body of the bobbin, as set forth.

61,599.—JOHN H. BEAR, York, Pa.—*Grinding Mill*.—January 29, 1867.—Explained by the claims and illustration.

Claim.—First, the runner stone G, constructed with a surface for grinding, which is a segment of a sphere in any direction in which it may be intersected, in combination with the concave E, which also is of a shape to conform to said runner stone; the said runner stone and concave being arranged and operated substantially in the manner and for the purpose described.

Second, the arrangement of the platform D, concave stone E, clamp screws *e' e'*, and adjusting screws C C, in combination with the vertically revolving runner stone G, substantially in the manner and for the purpose described.

Third, the deflector *n*, applied substantially in the manner and for the purpose described.

Fourth, arranging the hopper so that its lower end rests upon the stone E and connecting its upper end to the frame A, by hooks or fastenings which will allow it to descend or rise with the stone E, substantially in the manner and for the purpose described.

Fifth, the combination of the metal guards *n'* and clamp screws *e' e'* with the runner stone and concave, substantially in the manner and for the purpose described.

61,600.—JOHN S. BIRCH, New York, N. Y.—*Pendant for Watches*.—January 29, 1867.—The guard ring is continuous and swiveled to the watch on the pusher pin. An additional swivel furnishes extra security.

Claim.—First, the combination of the hollow stem D, swivel C, ring B, and spring top or pusher E, substantially as and for the purposes set forth.

Second, the continuous revolving ring B, fig. 2, in combination with the swivel C, as and for the purpose specified.

Third, the secondary swivel bow G, in combination with the guard bow and handle of a watch, to afford an additional attachment for the guard, as explained.

61,601.—WALTER BOUND, Hackensack, N. J.—*Carriage Clip*.—January 29, 1867; antedated January 19, 1867.—One end of the pin by which the shafts are coupled to the axle is held rigidly in the fixed jaw of the clip and the other end is engaged by a recess in the hinged jaw. The latter jaw is held to place by a perpendicular lip upon a spring.

Claim.—First, the hinged end piece E, in combination with the bolt D and frame B C, substantially as herein set forth for the purpose specified.

Second, the spring F, provided with the lip *c*, and applied in relation with the hinged end piece E, bolt D, and frame B C, substantially as herein set forth for the purpose specified.

61,602.—NATHANIEL A. BOYNTON, New York, N. Y.—*Coal Stove*.—January 29, 1867.—Vertical, centrally expanded air tubes traverse the fire chamber and discharge into the drum above. The drum is traversed by vertical flues.

Claim.—First, the annular heating drum A, provided with air pipes B and a central air space D, substantially as described.

Second, the arrangement of the air flues B, intermediate of the several fire flues J, in combination with

a heating drum having the form of a complete or of an incomplete annulus, substantially as described.

Third, the arrangement of the air and fire flues with reference to each other in the manner above shown, so that at adjacent points their circles shall coincide for the purpose of preventing the lodgment of soot and ashes at these places, substantially as described.

61,603.—A. N. BRENNEMAN, Lancaster, Pa.—*Jack*.—January 29, 1867.—The rear end of the last is pivoted to an upright, and may be entered in a vertical position and then turned down with the boot until the toe reaches its rest upon the other standard. The standards are adjustable for various sized boots.

Claim.—The manner of hinging the last A upon the end of the standard B, in combination with the rest C D, operated in the manner and for the purpose specified.

61,604.—WEBB BROOMHALL, Circleville, Ohio.—*Door and Gate Latch*.—January 29, 1867.—The latch bar has a T-shaped handle standing transversely to the gate and projecting from its sides. An L-shaped projection from the other end of the latch forms the catch.

Claim.—A rod with its middle portion journaled and the end bent to form a catch with or without a secondary device to act upon the handle, substantially as described.

61,605.—E. & A. BUCKMAN, East Greenbush, N. Y.—*Farm Gate*.—January 29, 1867.—The gate slides either way and turns on its center, resting upon the swiveled suspending collar.

Claim.—First, the arrangement of the posts B, and swiveled suspending collar *b*, in relation with each other and with the gate A, whereby the gate may be opened in either direction, substantially as herein set forth.

Second, the guide rail *e*, secured at the top of the gate, beveled upward and inward on its under side from both edges and operating in relation with the tapering friction rollers *d*, suspended in swivels A', substantially as herein set forth for the purpose specified.

Third, the inclined planes *f*, arranged with reference to the vertical braces *d* and supporting posts B of a double acting gate, substantially as herein set forth for the purpose specified.

61,606.—W. H. BURRIDGE, Cleveland, Ohio.—*Carbureting Illuminating Gas*.—January 29, 1867.—Balsam, turpentine, or camphor gum are dissolved in a distillate of any of the light mineral oils, and the mixture is used to enrich illuminating gas passed therethrough.

Claim.—The combination of an auxiliary gas from the organic volatile hydro-carbons with the common illuminating gas, as and for the purpose specified.

61,607.—WILLIAM CRAIG, Newark, N. J.—*Pipe Coupling*.—January 29, 1867.—The curved grooves for the projections are constructed with a cavity, so that the two joints, when locked, will not be readily loosed, the projections being constantly forced into the cavities by the operation of an elastic ring between the two ends of the pipes.

Claim.—The combination of the sliding or entering butt C, with its studs *g*, elastic ring D, and the adjacent butt-holding sleeve A, formed with grooves *b*, made to terminate in cavities or continuations *c*, that verge outwardly toward the end or face of the sleeve from which said grooves started at their open extremities or mouths, all for operation together substantially as and for the purpose or purposes herein set forth.

61,608.—THOMAS CRANE, Fort Atkinson, Wis.—*Take-up Mechanism for Knitting Machines*.—January 29, 1867.—This take-up device is designed to be applied to machines such as that patented to J. W. Lamb, September 15, 1863, and by its means the yarn carrier can be moved the whole length of the frame at each stroke without reference to the number of needles employed.

Claim.—First, in knitting machines an apparatus that lifts the yarn between a stationary eye, or its equivalent, and the yarn carrier, or between two stationary eyes, substantially as described, so that the slack is taken up as the yarn carrier approaches the

center of the machine, and is given out as it moves from the center.

Second, the means substantially as herein described of lifting the yarn, that is to say, a rod pivoted at one end to the yarn carrier or to the machine, while its upper part is free to slide through a stationary guide placed near the middle of the machine or the middle of the stroke of the carrier, substantially as described.

61,609.—EDMUND D. CROSBY, Scott, N. Y.—*Washing Machine.*—January 29, 1867.—Explained by the claim and illustration.

Claim.—The combination of the beaters *m m*, when pivoted upon the central bar and connected to the pitman cranks by the jointed arms *c c*, all as described and for the purpose set forth.

61,610.—RICHARD H. CUTTER, Cleveland, Ohio.—*Bed Lounge.*—January 29, 1867.—The construction admits the change from a lounge or settee to a bed, and affords a receptacle for storing the bed clothing.

Claim.—The combination with the folding seat *A*, the mattress *M*, and the folding head *C*, when constructed and operating in the manner and for the purpose herein specified.

61,611.—G. K. DEARBORN, South Boston, Mass.—*Window Frame.*—January 29, 1867.—The arrangement facilitates the removal of the window sash from the frame. The outer jointed beading is retained by a catch and bent for removal; the lower part of the parting bead, between the sashes, is stepped into the sill, and is removable laterally.

Claim.—First, the movable parts *D D'* of the stop bead, when combined and arranged substantially as set forth.

Second, the arrangement and construction of the parting bead *E E'*, made substantially as and for the purpose set forth.

61,612.—J. J. & DAVID DECKER, New York, N. Y.—*Piano-Forfe.*—January 29, 1867.—Improvement on patent of D. Decker, June 2, 1863. The flange of the plates laps against the wrest plank and end block. The strings are connected to the tuning pins near to the wrest plank, and the bearing of the strings upon the plate is avoided.

Claim.—First, the iron plate constructed with a vertical flange *C* at its rear end, arranged in relation with the wrest plank, as and for the purpose herein specified.

Second, interposing between the bridge *G* and portion *B* of the plate, an inclined support or shelf *H*, to obtain the attachment of the strings to all or the more forward portion of the tuning pins close to or at uniform distances from their wooden bearing, essentially as specified.

61,613.—DANIEL DE GARMO, Rochester, N. Y.—*Stove Pipe Damper.*—January 29, 1867.—Two perforated plates are pivoted on a common bearing on which they are adjustable to present their edges or surfaces to the caloric current. One of them has an adjustment in its own plane to cause its apertures to register with those of its fellow plate, or otherwise.

Claim.—The arrangement in stove pipe dampers of the plates *A* and *B*, journals *j k*, rib or rim *m*, and recesses *c*, pivot bolt *f*, and openings *a b*, in the manner and for the purposes set forth.

61,614.—GEORGE DRYDEN, Worcester, Mass., assignor to himself and E. A. PRESCOTT, same place.—*Piston Packing.*—January 29, 1867.—The segments occupy annular grooves in the periphery of the piston head and are expanded by spring plates, and the force of steam admitted through the perforations into the interior recess. Tongues act as dowels in connecting the adjacent segments.

Claim.—First, a packing ring consisting of the segments *b*, with the spring *c*, and tongues *a*, constructed and arranged to operate as shown and described.

Second, in combination with the rings, constructed as set forth, the annular recess *k*, and the slide *h*, arranged to operate as described.

61,615.—ADDISON C. FLETCHER, New York, N. Y.—*Grate Bar.*—January 29, 1867.—The successive steps are united by inclined plates, faced on the fire-side with refractory substances.

Claim.—First, the arrangement of the connecting webs *a* of the steps in a step-formed grate bar, in inclined or sloping positions, substantially as and for the purpose herein described.

Second, the facing slabs *b b*, of refractory material, in combination with the connecting webs of the steps of a step-formed grate bar, substantially as and for the purpose herein specified.

61,616.—GILBERT B. FRENCH, Dunbarton, N. H.—*Car Coupling.*—January 29, 1867.—The spring jaws hold the pin, so that the coupling link passes beneath. The entering link actuates the abutment and wedging standard, which opens the jaws and allows the pin to drop.

Claim.—As my invention or improvement, the arrangement of the spring jaws, the spring abutment and the wedged standard, together, and with the bunter bar, and its pin passage, as set forth.

61,617.—WARREN GALE, Chicopee Falls, Mass.—*Straw Cutter.*—January 29, 1867.—The edges of the spiral knives cut against corresponding surfaces of comparatively soft metal which are clamped in the arms of the cylinder above.

Claim.—A revolving pressure cylinder whose pressure surfaces are faced with or made of strips of copper, or some alloy thereof possessing equivalent properties, in combination with and geared to a revolving cutter cylinder or shaft, substantially as and for the purpose herein set forth.

Also, a spiral or oblique flanged pressure cylinder, faced with copper, in combination with a revolving knife cylinder, substantially as described.

61,618.—H. C. GOODRICH, Chicago, Ill.—*Tuck Marker for Sewing Machines.*—January 29, 1867.—Explained by the claim and illustration.

Claim.—The tuck marker, consisting of the plate *A*, formed as shown, with an open space around the cloth presser to permit the cloth to lie flat on the machine, the under side presenting a plain surface, so that it may be attached to any ordinary sewing machine, and provided with the point *I* and the spring arm *B*, having the notch *F* arranged to engage with the point *I*, said arm being arranged to be operated by the needle bar of the machine, as herein shown and described.

61,619.—FREDERICK S. GWYER, New York, N. Y., assignor to himself and LEVI H. MACE, same place.—*Meat Safe.*—January 29, 1867.—The portions are set up together and locked by dove-tailed tenons and slotted plates, so as to be readily separable and closely packed for economy in stowage.

Claim.—The separable meat safe, with detached parts fitted with fastenings, substantially as herein specified, and adapted to be packed and transported in a small compass and with protection to the delicate portions of its structure, as herein set forth.

61,620.—WILLIAM HARRIS and CLINTON BROWNING, Rush Run, Ohio.—*Nut Fastener.*—January 29, 1867.—The flexible metallic yoke is threaded at the portion which embraces the screw and forms a jamnut to keep the nut proper from becoming unscrewed.

Claim.—As an article of manufacture, a spring metal friction yoke, constructed substantially in the manner and for the purpose herein set forth.

61,621.—J. M. HOTALING, Waterport, N. Y.—*Broom Head.*—January 29, 1867.—The handle is wedged in the socket of the clasp which grips the butts of the broom stuff. An enveloping cap slips over the handle, encloses the upper part of the broom, and is retained by a transverse link and wedge.

Claim.—The combination and arrangement of the clasp *B*, envelope, *C*, link *E*, and keys *i*, with the handle *D* and broom *A*, as herein set forth, the whole operating in the manner and for the purpose specified.

61,622.—JACOB KESSLER, York county, Pa.—*Cultivator.*—January 29, 1867.—The draw bars of the teeth are pivoted to a transverse rod and rest upon another rod which may be thrown over a hook to raise the teeth from the ground. The teeth are pivoted to their bars and retained in their working position by wooden pins.

Claim.—The arrangement of the teeth G G, as constructed with the bars E E, rods D and a, and the frame of the machine, as and for the purpose specified.

61,623.—WILLIAM C. LESSTER, New York, N. Y.—*Fireplace Heater.*—January 29, 1867.—The fire pot is made of cast-iron rings in a vertical column, and the loose, flat, annular cap confines the gases at the joints, while permitting expansion of the rings. The perforated annular section admits air.

Claim.—The combination with the fire pot B, made up of rings mounted upon and fitting one within the other, as described, of the loose flange or cap D, constructed to enter a groove in the top ring, and resting on or lapping over the partition plate d of the heater, essentially as and for the purpose or purposes herein set forth.

61,624.—ARMAND MANUEL, Reims, France.—*Device for Uncorking Bottles.*—January 29, 1867.—The tie wire is wrenched apart by the vibration of a lever attached thereto.

Claim.—First, the method of removing or breaking the wire or other clasp or tie which holds the cork in the bottle, by means of a detaching lever or equivalent device attached to and secured upon the said clasp or tie, substantially as set forth.

Second, the combination with one or more clasps or ties applied to the cork, as described, of a detaching lever or similar device, under the arrangement and for operation substantially as shown and specified.

61,625.—JOHN R. MARTIN, Boothbay, Me, assignor to SAMUEL K. HILTON, Portland, Me.—*Fishing Line Sinker.*—January 29, 1867.—A plate of copper is attached to the hollow lead body of the sinker, and has a hinged cover, which shuts the weight-carrying cavity. The nut on the threaded ends of the link opens or closes the gap at which the swivel or the line is inserted. The "hawse" is detachable for convenience in stowage.

Claim.—First, the connection of a plate of copper or other hard metallic substance with a body of lead or other soft metallic substance, and the arrangement of a chamber therein enclosing weights of lead or other heavy substance, either or all of which may be removed or replaced at pleasure.

Second, the fixing firmly in the upper part of the body of a staple of copper or other metallic substance with disconnected parts (affording sufficient space for the admission of a swivel or line,) and a nut or burr working upon both parts of the staple at the same time, or one part alone, so that the sinker may be detached from the line and replaced at pleasure.

61,626.—JOHN MATTHEWS, JR., New York, N. Y.—*Pipe Coupling.*—January 29, 1867.—The socket piece which is to be screwed upon the nipple of soda apparatus is connected with the sleeve, which surrounds the leaden pipe by a swivel joint, formed by an inwardly turned flange on the end of the socket piece, setting behind an outwardly turned flange on the end of the sleeve. The lead pipe is turned out at the end so as to entirely cover the sleeve shoulder, and upon this leaden flange the annular packing piece is placed.

Claim.—First, the method of forming a swivel or screw connection of a metallic pipe or pipes, by passing the end of the pipe through the swivel, and flanging it on the face of the collar b, substantially as and for the purposes specified.

Second, the nut C, pipe A, and swivel B, having a flange or collar b and handle S, permanently secured to the swivel, all arranged and combined essentially as shown and described.

61,627.—JOHN MATTHEWS, JR., New York, N. Y.—*Bottling Machine.*—January 29, 1867.—The perforated metallic cups hold the bottle, and inverted cones adjust the mouth of the bottle to the filling tube.

Claim.—First, the combination in bottling machines of perforated detachable cups or wells of different depths or sizes, essentially as and for the purpose or purposes herein set forth.

Second, the bottle screen or guard made to form a guide to the mouth or neck of the bottle, by constructing it of a conical form or shape, with its guiding surfaces free from horizontal interruptions or breaks, substantially as specified.

61,628.—ROBERT MEYER, Buffalo, N. Y.—*Buckle Fastening.*—January 29, 1867; antedated January 19, 1867.—Of the two metallic cases, one acts as a covering for the end of the strap which passes into the buckle, and is provided with pins, which pass through the leather to which it is fastened, and through the perforated plates, to one of which the buckle is attached by a joint; the other case is used as a plate to hold the swivel parts together.

Claim.—First, in combination with the case D, the pins H I J, or the equivalent thereof, and the plates R and N, as herein substantially described.

Second, the case C, the pins F G, and plate M, for fastening the end of the strap in place, as described.

61,629.—JAMES MILLER, New York, N. Y.—*Boring Tool.*—January 29, 1867.—The two cutters are clamped in heads radially adjustable on opposite sides of the spring center, the coincidence of their distances being determined by graduated plates.

Claim.—First, the combination with adjustable slides D on a cutter head B of cutters S S' on opposite sides of their center of rotation, and with their two cutting edges or faces o lying in a plane, or thereabouts, intersecting said center and their outer sides s of a sweep not exceeding, or thereabouts, the sweep of the smallest circle they are designed to travel in, constructed and arranged substantially as specified.

Second, the combination of the adjustable cutters S S', arranged substantially as described, with the self-adjusting center or center pin C and cutter head B, essentially as herein set forth.

61,630.—JOB MILLER, Warren, R. I., and JASON A. BIDWELL, East Boston, Mass.—*Knitting Machine Needle.*—January 29, 1867.—The stitch caster has a spring shank, and is fastened to the rear end of the shank of the hooked needle. A cam arranged between the respective shanks raises the caster to drop the stitch, forming a mousing to the hook.

Claim.—A spring-stitch caster, hung or fastened to the shank or bar of a hooked needle in rear of the cam that lifts it.

Also, a cam arranged between the shank of the needle and the shank of the stitch caster to raise the stitch caster at the proper time to cast the stitch, and then let it drop, so that the yarn may be fed to the hook of the needle.

Also, a stitch caster made to spring in one direction after being worked by a sliding cam H in the opposite direction.

61,631.—WILLIAM JESSE MILLER, Linesville, Pa.—*Medicine.*—January 29, 1867.—Medicine for rheumatism, composed of equal parts of columbo root, burdock root, mustard seed, sulphur, white pine pitch, elecampane root, steeped in brandy.

Claim.—The above described composition of matter for the purposes set forth.

61,632.—GEORGE L. MOODY, New York, N. Y.—*Annular Petroleum Burner for Hot-air, Steam and Hydrocarbon Fluids.*—January 29, 1867.—The petroleum occupies the outer one of the concentric pipes, and is discharged in immediate contact with an annular jet of hot air, which in turn envelops a jet of superheated steam.

Claim.—First, the burning of petroleum or a hydrocarbon fluid by injecting it into a fire box or furnace in an annular form, so that all the components are consumed, leaving no residuum and making no smoke, substantially in the manner above set forth.

Second, the adjustable orifice through which the oil is discharged, made substantially in the manner and for the purpose above described.

Third, the mechanical combination and arrangement of the different concentric pipes for the discharge of heated air, superheated steam and oil, or a hydrocarbon fluid, with the adjustable orifice, as a whole, and its application substantially in the manner and for the purposes herein mentioned.

61,633.—EUGENE J. POST, Vienna, N. J.—*Hat and Coat Holder.*—January 29, 1867.—The twisted wire is bifurcated to form a hat holder, and has a hook from which a coat may be suspended when the device is attached to the wall.

Claim.—The arrangement and combination of the

hat holder and preserver with the coat hook and brackets, whether stationary or adjustable, substantially as and for the purposes herein set forth.

61,634.—THOMAS ROWATT, Jr., London, England.—*Lamp Burner.*—January 29, 1867.—Applied to the burner are two hollow domes, one within the other, producing distinct currents of air, which are admitted at separate points of induction.

Claim.—The two domes *f* and *l*, constructed with their openings *o*, increasing in width toward the base, and the opening in the outer dome broader than the opening in the inner dome, in combination with their respective air passages *m*, and passages *h* and *g*, the passages to the one dome being independent of the passages to the other dome, all constructed so as to operate substantially as set forth.

61,635.—JOSEPH H. RYAN, Boston, Mass.—*Toilet Glass.*—January 29, 1867.—The handle of the hand glass is jointed, and can be set at any required angle to form a foot for the glass while shaving.

Claim.—A hand toilet glass, the handle of which is so attached that it may be secured in position to serve as a rest for the glass when placed upon a table, substantially as described.

61,636.—ALEXANDER SELKIRK, Albany, N. Y., assignor to JOHN GIBSON, Jr., and E. J. SELKIRK, same place.—*Cover and Lifting Device for Kettles.*—January 29, 1867.—The lid has lips upon its edge, which engage lugs on the pot rim to keep it in position, while the pot is cauted to pour the liquid contents through notches in the rim of the lid. A perforated lug near the pot bottom receives a hook to assist in this operation.

Claim.—First, the pierced lug *e*, leg *e'* and T-lug *E'*, and the hook *h*, or their equivalents, in combination with the bail *c*, for the purpose set forth, substantially as described.

Second, the cover *B*, constructed with a notched edge in whole or in part, or made in open work, in combination with the lips *o o' i*, or their equivalents, for the purpose set forth and described.

61,637.—WILLIAM SIEFERT, New York, N. Y., assignor to himself and JOHN PRICE, same place.—*Safety Guard for Railroad Cars.*—January 29, 1867.—Guard blocks are attached to the axles, and are carried on each side of the wheels of street cars to throw aside from the rails any object which would otherwise be run over.

Claim.—The arrangement of the stationary guards *F F*, in combination with the axles *C*, carrying bars *D*, truss plate *g*, and truss rod *d²*, substantially as and for the purpose set forth.

61,638.—DANIEL E. SOMES, Washington, D. C.—*Cooling and Packing Meat.*—January 29, 1867.—Meat is cooled by applying to it liquids of gradually diminished temperature, so as to cool it through without too much chilling the outside, while the inside still retains the animal heat.

Claim.—First, cooling air and liquids, substantially as herein described.

Second, cooling meat, substantially as herein described.

Third, facilitating the salting of meat, substantially as herein described.

61,639.—JOHN STOKELY, Hiram, Ohio.—*Chimney Collar.*—January 29, 1867.—The collar is constructed of separate pieces overlapping from above, and provided with projecting strips of metal bent at right angles and having one edge inserted between the bricks and the other covering the upper edge of the collar.

Claim.—First, the chimney collar, constructed of the sections *A C* and *D*, substantially as set forth.

Second, the lap *B*, for the purpose of covering the loose edge of the chimney collar, substantially as set forth.

61,640.—FREDERICK STRATNER, Wilmington, Del.—*Valve Gear for Steam Engines.*—January 29, 1867.—The link is connected to the rock-shaft at the midlength and the outer edge of said link.

Claim.—The described arrangement of the slotted segment *G*, rock-shaft *J*, adjustable block *I*, pitman

E, and valve rod *A'*, whereby the motion of the valve may be accelerated, retarded, or suspended, as set forth.

61,641.—THOMAS TAYLOR, Washington, D. C.—*Elastic Mold.*—January 29, 1867.—Vulcanized rubber is used in place of glue and sugar or similar compositions for deep or undercut patterns.

Claim.—The use and application of vulcanized rubber, for the purpose herein set forth.

61,642.—CHARLES H. TRYON, Greenwood, Ill.—*Apparatus for Stacking Hay.*—January 29, 1867.—The derrick post is in sections; the lower one rests on the ground and the upper one, which carries the hoisting sheave, ends in a pin that passes through the gyro-plate. This allows revolution in the post. The guy ropes pass through straining braces which rest upon the ground.

Claim.—An improved apparatus for stacking hay and for other purposes, constructed of a central upright formed of one or more separate adjustable sections *A A'*, as shown in the accompanying drawings, in combination with a crowning pivot plate and pin *d*, revolving swivel head *G*, and suitable supporting ropes or chains *a*, all arranged and operating substantially in the manner and for the purpose herein described.

61,643.—ISAAC VAN TRUMP, Wilmington, Del., assignor to MARINE SIGNAL COMPANY.—*Fog Signal.*—January 29, 1867; antedated January 19, 1867.—The semicircular tubular vessel is mounted upon a rock-shaft and has at each extremity an ordinary whistle and a valve opening inward. When the vessel is partially filled with water and rocked to and fro, the air is forced through the whistle and sounds an alarm.

Claim.—An air pipe or tube hung upon centers or a rock-shaft, in combination with a whistle or whistles, substantially as specified, so that water or other liquid contained in said tube or pipe shall cause air to pass through the whistle or whistles when the apparatus is moved, as set forth.

61,644.—ANDREW WEMPLE, Chicago, Ill.—*Moving Machine.*—January 29, 1867.—The finger bar is attached to the machine by a single swivel joint on one side, so that the pitman can be placed in rear of the joint and attached to the head of the sickle bar in the center of the circle circumscribed by the finger bar in rocking. A lever in connection with a hinge is employed to raise and lower the finger bar, the lever and parts connected therewith being so arranged that the machine will be elevated and kept so without a catch or other appliance.

Claim.—First, the hollow rock-shaft or bar *D*, provided with arms *H*, for the purposes set forth, by means of which the position of the finger-bar and sickle relatively to the machine will not be changed when the fingers of the finger bar are rocked up or down, substantially as specified.

Second, the attachment of the finger bar to the machine or bed *B*, by a single swivel joint on one side, so that the pitman can be placed in the rear of the joint or connection and attached to the head of the sickle bar in the center of the circle or arc described by the finger bar in rocking, substantially as specified and shown.

Third, the location of the joint *m*, connecting the pitman with the head of the sickle or cutter bar on a level with and between the pivots *ll* of the shoe, so as to bring it into the center of the rocking movement and so near a line drawn from one pivot *l* to the other that it will cross such line in the cutting movements, so that whether the finger bar is rocked or its end elevated or depressed the sickle and pitman will work freely, substantially as shown and specified.

Fourth, the lever *N*, when so arranged and connected by the hinge *j* that it will hold the machine in an elevated position without a catch or other appliance, in combination with the rod *i* and draft pole, substantially as and for the purposes specified.

61,645.—MOSES WHISLER, New Market, Ohio.—*Churn.*—January 29, 1867.—The pinions of the two inclined dasher shafts are rotated by a single wheel.

Claim.—The single-faced wheel *E*, in combination

with the pinions *m* and *n*, the top B, and rings *i*, the whole constructed, arranged, and operating substantially as and for the purpose herein set forth.

61,646.—M. WOODMAN, Farmington, Me., and L. ATWOOD, Norwich, Conn.—*Horse Rake.*—January 29, 1867.—The elevating shaft has teeth on its ends which rest on a stirrup controlled by the driver when the rake teeth are down. By the sliding of the stirrup the shaft falls, the teeth catching in the ground, and the shaft revolves, carrying up the rake teeth; a sliding weight is connected with the shaft to aid in its movements.

Claim.—The combination of the elevating shafts B, the cross shafts B', the balls D, and the stirrup F, all constructed, arranged, and operating substantially as and for the purpose described.

61,647.—L. C. WRIGHT, Lockport, N. Y.—*Washing Machine.*—January 29, 1867.—The rubber is made up of rounds or slats hung so as to be moved backward and forward over a roller also composed of rounds rotating freely in their respective journals.

Claim.—The combination and arrangement of the stationary revolving roller B with the reciprocating rubber C, operating in the manner and for the purpose herein set forth.

61,648.—WLADYSLAW T. KOSINSKI, Brooklyn, N. Y.—*Cement Felt for Covering Steam Boilers, Pipes, &c.*—January 29, 1867.—A porous, plastic, elastic, non-conducting composition of charcoal, 16 parts, by weight; alum 2, pitch 4, molasses 8, and hair 2.

Claim.—The new article of manufacture consisting of a plastic cement compounded of the materials or ingredients and in the manner substantially as described, and suitable for covering steam pipes, boilers, hot and cold water pipes, refrigerators, &c.

61,649.—A. H. ALLISON, Charlottesville, Ind.—*Cultivator.*—January 29, 1867.—The plow beams are pivoted to the transverse draw bar and have lateral and vertical movement by the operator. Wheel guards protect the plants from clods.

Claim.—First, the plow beams D D, suspended to the curved guide rods *ff*, and connected with the stirrups or levers *g g*, for obtaining lateral movement in combination therewith and with the vertically sliding crossheads F F, the levers H H, and the springs *m n*, constructed, arranged, and operating substantially as and for the purposes herein described.

Second, the arrangement of the rotary perforated clod guards *n n*, combined with the plows *b b* and beams D D, constructed and operating as herein set forth.

61,650.—H. O. AMES, New Orleans, La.—*Rotary Steam Pump.*—January 29, 1867.—A rotary steam engine is combined with a rotary pump, which is placed within a pipe or chamber directly below the engine and is driven by a gear wheel which is fast to the rim of the revolving disk of the engine.

Claim.—The steam wheel A and screw or propeller blade M, combined together and arranged and operating substantially in the manner and for the purpose described.

61,651.—P. T. BADOUX, New York, N. Y., assignor to THOS. GANNON, New York, N. Y.—*Distilling and Evaporating Liquids.*—January 29, 1867.—The vertical reciprocation of the diving cup passes air into the liquid in the boiler and the air and vapor escape through a worm for condensation. The air escapes through the top of the cup.

Claim.—The arrangement of the air valve *y*, pipe *x*, vessel G, pipe *n'*, boiler A, condenser C, reservoir D, and diving bells F F', constructed and operating substantially as and for the purpose set forth.

61,652.—HENRY D. BIRD, Petersburg, Va.—*Fastening for Railway Car Doors.*—January 29, 1867.—The free end of the gravitating pivoted bar engages a clamp on the door when it is closed. The latch bar is raised by a key rod which is lowered through the car top.

Claim.—The improved mode of securing railroad-car doors and making them self-fastening by means of

a hinged bar, substantially in the manner herein described.

61,653.—DAVID E. BREINIG, New York, N. Y.—*Preparing Linseed or other Oils for Painting.*—January 29, 1867.—An insoluble soap formed by the union of the oxides of such metals as lead and zinc with the fatty acids of linseed or other drying oil, is combined with an additional quantity of the oil aforesaid.

Claim.—The within-described process of treating linseed or other oils or fats with metallic gum and spirits of turpentine, naphtha, or other suitable liquid, substantially as and for the purposes set forth.

61,654.—CHARLES COESTER, Jr., and W. L. DEWEY, Bridgeport, Conn.—*Tipping Attachment for Pots and Kettles.*—January 29, 1867.—The clasp is fitted to the lower part of the vessel, and in addition to its hook ends, has a bearing and handles by which it is manipulated.

Claim.—A tipping attachment for pots and kettles, constructed substantially as herein shown and described.

61,655.—JOHN G. DAVY, Newark, N. J.—*Bristle Boot for Horses.*—January 29, 1867.—The strap has radiating bristles and is buckled around the foot or pastern to prevent interfering.

Claim.—A bristle boot for horses, composed of a strap A, with radiating bristles C, as a new article of manufacture.

61,656.—BERNARD DOUGLAS, New York, N. Y., and WILLIAM H. WALTON, Brooklyn, N. Y.—*Apparatus for Carburetting Air.*—January 29, 1867.—The air is driven by the rotary fan in the chamber below, through the central vertical pipe to the upper chamber, from whence it passes in a circuitous, reverting, downward course, in contact with the hydrocarbon liquid in the successive trays, and thereby becomes impregnated with vapor.

Claim.—First, the removable pans H and I, in combination with the cylinder A, constructed and operating substantially as described.

Second, the use of warm air for the purpose described, without the direct application of fire or steam to the apparatus, substantially as specified.

Third, the alternate arrangement of the generating pans H and I, in the manner described, for the purpose specified.

Fourth, the apparatus so constructed that when the connecting parts of the pipes which open into the atmosphere are secured thereto, there will be no exposure to fire, and evaporation be prevented, as specified.

61,657.—Canceled.

61,658.—ANNA EDDOWES, Frankford, Pa.—*Attachment for Handles to Brushes, Brooms, &c.*—January 29, 1867.—The diminished portion of the handles penetrates the stock of the brush and the enlarged portion is secured by a bayonet joint to a socket on the back of the stock.

Claim.—The handle B, with its lower portion contracted and passing entirely through the head A, its enlarged portion fitting in the socket tube C, having right angular slots G, receiving and retaining the pin F, secured to the handle, in the manner described, for the purpose specified.

61,659.—WILHELM FEHLEISEN and ERNST FEHLEISEN, Cilli City, Austria.—*Blasting Powder.*—January 29, 1867.—Ferro-cyanide of potassium and sawdust are combined with the usual ingredients of gunpowder. The compound is less liable to explode from friction or ramming.

Claim.—A blasting compound made as set forth.

61,660.—JOHN FRAZER, Williamsburg, N. Y.—*Marking Skirt Wire in Lengths for Hoops.*—January 29, 1867; antedated January 21, 1867.—The endless band carries dies for marking the wire as it is fed from a spool. The band is stretched over drums and under an ink roller, and then passes between rollers, simultaneously with the wire to be marked.

Claim.—The method herein described of marking off skirt wire by means of a die-carrying band which,

together with the skirt wire to be marked off, is exposed to the action of a suitable printing roller, substantially as herein set forth.

61,661.—W. K. GARRISON, Abingdon, Ill.—*Cultivator*.—January 29, 1867.—The share-carrying frame is pivoted on the carriage so as to be horizontally vibratable by means of a lever, to accommodate the forward shares to the sinuosities of the row of plants.

Claim.—The frame D, in combination with the lever F, arranged and applied to the machine substantially in the manner as and for the purpose herein set forth.

61,662.—L. E. HOLDEN, Cleveland, Ohio.—*Liquids for Carburetting Gas and Air*.—January 29, 1867.—Explained by the claims.

Claim.—First, the combination of benzine or any other of the light hydrocarbons with colza, rape-seed, olive, or other equivalent vegetable oils, for the purpose of carburetting air or gas when used for heating or illuminating purposes, substantially as specified.

Second, the combination of benzine or any of the light hydrocarbons with lard oil or its equivalent animal oil, for the purpose of carburetting air or gas when used for heating or illuminating purposes, substantially as specified.

Third, the combination of one of the light hydrocarbons with one or more animal or vegetable oils, for carburetting air or gas, substantially as specified.

Fourth, the application of the fluid made by combining one of the hydrocarbons of light gravity with one or more animal or vegetable oils to carburetting air or gas when used for heating and illuminating purposes.

61,663.—HENRY HUNGERFORD, New York, N. Y.—*Carpet Stretcher*.—January 29, 1867.—The supporting frame is forked and the spurs on its feet engage the carpet and floor at points on each side of the line of direction, for the time being, in which the carpet is being stretched. The straining lever is hinged to a block at the point of junction of the legs and may be locked at a given tension.

Claim.—First, a carpet stretcher so constructed and arranged that its fixed point or points of resistance against which the restraining lever acts can be placed each side of or away from and beyond the line of direction of strain or tension of such straining lever, for the purposes set forth.

Second, the combination and arrangement of the lever C, legs A and B, and central or supporting block E, operating severally and together substantially as and for the purposes set forth.

Third, in combination with the supporting legs A B, or their equivalent, the arrangement of the straining lever C, with its fastening F, and operating substantially as set forth.

61,664.—ANDREW IRION, Femme Osage, Mo.—*Scrubbing Machine*.—January 29, 1867.—The brush is horizontally reciprocated by means of a crank shaft and pinions working in a gear, placed upon the inside of the propelling wheels which support the water tank above.

Claim.—The tank A, mounted on wheels E, in combination with the shaft g and brush I, constructed and operating substantially as and for the purpose set forth.

61,665.—JULES JEANNOTAT, Paterson, N. J.—*Apparatus for Cleaning Silk Threads*.—January 29, 1867.—The object is to free silk threads from knots and clear it of all foreign substances. The steel plates between which the thread passes are adjustable at will in parallel guides to and from each other.

Claim.—First, the plates B B, secured to and adjustable in the stand A, in the manner and for the purposes described.

Second, the combination of the plates B B, stand A, and set screws a, substantially as herein shown and described.

Third, the combination with the silk cleaner herein described of the guide or fender C, substantially as and for the purpose specified.

61,666.—ROBERT JENNINGS and JAMES A. MARSHALL, Bordentown, N. J.—*Preventing Horses from*

Cribbing.—January 29, 1867.—The device is to be secured to the throat latch of the bridle or halter and consists of two curved, steel springs. The outer one has points which protrude through the inner one and pierce the peck when pressed by the animal in the act of cribbing.

Claim.—First, the spring A, provided with the points a a, to prevent horses cribbing, substantially as herein described and for the purposes set forth.

Second, the inside shielding spring B, in combination with the spring A, substantially as shown and described and for the purposes set forth.

61,667.—A. P. JOHNSON, Edwards, N. Y.—*Water Wheel*.—January 29, 1867.—The tube leading upward from the case has a valve which is automatically opened when the gate is closed to admit of the discharge of water from the case and draft box.

Claim.—The tube K, provided with the valve J, operated automatically from the gate rod I, substantially as shown and described.

61,668.—WILLIAM A. JORDAN, New Orleans, La.—*Wash Board*.—January 29, 1867.—Springs are attached behind the ordinary wash board, their ends resting upon the inside of the tub; the object is to enable it to yield to pressure.

Claim.—The springs B, secured at their centers to the rear of the wash board and having their ends secured to the connecting rods C, substantially as and for the purpose specified.

61,669.—A. KAUFMANN, New York, N. Y.—*Paper Collar*.—January 29, 1867.—Explained by the claim.

Claim.—As a new article of manufacture a paper collar, cuff, or similar article of wearing apparel, embossed and perforated, that portion which imitates the cambric lace portion of a textile article being tinted throughout its face, except where it is embossed, substantially as described and for the purpose set forth.

61,670.—AMANDES KRAUSE, West Liberty, Ohio.—*Horse Rake*.—January 29, 1867.—The teeth are pivoted to their bars and are adjustable on their pivots, the bars vibrating freely upon a rod on the main frame, to this rod is also hinged a lever frame, the front bar of which rests upon the forward ends of the teeth bars. The lever frame is raised or depressed to tilt the rake by means of a hand lever attached to the rock shaft, to which hooked arms are also fixed; the hooks extend upward over the front bar of the lever frame.

Claim.—First, the bent lever G, with its hooked end, and the lever H in combination with the rake bars D, operating substantially as described, for the purpose specified.

Second, the independent bars D and teeth E, in combination with the rock shaft F, the lever H, and frame A, for the purposes and substantially as described.

61,671.—GEORGE A. LINGARD, New York, N. Y.—*Stud Fastening*.—January 29, 1867.—The stud face has a perpendicular screw pin which traverses a frame and engages a disk which slides on the frame by the revolution of the screw pin. The disk is brought in contact with the inner side of the garment at the button hole.

Claim.—The combination with a button, stud, &c., having a center screw spindle a, of a plate or disk B, and frame D, when combined and arranged together, substantially as and for the purpose described.

61,672.—IRA E. LOUGHBOROUGH, Pittsford, N. Y.—*Clothes Line Reel*.—January 29, 1867.—The casing has a longitudinal aperture for the passage of the cord which winds upon the shaft within. The latter is retained by a pawl.

Claim.—As a new article of manufacture the crank reel for clothes lines in combination with the ratchet r, pawl a, brackets B, and casing C, substantially as and for the purposes set forth.

61,673.—C. M. MACK, Brooklyn, Pa.—*Washing Machine*.—January 29, 1867.—The follower reciprocates in the inner box, which has a slatted bottom and

is supported by springs in the suds box. The clothes are placed between the follower and the slatted surface.

Claim.—The rack frame *c*, placed on the springs *d d*, in the box *A*, in combination with the follower *g*, operated by the lever frame *i i*, arranged and operating substantially as and for the purposes herein described.

61,674.—ISAAC B. MAHON, Dunkirk, Ohio.—*Cultivator.*—January 29, 1867.—The frame is of iron. By the devices described the inner plows are adjusted laterally to conform to the sinuosities of the rows of plants and all the shares are adjusted vertically for depth of tilth and for complete removal from the soil for transportation and turning.

Claim.—First, the sliding frame *G* fitted on the rod *F* at the rear of the axle *A*, in combination with the plow beams *I I*, connected at their front ends by universal joints *d d*, to arms *e*, secured to the lower ends of the bar *J*, and provided with curved standards *H*, which work in guides *c*, attached to frame *G*, substantially as and for the purpose specified.

Second, the plow beams *N N*, connected by pivot bolts to the lower ends of the bar *J*, and provided with curved standards *r*, which work in guides *s*, formed at one end of the bolts *a*, which secure the arms *B* to the axle *A*.

Third, the shaft *O*, provided with the segments *P*, to which the plow beams *I I N N* are connected by chains *Q*, and also provided with a segment *P*, to which a hand lever *R* is connected by a chain *S*, all arranged for the purpose of raising and lowering the plows, substantially as set forth.

Fourth, the whiffletree bars *V V*, having their lower ends pivoted to the lower ends of the bar *J* and their upper ends connected with the doubletree *U*, substantially as and for the purpose specified.

Fifth, the securing of the plows *M* to the beams *I I* by means of the sockets *t* at the rear sides of the plows, the lose sockets *a'* and the screw bolts *v* which pass through the oblong slots *w* in the beams *I I*, substantially as and for the purpose set forth.

61,675.—JOHN McCOUN, Lockport, N. Y.—*Milk Rack and Table Combined.*—January 29, 1867.—A series of milk shelves and a table are supported on a single post which revolves in a frame.

Claim.—A combined revolving milk rack and table, substantially as herein shown and described.

61,676.—G. McKNIGHT, Hebron, N. Y.—*Gate.*—January 29, 1867.—By the described arrangement of levers, connecting rods, &c., the gate is opened and closed without dismounting.

Claim.—First, the combination of the gate *C*, when constructed as herein described, with the ground frame or planking *A*, substantially as and for the purpose set forth.

Second, the combination and arrangement of the levers *F*, connecting rods *H*, upright frame *E*, and inclines *I* with each other, with the gate *C*, and with the ground frame or planking *A*, substantially as herein described and for the purpose set forth.

61,677.—CHARLES V. MEAD, Hamilton, N. J.—*Roller for Wringers.*—January 29, 1867.—The elastic covering clings to the cloth, which is wound upon and through the central core, so as to prevent its slipping thereon.

Claim.—The roller, consisting of the two sections *a b*, with material *c*, between and completely surrounding them, and incased by the elastic covering, when constructed as herein shown and described.

61,678.—W. H. MILLER, Brandenburg, Ky.—*Dies for Bending Nozzles of Coffee Pots.*—January 29, 1867.—A pair of dies bend the nozzles of the coffee pots and a spring catch holds the metal from slipping under the action of the dies.

Claim.—The combination of the die *A*, and follower *G*, secured to a holder or lever *C*, hinged to the die *A*, and spring catch *E*, or its equivalent, when arranged together and operating substantially in the manner described.

61,679.—F. OAKLEY, London, England, assignor to himself and JOHN WILLS, Newark, N. J.—*Egg and Cream Beater.*—January 29, 1867.—The rotary beater

revolves with the case, which has a spout to discharge the contents when sufficiently beaten.

Claim.—First, the combination of the case *A*, having the spout *d*, and the disk *e*, with the triangular beaters *B*, of unequal length, as and for the purpose specified.

Second, the case *A*, having the tube *h*, bearing the shaft *g*, to which the beater disk *e* is secured and supporting the shaft independent of any other bearing, in the manner as and for the purpose specified.

61,680.—ALBY H. PAGE, South Boston, Mass., assignor by mesne assignments to W. M. B. RHODES, River Falls, Wis., NATHANIEL A. RHODES, Waterbury, Vt., and DAVID LYMAN, Middlefield, Conn.—*Clothes Wringer.*—January 29, 1867.—The wringer is erected upon and swiveled to a pair of clamps whose feet adjust themselves to and clasp the edge of the wash tub.

Claim.—First, the combination with the standards of a wringing machine of a clamping device under an arrangement such as described, so that said machine may be adjusted to tubs of various diameters.

Second, in combination with the standards of wringing machines and clamping devices, as described, the use of screws, or their equivalents, for the purpose of firmly securing the wringer after its adjustment to the tub, substantially as set forth.

Third, the application of a clamping device to a wringer, with a swivel joint to adapt itself to tubs of various forms.

61,681.—E. M. PAYNE, Waverly, N. Y.—*Folding and Cot Bedstead.*—January 29, 1867.—The cot bed has both folding legs and casters so that it may be raised upon the legs while in use, and when the legs are folded up the bed may be run upon its castors under a larger bed.

Claim.—The combination and arrangement of the castors *J*, and the folding legs *I*, whereby the device is adapted for use as a bed bottom, trundle bed or cot, substantially as herein shown and described.

61,682.—C. C. P. PEABODY, Calais, Me.—*Steam Engine Valve Gear.*—January 29, 1867.—The position of the valve rod on the link is governed by the lever which is connected to the latter by a rod. The link is connected at one end by a rod to the eccentric rod and at the other to a rock bar, moved by the eccentric. When the valve rod is shifted to one end of the link, the coupling at that end works parallel with the valve rod and the other connecting rod swings at right angles to the former.

Claim.—The construction of the link *D* and its combination with a steam engine valve movement.

Also, the rock bar *E*, the connecting rods *a'* and *d*, and the lever *H*, arranged substantially as described, in combination with the link *D* and the eccentric *B*, as and for the purposes herein set forth.

61,683.—H. H. PEMBER, New York, N. Y.—*Machine for Cutting Canvas, &c.*—January 29, 1867.—The machine is for cutting canvas, card board, and other sheet materials into strips; the stuff is fed between rollers, guided by a strip, and slit by a knife which is adjusted to such distance from the latter as may be desired.

Claim.—The combination of the feed rollers *D*, table or platform *O*, having guide bar *Q* and cutter or knife blade *L*, susceptible of adjustment, when all arranged and combined together substantially as and for the purpose described.

61,684.—HIRAM PHINNEY, Kingston, N. Y.—*Rotary Bellows.*—January 29, 1867.—The rotary cylinder has segmental peripheral grooves parallel to its axis, and in these are segmental valves rotated by means of cranks on their axis, so as to act as pistons in contact with the cylinder during the greater portion of their movement, and rotated to pass the abutment at a point between the induction and eduction openings.

Claim.—An improved rotary bellows or pump formed by the combination and arrangement of the semi-cylindrical valves *C*, chambered cylinder *B*, cranks *H*, connecting rods *I*, and shafts *J* and *L*, with each other, substantially as herein shown and described.

61,685.—JOHN POL, New York, N. Y.—*Cab*.—January 29, 1867.—Explained by the claim and illustration.

Claim.—The arrangement in covered cabs of a driver's seat behind the body of the cab, resting on a spring *c*, formed as here shown, and supported on a rear extension of the frame of a vehicle, and also a supplementary seat next the dash board, and also an opening in the back of the cover to permit communication between the driver and passengers, when the several parts are arranged in the manner here shown.

61,686.—GEORGE H. REAY, New York, N. Y.—*Machinery for Stamping and other Purposes*.—January 29, 1867.—The punch and die are brought together by a sudden impulse imparted to the fly wheel, which actuates the spring plunger of the punch. The motion is obtained by the action of a cam on a forked rod, which straddles a wrist pin on the fly wheel.

Claim.—The method herein described of producing the blow required for stamping or embossing, consisting of a fly wheel, or other equivalent device, which, after having received an impulse, produces the desired action of the punch, substantially as set forth.

61,687.—GEORGE H. REAY, New York, N. Y.—*Envelope Machine*.—January 29, 1867.—The sliding arms move in guide grooves and have studs which hold the pile of blanks in position, while being pushed under or removed from the pickers or gummets, without stopping the machine. The ridge beneath the pile of blanks causes them to bend when the pickers descend upon them.

Claim.—First, the arrangement of a slide or sliding arms, in suitable guide grooves, in the bed of an envelope machine, in combination with the pickers or gummets, constructed and operating substantially as and for the purpose set forth.

Second, providing the bed with a ridge or depression to operate in combination with the pickers or gummets, substantially as and for the purpose described.

61,688.—JAMES F. SAYER, Macomb, N. Y.—*Stave Joiner*.—January 29, 1867.—The staves are clamped in their bent position on a frame, to which are pivoted a double-acting knife and a swing plane.

Claim.—The arrangement of the swinging plane *C*, double-acting knife *B* and bed *A*, operating substantially in the manner and for the purposes specified.

61,689.—J. SHATTUCK, Waterloo, N. Y.—*Seed Planter*.—January 29, 1867.—The planting device is adjustable vertically to regulate the depth of planting. One of the supporting wheels has a side cam, which operates the seed roller within the hopper, a vertical shaft which carries a roller to press the seed into the ground, and also a projection by which valves at the lower end of the seed standard are opened. A segmental rack upon the hub of a supporting wheel intermittently turns a toothed roller within the hopper to loosen up the seed and forward it.

Claim.—First, the rising and falling or adjustable frame *D*, placed within the frame *A*, and having the hollow standard *V* attached, all arranged to operate substantially as and for the purpose set forth.

Second, the reciprocating slide rod *S*, operated by the cams *T*, on the wheel *C* and the spring *U*, and provided with the rack *g*, in combination with the toothed segment *R* and the seed-dropping cylinder *Q*, all arranged substantially as and for the purpose specified.

Third, the intermittently rotating toothed cylinder *M*, operated from the wheel *C* through the medium of the gearing, as shown, in combination with the hollow standard *V* attached to the adjustable frame *D*, substantially as and for the purpose set forth.

Fourth, the sliding rod *Y*, provided with the roller *Z*, spring *m* and arm *l*, and placed within the hollow standard *V*, and operated from the sliding rod *S*, as shown, in combination with the valves *XX*, placed within the standard, substantially as and for the purpose specified.

61,690.—SAMUEL SHEA, Corry, Pa.—*Barrel or Cask*.—January 29, 1867.—The periphery of the head

is tongued, and has rectangular shoulders bearing against the staves.

Claim.—First, securing the head and bottom *D* and *E* in the barrel, by means of the flange *a* and groove, as herein described and for the purposes set forth.

Second, securing the staves of the barrel or tank together by means of the dowel *a*, feathered on both ends, in the manner as specified.

61,691.—ROBERT STANLEY, Chariton, Iowa.—*Churn*.—January 29, 1867.—The dasher has radial arms, carrying vertical wings, with a triangular vertical section. The churn side has radial inwardly projecting wings. The power is communicated by a horizontal hand-wheel, and a belt to a pinion pulley on the dasher shaft.

Claim.—An improved churn formed by the combination of the vertical tapering flanges or ribs *C*, the triangular blades *H*, horizontal arms *G* and vertical shaft *D* of the dasher, and the horizontal hand-wheels *K N* and band *M* with each other, and with the body *A* of the churn, substantially as herein shown and described.

61,692.—WILLIAM H. TRUESDELL, Elgin, Ill.—*Sash Fastener*.—January 29, 1867.—A pivoted dog operates upon the edge of the window sash, so as to hold the same at any given height. The dog is raised by a lever in the stile.

Claim.—The combination of the slotted box *C*, dog *D* and lever *E*, when constructed and arranged as set forth.

61,693.—M. WALLWORK, Shelbyville, Tenn., assignor to himself and JAMES NUTT.—*Preventing Accidents on Railroads*.—January 29, 1867.—An adjustable double inclined plane is placed in the middle of the track, and made movable from a distance to operate a whistle on the passing train and throttle the steam.

Claim.—The adjustable inclined plane *C*, in combination with the plunger or rod *H* on the locomotive, and connected or arranged with the throttle and whistle valves thereof to operate in the manner substantially as and for the purpose set forth.

61,694.—JOSEPH B. WIESMANN, Cincinnati, Ohio.—*Express Call Signs*.—January 29, 1867.—The frame has a number of panels, each having a hinged shutter and catch. The inside of each shutter has an inscription "Express," "Dray," &c., and is exposed as required.

Claim.—The frame *A*, hinged sign boards *B C C* and spring catch *b*, constructed and arranged as above described and for the purpose set forth.

61,695.—JAMES R. WILETT and LIVINGSTON BRIEN, Nashville, Tenn.—*Rotary Steam Engine*.—January 29, 1867.—The piston wheel is arranged eccentrically within the cylinder, and has two buckets, which are expanded radially by springs, and withdrawn to pass the abutment by contact with the cylinder. Packing segments on the piston wheel and the edges of the buckets confine the steam.

Claim.—The construction and arrangement of the bucket *C* and the recess *E*, with the packing pieces *h* and *j*, spring *g* and piston *B*, as herein described and set forth.

61,696.—E. K. WOOD and R. W. HENRY, De Witt, Iowa.—*Compound Oil for Mixing Paints*.—January 29, 1867.—Composed of carbon oil, 10 galls.; resin, 15 lbs.; beeswax, 4 lbs.; litharge, 4 lbs.; caoutchouc, 1 lb.; and turpentine, 1 gall.

Claim.—The oil made of the ingredients mixed together in or about the proportions and in the manner substantially as described for the purpose specified.

61,697.—E. B. WOODRUFF, Morristown, N. J.—*Horse Hay Fork*.—January 29, 1867.—A catch, pivoted to the shank, falls over a cross-bar attached to the upper end of the tines, which are also pivoted to the shank. The catch is held in position by a cam lever, also pivoted to the shank. The cam holds the catch down, when resting upon it, but upon being raised the pressure of the cross-bar will raise the catch and release the tines.

Claim.—The cam lever *D*, pivoted to bar *A*, in combination with the catch *C*, and the pivoted forks

B, provided with the cross-bar *d*, constructed and operating substantially as described for the purpose specified.

61,698.—C. F. ZIMMERMANN, Philadelphia, Pa.—*Strap for Accordions.*—January 29, 1867.—The strap is hinged to a post, and forms two loops, one passing around the wrist, and one to admit the thumb.

Claim.—A strap for accordions and other similar instruments forming a double loop like the figure 8, substantially as and for the purpose described.

Also, the combination of the hinged joint *a* with the strap, substantially as and for the purpose set forth.

61,699.—JAMES ADAMS, Newark, Del.—*Starting Street Cars.*—February 5, 1867.—A weighted lever is connected by a chain to the draft device, and this lever acts by a pawl on a ratchet wheel upon the axle to turn it in starting the car. The lever gravitates to take a fresh hold on the ratchet when the power is withdrawn.

Claim.—The weight F, in combination with the chain H, the roller K, the rod I, the ratchets E E, and ratchet wheels C C, and the spring L, the whole arranged, constructed, and operating substantially as herein set forth.

61,700.—PHILANDER ANDERSON, Kalamazoo, Mich.—*Sheep-Shearing Instrument.*—February 5, 1867.—The engine to operate the cutters is enclosed within the handle, and preferably worked by compressed air in place of steam, to prevent heating.

Claim.—First, the construction of a portable sheep-shearing instrument whereby to be enabled to use air under pressure so as to operate the engine and perform the functions substantially as herein set forth.

Second, the combination and arrangement of the engine with the case and cutting device, substantially as described.

Third, the combination of the cross-head of the piston rod of the engine directly with the shear lever D, so that this lever shall receive a vibrating motion from the piston rod, substantially upon the principle and in the manner as herein set forth.

Fourth, the shear lever D, pivoted to the plate A, by means of an adjusting screw *c*, located outside of the case or handle A B of the instrument, substantially as described.

Fifth, the construction of a handle or case for a pair of sheep shears of two concavo-convex parts A B, substantially as described.

61,701.—ALBRO BARBER, Port Byron, Ill.—*Corn Planter.*—February 5, 1867.—The seeding mechanism is adjustable longitudinally and vertically, and may be thrown out of gear when desired. The covering rollers are carried on adjustable pivoted frames connected to the front of the main frame by a spiral spring.

Claim.—First, the frame D, having both a vertical and horizontal adjustment for the purpose of controlling the operation of the seed-dropping mechanism and adjusting the vertical position of the furrow openers, substantially as described.

Second, the combination and arrangement of the movable frame D, stationary frame C, lever or handle R, arms *a' a'*, shaft Q, levers *h'*, slotted arms *i*, rods S, springs S', and shaft U, as herein described and for the purpose specified.

Third, the crank shaft U, arms X X, and connecting rods X' X', in combination with the slides Y Y *a a*, spring valves I I J J, and discharge tubes G G, all arranged and operating in the manner and for the purpose set forth.

Fourth, the pivoted frames N N' and rollers M, in combination with the springs P and rods *j*, all constructed and operating in the manner and for the purpose specified.

61,702.—S. M. BARNETT, New Orleans, La.—*Chest Expander.*—February 5, 1867.—Handles are attached to the ends of a rubber band, which, in use, is passed around the back. The elastic band yields to the forward outward extension of the arms, and assists the vigor of the return movement.

Claim.—The band B, provided with handles A A, whether the latter are made hollow or not, substantially as described for the purpose set forth.

61,703.—N. S. BEAN, Manchester, N. H.—*Carriage Wheel.*—February 5, 1867.—The outside ends of the hub mortises are beveled to about 45° from the radius for the reception of the spoke shoulder. The inner end of each spoke is cut away on one side to allow the passage of the rectangular corner of an adjoining spoke.

Claim.—The peculiarity of construction of the mortises of the metallic hub, and of the tenons of the wooden spokes, substantially as and for the purpose set forth.

61,704.—EDWIN L. BERGSTRESSER, Hublersburg, Pa.—*Harvester Rake.*—February 5, 1867.—The rake teeth project upward between the slabs forming the floor of the platform, and are depressed at the discharge of the gavel passing through holes in the platform. The rake is returned beneath the platform, and its teeth, in turning up into working position, raise the free ends of the two outer slabs to start the cut grain toward the place of discharge. The rake is actuated by two belts.

Claim.—First, the hinged slats of the platform, arranged so as to rise and let the teeth pass up, and also assist in carrying the sheaf off as herein described.

Second, the construction and arrangement of the rake teeth so as to pass under or in the platform at one end thereof, and raise the free ends of the hinged slats, as they rise at the other end to carry off the sheaf.

Third, the combination of a platform provided with two or more hinged slats and an automatic reciprocating rake, substantially as herein described and for the purposes set forth.

61,705.—JAMES C. BETHEA, Blakely, Ga.—*Cotton Cultivator.*—February 5, 1867.—The shares are attached by rings and wedges to the standards and braces, and the latter similarly fastened to the beams. The braces are thus rendered adjustable at either end.

Claim.—First, the mode, substantially as described, of fastening together the standard brace and share by a shackle and wedge.

Second, the mode of adjusting the pivoted standard by slipping forward the shackle and the upper end of the brace upon the beam.

Third, the relative lateral adjustment of the beam by means of the bolts with their collars, washers, and set nuts, substantially as represented.

61,706.—ALFRED BORGNET, Swansea, Wales.—*Apparatus for Smelting Zinc Ores.*—February 5, 1867.—Two or more fire grates are used in the furnace. The retorts have, on their hottest sides, pipes for the passage of air, vapor or liquid, for the regulation of heat by the amount of cooling matter passed through them.

Claim.—The several improvements and combinations herein described.

61,707.—P. BRADFORD, New Haven, Conn., assignor to SARGENT & Co., same place.—*Ornamenting Coffin Screws.*—February 5, 1867.—The ornamental washer plate has a pivoted cap, which shuts down over the screw head and is held by a curved lip on its rim.

Claim.—The cap F, provided with a tongue N, so as to be secured to the plate A, substantially in the manner and for the purpose herein set forth.

61,708.—E. K. BRECKENRIDGE, West Meriden, Conn.—*Sash Lock.*—February 5, 1867.—The lower bar of the upper sash has a horizontal lever pivoted to it, and a lug upon this lever projects through a slot in a spring above it, whose free end has a handle by which it and the lever are swung around. A recess retains the spring when in its locking position.

Claim.—The combination of the plate C, the lever E, and the spring G with the keeper D, when the said spring G is applied to and operates upon the said lever E, substantially as set forth.

61,709.—WM. BROWN, Worcester, Mass.—*Fruit Picker.*—February 5, 1867.—The serrated edge of the upper jaw is placed beyond the fruit and the movable lower jaw drawn up past its edge, by the rope, to sever the stalk.

Claim.—First, the combination of the hinged mouth piece C with the back B and bag E, substantially as set forth.

Second, the combination with the mouth piece C of the ropes or cords *d d* and G, as and for the purposes set forth.

61,710.—ANDREW BUCKHAM and JOSEPH EVANS, Newark, N. J., assignor to ANDREW BUCKHAM.—*Tin Smith's Seaming Machine.*—February 5, 1867.—A horizontal mandrel is adjustable upon its axis, so that different faces may be brought up to correspond with the forms of the joints to be made. A gauge regulates the position of the point to be stamped. The punch is worked by a treadle.

Claim.—First, the die A, figures 1 and 2, in combination with the guide plate B, figures 1 and 2, when constructed in the manner and for the purposes set forth.

Second, the revolving mandrel C and sliding gauge D, figures 1 and 2, in combination with the die A and guide plate B, when constructed in the manner and for the purposes set forth in the above specification.

61,711.—EMIL CAJAR, New York, N. Y., assignor to self and CHARLES SICHEL, same place.—*Button Hole Sewing Machine.*—February 5, 1867; antedated January 28, 1867.—The forward feed is effected by the thread when pulled by the action of the looper, and when the needle is up and the adjustable foot or stitch regulator has risen from the thread, so as not to offer any impediment. One of the lower bobbins carries a thread and the other a gimp or cord; and the loop of the needle thread is drawn first over one bobbin and then over the other. The case over each bobbin is so formed that its enclosed spool may be wound with thread without the need of removal from the case. An arm aids in giving a positive strain to the needle thread at the proper time, in order to draw the surplus thread. The structure and movements of the cloth holder and slide are such as to feed the cloth straight, and also to turn it for the eyelets, and to allow of sewing button holes of different lengths.

Claim.—First, the stitch regulator F to act in conjunction with the needle thread, substantially as and for the purpose set forth.

Second, the arrangement of two longitudinally sliding bobbins S S', in combination with the looper L, constructed and operating substantially as and for the purpose described.

Third, the cam groove *q*, and the double crank *h l*, in combination with the looper L, constructed and operating substantially as and for the purpose set forth.

Fourth, the barrel *r*, surrounding the bobbin S or S', in combination with the central tension screw *s*, which is provided with concave centers, substantially as and for the purpose described.

Fifth, the sliding yoke J, with disks *v v'*, in combination with the bobbins S S' and spool holders I I', constructed and operating substantially as and for the purpose set forth.

Sixth, the oscillating arm K, in combination with the two bobbins S S', spool holders I, needle *n*, and looper L, constructed and operating substantially as and for the purpose described.

Seventh, the longitudinally sliding and revolving cloth holder N, in combination with the slide *m* and with the cloth plate A, constructed and operating substantially as and for the purpose described.

61,712.—EDWIN M. CHAFFEE, Providence, R. I.—*Elliptic Spring for Carriages.*—February 5, 1867.—Explained by the claim.

Claim.—The introduction of india-rubber, or similar elastic substance, between the leaves or lifts of elastic springs, substantially as and for the purposes specified.

61,713.—JAMES CHRISTY, Philadelphia, Pa.—*Bolster for Railroad Cars.*—February 5, 1867.—This has two longitudinal beams, two end transverse beams, intermediate transverse beam and diagonal braces, all connected together so as to prevent sagging at the outer ends of the bolster, and so that those ends may be elevated when required.

Claim.—First, the bolster composed of the within described longitudinal and transverse beams, diagonal braces and stay rods, the whole being arranged and connected together, substantially as and for the purpose herein set forth.

Second, the combination of the strap *b*, adapted to

the longitudinal and central beams, the adjustable bolts *d* and *d'*, and plate *e*, and stay rods *n* and *n'*.

Third, the combination of the longitudinal and transverse beams, the adjustable or self-accommodating braces G G', and H H', rounded at the lower ends, and bolts *g* and *k*.

61,714.—D. R. CLEM, Front Royal, Va.—*Grinding Mill.*—February 5, 1867.—The central piece fits upon the spindle and is connected at each end by a link to an arm about midway of the length of the latter. The object is to obtain an even action upon the stone if the parts wear irregularly.

Claim.—The driver composed of the central piece A and the arms B, united and arranged to operate substantially as and for the purpose set forth.

61,715.—JOHN W. CLOSE, Buffalo, N. Y.—*Pipe Wrench.*—February 5, 1867.—The divergent jaws are fixed, one is serrated and the other has a sliding serrated block, which is adjustable to adapt it to varying diameters of pipes.

Claim.—The sliding jaw block *e* in combination with the diverging jaws *b c* and lever A, substantially as and for the purpose set forth.

Also, in combination therewith, the use of the spring *g*, or its equivalent, operating substantially in the manner and for the purpose described.

61,716.—DE WITT CLOUGH, Auburn, N. Y.—*Churn.*—February 5, 1867.—The cover of the churn has a central chamber traversed by the dasher rod and having holes to permit free ingress and egress of air.

Claim.—The vertical air chamber F with the horizontal openings 1 2 5 6, as above set forth.

61,717.—FREDERICK F. CORNELL, JR., New York, N. Y.—*Beater in Baling Press.*—February 5, 1867.—The beater is lifted by means of its toggle links and pressure arms, the latter drawing inward to avoid contact in raising, and the arms become sockets for the ends of the toggles when the beater becomes the follower of the press. Other devices are cited in the claims.

Claim.—First, forming the grooves or slots *f f f f*, in the ends of the beater B, and providing the inner faces of the narrow ends of the press chamber with the track *e' e' e' e'*, and continuing the same upon the inner faces of the superstructure, for the purposes herein described.

Second, forming the slots *c c* in the ends of the pressure arms C, through which the ropes I and J may play freely.

Third, carrying the ropes I and J, one at either end, down within the framing of the press between the posts G G G G, sheeting *m m*, and shanks *b b*.

Fourth, the levers L L, segmental shanks *b b*, shank pins *o o*, guards *d d d d*, and concave lugs of pressure arms C, all combined and arranged for the purposes hereinbefore specified.

Fifth, the rope I, sheaves K K H H H and F, arranged to operate and control the levers L L, as described.

61,718.—FREDERICK F. CORNELL, JR., New York, N. Y., assignor to himself and EDWIN M. WIGHT.—*Baling Press.*—February 5, 1867.—The beater is subsequently used as a follower in combination with toggle levers whose movable ends work upward in the act of compressing. The devices and relation of the parts are set forth in the claims.

Claim.—First, the use of the beater B as a follower when operated as such by the levers N N, located at the ends of the press.

Second, the use, in a baling press, of stirrups or crossheads, located outside of the lining of the press chamber, but within the framing of the press as a means of communicating motion to the follower when the same has arms or beams projecting through slots in the lining of the press chamber for the purpose of forming a connection with mechanism used for compressing, located and operating at the sides or ends of the press framing.

Third, the use, in a baling press, of toggle levers, located outside of the framing of the press when the feet of the radii of the levers are below the plane of the top of the finished bale and the points of connection between the upper ends of the levers and the rods, chains, or their equivalents, connecting the same

with the arms or beam of the platen are above the said plane.

Fourth, the use of the guides *g g* to control the motion of the levers *N N*, when operated as herein substantially described.

Fifth, the use of the guides *t t*, crossheads *Q Q*, ropes *S S*, and counterpoises *R R*, when used and combined for the purposes herein described.

Sixth, making a close press chamber in a baling press, operated by means of a follower, having arms or beams projecting through the lining thereof, to form a connection with the compressing mechanism by means of removable sections of said lining, which, when in position, render the press box tight on all sides, but when removed, allow the said arms or beams to move freely in the openings formed thereby.

Seventh, the removable sides *I I*, in combination with the tongues and grooves *f f f f*, arms *C C*, and crossheads *Q Q*, substantially as and for the purposes described.

Eighth, the levers *N N*, radii *O O O O*, sheaves *U U U U*, chains or ropes *S S S S*, crossheads *Q Q*, arms *C C*, and follower *B*, combined, substantially as and for the purposes hereinbefore described.

Ninth, the use in a baling press of two horizontal drums, so located under the press framing that a vertical plane passing through the points in the ends of the toggle levers located at the ends or sides of the said framing to which the chains or ropes used for operating them are attached will be tangent to their perimeters for the purpose of winding the said ropes or chains and yet retaining them always in the same vertical plane.

Tenth, the use in a baling press of the drums *D D*, gear wheels *E E*, driving pulley *F*, and ropes or chains *X X* and *Y*, substantially as and for the purposes hereinbefore described.

Eleventh, the use of a hollow beater *B* with the arms or beams *C C*, bolts or pivots *c c*, and head beam *L*, so constructed and arranged that the said arms when allowed to turn freely on the bolts *c c*, will of their own weight assume a position entirely within the exterior lines of said beater, but when drawn upon by the cord *Z* will assume a horizontal position with their inner ends held firmly by the head beam and their outer ends projecting a sufficient distance beyond the exterior lines of the beater to engage with the mechanism used to operate it as a follower.

61,719.—FREDERICK F. CORNELL, Jr., and EDWIN M. WIGHT, New York, N. Y.—*Press for Compressing Bales already Formed.*—February 5, 1867.—Explained by the claims and illustration.

Claim.—First, the use in a press designed for the compressing of bales already formed or of goods requiring no press box to retain them in position between the platen and the head block and not provided with sides or ends for the purpose of forming such chamber or press box, of toggle levers, the fixed fulcrum points of whose radii are located above and upon the head block or head beams of the press.

Second, the use in a toggle-lever press not provided with permanent sides or ends for the purpose of forming a press chamber of a platen suspended by means of rods or bars passing down through the head block or between the head beams thereof from the ends or shanks of toggle levers located on and above said head block or the beams thereof.

Third, the use in a toggle-lever press not provided with permanent sides or ends of posts located two at either end, and so arranged that while serving as supports for the head block and its superincumbent weights they shall also act as guides to retain the motion of the platen in right lines by engaging with suitable notches or slides in the same, substantially as hereinbefore described.

Fourth, the use in a toggle-lever press having the fixed fulcrum points of the radii of the levers thereof located on and above the head block or the beams thereof of a vertical guide attached to the center of said head block and furnished with a slide provided with horizontal bars attached thereto and extending to and connected by joints with the shanks of the toggle-levers on either side, and so arranged as to prevent the same from altering their relative position and to retain their motion in perpendicular and parallel lines when operating the platen.

Fifth, in a press having a platen suspended from toggle-levers located above and having the fixed ful-

crum points of their radii resting upon the head block or the head beams of the press extending the lower portions of said levers downward from the center pins a sufficient distance to allow the moving power to be applied thereto at points *n n*, whose distance from the center pins *g g* (when the radii are brought into a perpendicular position) shall be equal to the elevation of said center pins above the lower faces of the guide sheaves *a a*, located in the ground sills of the press.

Sixth, the sheaves *a a b b o o*, chains *c c*, levers *E E*, draw rods *G G G G*, horizontal connecting bars *H H*, shank pins *h h*, and slide *I*, all arranged and combined as and for the purposes hereinbefore specified.

61,720.—DAVID COX, Cincinnati, Ohio.—*Cradle.*—February 5, 1867.—The rockers of the cradle oscillate upon the padded convex edges of the standards and are tied thereto by flexible straps. The treadle has a vertical rod whose resilient tip is projected against and rocks the cradle. The turn bar arrests the motion.

Claim.—First, the combination of the cushions *E e* with the rockers *B c* and the straps *F f*, as and for the purposes explained.

Second, the combination of the treadle *G* and cushioned rod *H h* with the cradle *A B* and convex rocking surfaces *E*, substantially as and for the purposes specified.

Third, the combination of the turn bar *I*, cradle *A B*, and trestle *C D E*, as and for the purposes specified.

Fourth, the combination of the inclined planes *K K'* with the turn bar *I*, cradle *A B*, and supporting trestle *C D E*, for the purpose described.

61,721.—CHAS. M. CRANDALL, Montrose, Pa.—*Children's Building Blocks.*—February 5, 1867.—Explained by the claim.

Claim.—A new and useful improvement in children's building blocks, which consists in so indenting the blocks (which may be of any size, shape, or material) by tonguing and grooving or other similar process that the indented parts of each block will closely fit into the indented parts of any of the other blocks forming when placed into each other a substantial fastening or joint flexible in two directions, easily put together and removed at the will of the operator.

61,722.—SILAS CRISPIN, New York, N. Y.—*Breech-loading Fire-arm.*—February 5, 1867.—The upward vibration of the breech-block lever drives the cartridge into its seat, and it is locked in this firing position by the spring catch. After firing, the catch is released, and the vibration of the block engages its spur with the flange of the cartridge and extracts it.

Claim.—The employment of a solid plane-faced vibratory (or rotating) breech block, having its axis at its anterior inferior portion, in combination with the lever *G* and spring catch, when there is no connection between such parts and any portion of the lock work, and the whole is arranged to operate as specified.

Also, the combined arrangement, as set forth, of the extractor with the breech block and swinging lever or long arm, for the purposes set forth.

61,723.—GEO. CROWTHER, Philadelphia, Pa.—*Spinning Mule.*—February 5, 1867.—This relates to the means for giving the automatic inward motion to the carriage by belts and pulleys combined with the rim shaft and for winding the yarn; and also to the construction and arrangement of the back catch for stopping the shifter and holding it securely during the time it should remain on the loose pulley on the driving shaft.

Claim.—First, the combination of the loose pulleys *1* and *2*, constructed and applied as described, with the driving shaft *C*, for giving the inward motion to the carriage and winding the yarn on the spindles, the said pulleys acting through the pulleys *3* and *3'*, the band *F*, and cord *e*, for giving an inward motion to the carriage and the pulleys *4 5 7 8* and *9* and bands *G I R* and *S*, or their equivalents, for operating the spindles as above set forth.

Second, the combination of pulley *1* with pulley *3* by means of the cross belt *F*, for operating the shaft

E, substantially as described and for the purpose specified.

Third, the combination of pulley 2 with pulley 5 on shaft J by means of the intermediate double pulley 4 and belts G and I, for operating said shaft, substantially in the manner described and for the purpose specified.

Fourth, constructing the back catch L with the shoulder b, and combining with said catch the vertical rod M, lever N, and rod Q, or its equivalent, the said parts being arranged for joint operation substantially as described and for the purpose set forth.

61,724.—JAMES WARREN DAVIS, Washington, D. C.—*Bed Bottom*.—February 5, 1867.—One end of each spring is fixed to pivoted bars and the other has free play in the mortise so as to straighten when it yields to pressure.

Claim.—First, the curved wooden springs G G', interlocking with each other, secured at their upper ends and having their lower ends free, which ends pass through slots in guide bars c c', substantially as described.

Second, the guide bars c c', provided with mortises H H', and pins e e', working in slots d d', substantially as described.

Third, the plates b b' in combination with the pivoted head and foot bars F F', for the purpose and in the manner described.

Fourth, the combination of the wooden springs G G', bars F F', plates b b', guide bars c c', provided with mortises H H', and pins e e', slots d d', and mattress C, substantially as and for the purpose set forth.

61,725.—JOHN DICKASON, Vevay, Ind.—*Farm Gate*.—February 5, 1867.—The gate has adjustable diagonal braces to counteract sagging. A rack is applied to the upper part of the gate near the hinge post, and in connection with the adjustable brace a lever is employed for the double purpose of straining the gate, and securing the brace to any notch of the rack to which it may be adjusted.

Claim.—The combination of the rack J j j with the brace G G', pin I, lever L, and detaining bar M, all arranged to operate in the manner and for the purposes set forth.

61,726.—ANDREW J. EDGETT, Hornellsville, N. Y., assignor to himself, JOHN W. FERRY and ALONZO GRAVES, same place.—*Well Tubing*.—February 5, 1867.—Each part has openings so arranged that while the tube is being driven the openings, not being coincident, are closed. By rotating the tube the openings are brought into correspondence and the water conducted.

Claim.—A driving point for tube wells composed of two parts, A and B, having openings a² and b³, screw shank b², and each having a clutch formation b¹, all arranged and operating in the manner substantially as herein described.

61,727.—HENRY FASSMANN, New Orleans, La.—*Cotton Bale Tie*.—February 5, 1867.—The chamfered corners permit the passage of the hoop without "buckling," and it is then caught upon the arms of the open loop. The ridges rest upon and bite the hoop which is pressed against them by the expansion of the cotton.

Claim.—The bale tie buckle constructed with an opening in one loop with chamfered corners a b and with a ridge or ridges c c on one or both sides, substantially as and for the purpose described.

61,728.—L. B. FLANDERS, Philadelphia, Pa.—*Piston for Steam Engines*.—February 5, 1867.—An alternate series of springs and blocks of metal is placed between the annular disk of the piston head and the packing rings for the purpose of holding the rings in contact with the cylinder. Keys are applied in connection with two or more of the blocks of metal by which the whole series can be forced out against the interior of the packing rings; a key is driven in between the sections of the metal blocks for the same purpose.

Claim.—First, the within-described packing, composed of blocks and springs constructed and arranged alternately on a piston between the annular rib d and split rings e, substantially as described.

Second, the keys i i, arranged between the blocks and annular rib d, for the purpose specified.

Third, the key m applied for expanding the packing, in the manner described.

61,729.—RUSSEL FRISBIE, Cromwell, Conn., assignor to J. & E. STEVENS & Co., same place.—*Cast Iron Frame for Toy Looking-Glasses*.—February 5, 1867.—Explained by the claim.

Claim.—The fastening of the glass into the cast-iron frame of a toy looking-glass by means of small pieces of tin, sheet-iron, or other suitable metal cast into the edge of the frame, as herein described.

61,730.—FRANCIS P. GARDNER, New Haven, Conn.—*Medical Compound for Cure of Catarrh*.—February 5, 1867.—Composed of Scotch snuff, 2 lbs.; castile soap, 2 lbs., and tannin, 1 oz. To be used as a snuff.

Claim.—The herein described compound, prepared substantially as set forth.

61,731.—FRANKLIN T. GILBERT, Elgin, Ill.—*Water Elevator*.—February 5, 1867.—The described automatic devices are for changing the gears in a double-bucket water elevator, the central ratchet being brought into engagement with one or the other of the spools, as required.

Claim.—First, the hollow double lever B, when operated or held in place by balls, substantially as specified.

Second, the jointed lever P P', constructed substantially as set forth in combination with the weighted lever B.

Third, the combination and arrangement of the double weighted lever B, jointed lever P P' and ratchet S, with the loosely revolving cylinders T, miter wheels L L' N well cords, straps e, friction roller i, buckets A and discharging bail x, when constructed and arranged substantially as specified.

61,732.—GEORGE D. GOODRICH, Joliet, Ill.—*Clay Pipe Machine*.—February 5, 1867.—The drain pipes are made by automatic series of operations. The clay is forced continuously through the mold, issuing as a pipe into a receiving trough, and is cut into sections. The sliding shaft and cutter are operated by a wheel. A sliding bar beneath the receiving platform regulates the length of the sections, which together with their receiving troughs are elevated and dumped, and the troughs returned.

Claim.—First, the wheels or rollers T, cross rollers u, and platform N N', in combination with the trough O, substantially as and for the purposes specified.

Second, the wheel I, when provided with the arms e and cams k, substantially as and for the purposes specified.

Third, the sliding bar K, provided with the arms or stops d.

Fourth, the spring g, provided with the hook h, in combination with the catch i and cams k of the wheel I, constructed and operating with the shaft J and sliding bar K, substantially as specified.

Fifth, the bent arms e and cutting wires f, arranged and operating substantially as set forth.

Sixth, the head P of the side elevator when provided with the cams o and n upon each side.

Seventh, the head P, constructed substantially as described in combination with the bent arms i.

Eighth, the bent arms w, when provided with the points or projections k'.

Ninth, the arms w, in combination with the springs z, projections k' and head P of the elevator, arranged and operating substantially as and for the purposes specified.

Tenth, the combination and arrangement of the side elevator, constructed substantially as set forth with the guide post D, and automatically operating arms and rest w.

Eleventh, the conical or wedged-shaped block t, when attached to an elevating cord, rope or chain, substantially as and for the purposes specified.

Twelfth, the spring u, provided with the ledge or catch y, in combination with the lever v, having its head or upper end enlarged, substantially as and for the purposes specified.

Thirteenth, the combination and arrangement of the cylinder R, lever v, spring u, rope q and block t, with the elevator P and automatic rest w, constructed and arranged substantially as and for the purposes specified.

Fourteenth, the standard or post E, provided with the T-shaped guides Z, substantially as specified.

Fifteenth, the double wedge or conical block *f'* when attached to the cord *a'*, for the purposes specified.

Sixteenth, the double acting friction clutch *d'*, arranged and operating substantially as specified.

Seventeenth, the combination and arrangement of the rollers *g'* and clutch *d'*, with the cord *a'* and double acting block *f'*.

Eighteenth, the dumping platform X, when provided with a hinge *c* on one side, and guides *n'* on the other, substantially as specified.

Nineteenth, the platform X, in combination with the bent bar Y and sliding head *h'*, constructed and hinged substantially as specified.

Twentieth, the bent bail *b'*, when so bent as to pass the back of the platform X, and hinge or attach to it near the front at *e*, substantially as and for the purposes specified.

Twenty-first, the combination and arrangement of the platform X, hinged bent bar Y, sliding head *h'*, with the bail *b'*, cord *a'* and standard E, substantially as and for the purposes specified.

Twenty-second, the combination and arrangement to two dumping platforms, constructed substantially as specified, with a single guide standard, so that one will elevate the other, and bring its opposite one into position while dumping a trough.

Twenty-third, the receiving platform F, provided with rollers *v*, located on the same plane as the rollers *u* of the receiving frame, substantially as specified.

Twenty-fourth, the screws *a* for adjusting the height of the receiving frame to the different sizes of pipe being made.

Twenty-fifth, the use or employment of rollers or carriers for supporting and carrying a trough used to receive and carry off clay pipes, which are forced from the die continuously, and cut while in motion.

Twenty-sixth, the arrangement of the cutting wires, in combination with a receiving trough, so that both ends of the section of pipe will be cut, and the wires while cutting take the same motion as the pipe and trough, and produce a square cut across a continuous pipe while in motion.

61,733.—MARK B. HARDIN, New York, N. Y.—*Taking Copies of Manuscripts, &c.*—February 5, 1867.—The transfer paper is treated with an infusion of nutgalls, the reaction taking place between them and the sulphate of iron in the ink of the manuscript, causing the impression. Oxalic acid is used to assist when the writing is old.

Claim.—First, the process hereinbefore described of copying manuscripts, maps, &c., which have been written with common ink, substantially as above set forth.

Second, in the copying of manuscripts as herein contemplated, which have been written with common ink, and which have been long written, the use of a weak solution of oxalic or other equivalent acid, substantially in the manner and for the purpose hereinbefore described.

61,734.—ROBERT A. HARRIS, Philadelphia, Pa., assignor to himself and B. S. HARRIS, same place.—*Refrigerator.*—February 5, 1867.—By the described arrangement the air is chilled in the ice chamber before entering the food chamber.

Claim.—The combination of the ice chamber D, its opening *v* and perforated end *g*, the compartments G and F, channel *j* at the bottom of the ice chamber and the opening *n*, the whole being arranged as and for the purpose described.

61,735.—ANDREW HARTUPEE, Pittsburg, Pa.—*Steam Engine Air Pump.*—February 5, 1867; antedated January 20, 1867.—To obtain two strokes of the air pump to each stroke of the steam cylinder piston, the slide of the latter is attached to one end of the walking beam, which actuates the pistons in the two cylinders below.

Claim.—The horizontal or inclined steam engines, the combination of the link S and lever L, with the head K, piston rod I and slides G G, arranged as described and for the purpose specified.

61,736.—HENRY P. HASKIN, Roseoe, Ill.—*Apparatus for Handling Hops in Slaughtering.*—February 5, 1867.—A scalding tub, bench, and suspending frame

are placed within the radial range of a swing pole, by which the hogs are lifted and transferred.

Claim.—The bars D and *d*, in combination with the lever C, revolving socket B and post A, when constructed substantially as described, when arranged and operating as and for the purpose specified.

61,737.—B. B. HOTCHKISS, New York, N. Y.—*Snap Hook.*—February 5, 1867.—The tongue is formed of sheet metal, bent at the root in the form of a hook, and the joint is formed by the aid of the spring, which presses and confines the hook in a corresponding recess in the body, so that the spring performs the double function specified.

Claim.—First, in a snap hook having a rigid internal tongue, operated by a separate spring, the interlocking of the root of the tongue and the confining of the locked parts by the same spring which operates the tongue, substantially in the manner and for the purpose herein set forth.

Second, in combination with a rigid tongue mounted and operating in a hook, as described, the slot or recess *a*, having parallel sides adapted to guide the tongue near its point and resist side strains, substantially as herein set forth.

61,738.—GEORGE C. HOWARD, Philadelphia, Pa.—*Dressing Grindstones.*—February 5, 1867.—The cutter wheel is placed in a case which only allows a segment to protrude, and excludes grit. The traverse sliding surfaces and the long journal bearings are also encased. The rests of the journal are adjustable toward and from the stone, while the traverse is effected by rack and pinion.

Claim.—The combination of long bearings for cutting wheel *b*, the rests F, the lip *o* and ears *s*, as set forth and for the purposes described.

61,739.—ELIAS S. HUTCHINSON and HUGH J. McAVOY, Baltimore, Md.—*Apparatus for Carbureting Air.*—February 5, 1867; antedated January 19, 1867.—The drum used for forcing air in the carbureting machine has hoods or buckets, which take up the hydrocarbon fluid as the drum revolves, and keep the surface of the wheel continually covered therewith.

Claim.—First, a revolving drum partially submerged in hydrocarbon fluid, and provided on its interior or exterior periphery of both, with buckets, receptacles, retentions or depressions which raise portions of the fluid for the purpose of moistening the surface, which is exposed to the air in the carburetor.

Second, the combination of the inner and outer drums revolving together, and between whose moistened surfaces the air is conducted, substantially as described.

Third, in combination with a revolving drum provided with devices for raising the fluid, the hood C, which compels the air to traverse the outer periphery of the drum, as described and represented.

Fourth, in combination with the air-forcing machine, the two concentric series of fluid-raising devices, and the hood arranged substantially as described and represented.

61,740.—SILAS Y. IVES, Meriden, Conn.—*Cart Brake.*—February 5, 1867.—The backward vibration of the yoke on the end of the tongue brings the shoes against the rims of the wheels by means of rod and lever connection.

Claim.—First, the combination and arrangement described of the shoes G, the levers H and L, with the equalizer M and the rod N, substantially in the manner and for the purpose specified.

Second, in combination with the above, the bar P and rod R, constructed and arranged to operate substantially in the manner and for the purpose specified.

Third, the combination of the shoe G and lever H, when linked together so as to operate substantially as and for the purpose specified.

61,741.—CLARK JILSON, Worcester, Mass.—*Lightning Rod.*—February 5, 1867.—A strip of copper occupies and projects from a groove in the iron rod. The thimble connections have slots to correspond. A disk of copper is placed intermediate between the ends of the sections, and is, with them, enclosed by the thimble.

Claim.—First, the combination of the iron conduct-

ing rod with the copper strips secured in a groove formed in said rod, substantially as shown and described.

Second, The combination with the ends of the sections or pieces forming a joint of copper or other metal washers, substantially as set forth.

Third, making the connecting pieces C with slots b, as shown and described.

61,742.—MOSES A. JOHNSON, Lowell, Mass.—*Insole for Boots and Shoes.*—February 5, 1867.—To correct the tendency of insoles to crimp up or crease under the pressure of the foot in the act of walking, a wire, or other equivalent stiffener, is secured to the edge.

Claim.—An insole composed of layers of felted or woven material, or of thin leather or their equivalents, and margined by a wire or its equivalents secured to the edge of the insoles, substantially as described.

61,743.—J. J. JOHNSTON, Allegheny City, Pa.—*Manufacture of Iron.*—February 5, 1867; antedated January 18, 1867.—The charge of 480 lbs. of iron, during the process of puddling, receives a composition of iron ore, 3 lbs.; wood charcoal, 1 lb.; manganese, 1 lb.; red lead, 1 lb.; blue vitriol, 8 oz.; common salt, 4 oz.; borax, 3 oz.; and lye, 2 oz. The above ingredients are mixed, and the mass is divided and made up into two long narrow packages, which are placed in the furnace at different stages of the puddling process, and mixed with the iron.

Claim.—Treating iron during the puddling or boiling process with a chemical compound composed of the ingredients herein named, in about the quantities specified, and prepared and used in the manner and form described and for the purpose set forth.

61,744.—GEORGE W. LARGE, Yellow Springs, Ohio.—*Gate Latch.*—February 5, 1867.—The latch, in the act of closing, becomes available as a lever to slightly elevate the free end of the gate and correct the tendency to sag.

Claim.—The reversely gravitating lever latch constructed and operating substantially as and for the purpose set forth.

61,745.—HENRY and ALBERT LOVIE, Philadelphia, Pa.—*Curtain Fastener.*—February 5, 1867.—The tension of the cord is adjusted by means of the set nut which engages the screw to which the pulley block is attached.

Claim.—The sliding screw rod C having a pulley cage D formed in it, in which the pulley d is contained, substantially as specified and described.

61,746.—ROBERT O. LOWREY, Tabor, Iowa.—*Tile and Brick.*—February 5, 1867.—Explained by the claims.

Claim.—First, a plastic cement, which is composed of marl and coal tar, mixed together in suitable proportions, substantially as described.

Second, a roof which is composed of unglazed and unburned slabs or tiles which are secured firmly down upon the roofing boards, and then covered with a cement consisting of marl and coal tar, substantially as described.

Third, a roof covering which consists of a bottom layer of dry clay, a second layer of clay, marl, and coal tar, and a top or surface layer of marl and coal tar, applied to roofing boards, substantially as described.

61,747.—E. B. MANNING, Middletown, Conn.—*Ice Pitcher.*—February 5, 1867.—Arranged between the two bottoms of an ice pitcher is a strengthening support which will admit of a free circulation of air between the said bottoms, and preserve the inner bottom from injury when heavy pieces of ice are dropped upon it.

Claim.—In combination with bottoms D and B the plate a, constructed and arranged so as to support the bottom D, substantially in the manner and for the purpose set forth.

61,748.—FRANCIS MARLOW, Cleveland, Ohio.—*Carriage Horse Controller.*—February 5, 1867.—A line whose bifurcated end is attached to the rings of the bit is wound at its other end around a spool on the side of the carriage and retained by pawl and ratchet.

The effect is to transfer a part of the pull from the hands of the driver to the vehicle.

Claim.—The line F, spool B, and shaft A, in combination with the pawl and ratchet G D, attached to a carriage, as and for the purpose set forth.

61,749.—BENJAMIN A. MASON, New York, N. Y.—*Screw-Making Machine.*—February 5, 1867.—In this apparatus are: a series of vertical rotating screw drivers arranged in a circle; a rotating series of chucks from which the blanks are suspended; a series of cutters arranged in a circle on an annular platform, which surrounds the circle of chucks, which has a reciprocating up and down motion as well as an intermittently rotary motion. The cutters are secured each to the end of a sliding stock, and to the opposite end of every stock is attached an anti-friction roller which bears successively against every one of a series of pattern formers. The feeding device moves around at intervals and deposits successively in every chuck a blank, and the annular platform moving around intermittently brings every cutter in succession in contact with every blank.

Claim.—First, the arrangement of the slide 12, inclined ways 8, and retainers 13 and 14 to supply the blanks, one at a time, to the machine, substantially as set forth.

Second, the arrangement of mechanism for actuating the screw drivers *l*, consisting in the revolving cam ring *m*, rods *o*, levers *o'*, and shackles, in combination with the sleeve gears *k*, for rotating said screw drivers, as set forth.

Third, the chucks 11, for holding the blanks, in combination with the screw drivers for revolving such blanks, and the cutters for forming the thread as set forth.

Fourth, a series of screw drivers and screw blank holders, arranged in a circular position, in combination with a series of cutters moved around outside the screw blanks, and acting to cut the thread on such blanks by progressive cuts, the cutters being caused to move lengthwise of the screw blanks, and then pass to the next screws, substantially as set forth.

Fifth, the tool guides *u*, supported by the blocks *v*, and adjusted by the screws 32, in combination with the sliding cutter stocks *t'*, and cutters *t*, substantially as set forth.

Sixth, in a screw-cutting machine, a series of cutters *t*, formed as specified and attached to the stocks *t'*, in combination with the series of rollers 31, of gradually increasing size, as and for the purposes specified.

Seventh, the pawl *r*, carriage *s*, and plate 24, in combination with the tool carrier *n'*, and bed *q*, for the purposes and substantially as set forth.

Eighth, the bed *q*, tools and carrier *n'*, and cams *p p'*, in combination with mechanism, substantially as set forth, for rotating the screw blanks, whereby the screw threads are formed by the descent of the carrier *n'*, with a speed proportioned to the rotation of the screw blanks.

Ninth, the bolt 21, and actuating lever 22, in combination with the pawl *r*, lever *s*, and tool carrier *n'*, arranged and operating substantially as and for the purposes specified.

Tenth, the raiser 34 and lifting jaws *v'*, fitted and actuating substantially as and for the purposes specified.

Eleventh, the tool carrier *n'*, to which a progressive rotary movement is imparted, in combination with the bed *q*, to which a rising and falling movement is given, substantially as set forth, so that the tools may have imparted to them a movement parallel with the axis of rotation as well as a progressive rotary movement, as specified.

Twelfth, the head block *c'*, formed with a cavity *w*, for water or other liquid, and from which jets pass to the screw blanks, as specified.

61,750.—MORRIS MATTSO, New York, N. Y.—*Flexible Syringe.*—February 5, 1867.—Explained by the claim.

Claim.—The application and use in syringes having an elastic bulb or air chamber and a flexible discharge pipe, of a rigid inflexible inlet or suction tube or pipe, to serve as a rest or support for the hand, when such inlet tube is constructed in sections as described, so as to allow of being extended or contracted in length, substantially as and for the purposes set forth.

61,751.—ISAAC M. MILBANK, Greenfield Hill, Conn.—*Breech-Loading Fire-arm.*—February 5, 1867.—The hammer shank closes over the wing of the horizontally-swinging breech block before the hammer head strikes the detonating cap or punch, and thus holds the breech block laterally. If the breech be unclosed the hammer is arrested in falling.

Claim.—First, the wing *h* in combination with the swinging breech block *c* and hammer *k*, for the purposes and substantially as set forth.

Second, the locking projections *n* and *o*, in combination with the hammer *k* and wing *h* of the swinging breech block, as and for the purposes set forth.

61,752.—HENRY MITCHELL, Dayton, Ohio.—*Handle for Sad Irons.*—February 5, 1867.—The handle is removable and is connected by a rear, center, and a forward spring catch to the branches which rise from the upper surface of the iron.

Claim.—The construction of the handle *C*, socket *E*, spring catch *G*, and thumb piece *H*, or their equivalents, when arranged, combined, and operated as herein described, for the purpose of having a movable and cool handle at all times.

61,753.—JOSEPH G. MOODY, New York, N. Y.—*Vessel and Tank for Holding Hydrocarbon and other Liquids.*—February 5, 1867.—The tank has a dome upon its top from which extends a tube which terminates under water. By this means direct communication between the interior of the tank and the open air is avoided.

Claim.—First, the method of discharging the gases generated within the tank, or other receptacle, containing the hydrocarbon liquid, into an uninflamable liquid medium, substantially as shown and set forth.

Second, the combination with a floating tank, or other receptacle, for hydrocarbon liquids, of a gas discharge tube attached to the dome or upper part of said tank, and having its mouth or open end immersed in and surrounded by water, substantially as and for the purposes described.

61,754.—SAMUEL MORTIMER, Leicester, Mass., assignor to CHARLES W. GILBERT.—*Mechanism for Operating the Picker Staffs of Looms.*—February 5, 1867.—The curvature in the arms is designed to afford an easy and effective motion to each picker staff. The series of holes in the staffs permits an adjustment of their straps.

Claim.—The combination with the arms or tappets *H*, mounted at angles with respect to each other upon a shaft *F* of the peculiarly constructed curved levers or arms *G*, arranged to operate the picker staffs, substantially as shown and set forth.

61,755.—M. A. MYER, Decatur, Ill.—*Boot and Shoe Blacking Machine.*—February 5, 1867.—The blacking and polishing brushes are driven by machinery and so arranged that while in motion the blacking brush may be extended down to the blacking box for its supply.

Claim.—In combination, a polishing brush having a reciprocating motion, a blacking brush also having a reciprocating motion, and capable also, while in motion, of being thrust down for a supply of blacking, and rising again while it continues to vibrate or reciprocate, substantially as herein described and represented.

61,756.—HENRY M. MYERS, Allegheny City, Pa.—*Constructing Shovels.*—February 5, 1867.—The tang is forged out of the blank and then split; by suitable tools a socket is made for receiving the end of the shovel handle.

Claim.—Forming the straps on and socket (for the handle) in the stock or "blank" from which the shove blade is formed, said straps and socket being formed in the manner herein described for the purpose of avoiding the old practice of forging and welding.

61,757.—S. E. PETTEE, Bethlehem, Pa.—*Bed Bottom.*—February 5, 1867.—The springs have side attachments to the edges of the slats.

Claim.—The helical spring *A*, having at the top projections or lugs *i* arranged to embrace, but not to project above, the slat *B*, and forming eyes for receiving pins *m* to be driven into the edges of the slat, all as set forth for the purpose specified.

61,758.—JAMES POWELL, Cincinnati, Ohio.—*Globe Valve.*—February 5, 1867.—Improvement on his patent of May 2, 1865. The valve has flexible connection to the stem and free revolution upon it when in use. For grinding, a sliding plate on the stem engages the valve and enforces their co-rotation.

Claim.—First, in the described combination with a valve stem adapted to maintain an axial position, independently of its screw, and provided with a self-adjusting valve, the locking piece *K*, or its equivalent, adapted to operate as set forth.

Second, in the described combination the following elements, to wit: a valve stem having guides for preserving its axial position when released from the screw cap, a self-adjusting valve, and the tongued and adjustable piece *K*, adapted to enter the cavity *J* in the valve, and to be secured either in or out of lock, substantially as and for the purpose set forth.

Third, the loose guide collar *F'* and *K'*, which permanently occupies a cavity in the valve, and is secured in or out of lock by a set screw *b*, in the manner described.

61,759.—ASA R. REYNOLDS, Auburn, N. Y.—*Shaft Coupling for Carriages.*—February 5, 1867.—The thill-iron ends in a hook which engages the clip-pin. A bent piece of metal is bolted to this iron and presses against the lower side of the pin to prevent detachment.

Claim.—A shaft coupling, composed of a loop bar or bolt wrought in one and the same piece, with the loop and strap and an under and upper piece fitting over or against it, and a tightening bolt controlling said under and upper piece to adjust their frictional contact with the loop or draw bar or bolt, substantially as and for the purpose described.

61,760.—W. A. RHINEHART and H. FELKER, Miami City, Ohio, assignors to themselves and O. P. RUSSELL.—*Corn Cultivator.*—February 5, 1867.—The left side of the front plow and the right side of the second plow are turned forward in projecting flanges. The former, which runs nearer to the corn, turns the earth from the plants, and the latter fends off the clods but throws the mellow earth to the plants.

Claim.—The plows *C C'*, when constructed substantially as described, and their arrangement with reference to the plow *D* and frame, in the manner and for the purpose specified.

61,761.—S. G. RICE, Albany, N. Y.—*Thill Coupling.*—February 5, 1867.—The cap piece of the socket is attached to the base by a bayonet fastening and cannot be turned for removal when the thills are raised for use.

Claim.—First, a ball and socket thill coupling, which is so constructed that the thill iron will serve, when in an elevated position, as a means for preventing a casual disconnection of this iron, substantially as explained.

Second, the combination of the parts *A B* with the sections *C C'*, slot *c*, and a bayonet fastening *b*, substantially as described.

61,762.—M. RICHARDS and J. VANDEGRIFT, Princeton, Ill.—*Plow.*—February 5, 1867.—The down-curved rear end of the beam is stepped in a connecting transverse bar between the mold board and landside. The beam is clamped at the proper inclination, by a strap and plugs, to a bar extending backward from the mold board.

Claim.—First, the combination of the beam *C*, support *B*, landside *A*, and mold board *A'*, as set forth.

Second, the arm *D*, in combination with the beam *C*, plugs *h*, clamp *F*, and mold board *A*, as described and set forth.

61,763.—CLARK ROBERTS, Winchester, Ill.—*Gate Latch.*—February 5, 1867.—The triangular latch piece is attached to a pivoted hanging bar, from which it projects outwardly in a horizontal direction. The closing of the gate swings the latch out of the way, and it is brought back by gravitation to secure the gate. The latch is thrown back by a pivoted T-bar or a lever projecting above the latch post.

Claim.—First, the pendulum *A* and guard *c*, constructed and arranged substantially as described and for the purpose set forth.

Second, the pendulum A and guard c, in combination with the attachment D, substantially as described.

Third, the pendulum A and guard c, in combination with the lever P, substantially as and for the purpose set forth.

Fourth, the pendulum A, in combination with the guard c, lever P, attachment D, pin s, and thumb piece n, arranged substantially as described and for the purpose set forth.

61,764.—JOSEPH L. RUTZAHN, Frederick, Md.—*Shutter Fastener.*—February 5, 1867.—A semicircular pivoted bar on the fixed leaf has notches to engage the plate of the other hinge at different points of openness.

Claim.—The construction of the hinge with its square notches at the top, and its semicircular bar with corresponding notches, when combined and operated as herein described and for the purposes set forth.

61,765.—J. R. RUDE, Liberty, Ind.—*Grain Drill.*—February 5, 1867.—The draw bars of the boots are connected by their forked ends to pivoted plates, and these plates are connected to a lever by which the boots may be laterally adjusted. The boots may all be raised by a single lever. The seed box is over the axle and has connecting pipes to the boots.

Claim.—First, the combination of the movable plates L L, the levers F, the rods X X, the toothed bar J, the levers F and H, and the spring I, the whole constructed, arranged, and operating in the manner herein specified.

Second, the lever O, the straps P P P P P P, the rollers Q Q, in combination with the drills G G G G G G, when constructed in the manner and for the purpose herein specified.

Third, the seed box A, when constructed so as to extend over the wheels D D, in combination with the tubes N N, the levers F H and O, and the drill rods K K, for the purpose of feeding over wheels, when constructed in the manner and for the purpose as herein specified.

61,766.—JOSEPH SCHAFER, New York, N. Y., assignor to himself and GEORGE HEYDT, same place.—*Hinge.*—February 5, 1867; antedated January 27, 1867.—The hinge does not allow the joint to open, and is adapted for table leaves. One leaf is tongued into the other, and each portion has square ends. They are united by pins, which travel in segmental slots.

Claim.—A hinge composed of two parts A B, which are united by pins a b and slots c d, and otherwise constructed and operating substantially as and for the purpose described.

61,767.—JAMES SCHOFIELD, Worcester, Mass., assignor to himself and OSGOOD PLUMMER, same place.—*Loom.*—February 5, 1867.—The devices are for so operating all the harness frames as to make a perfect shed. The jack elevators and depressors, as also the eveners are hinged at one end. The illustration shows the construction.

Claim.—First, the combination and arrangement of the hinged arms H H', hinged eveners G G', connecting rods i, arm f and connecting rods e g, substantially as set forth.

Second, the combination of pins 1 and 2, with the slotted ends of arms H H' to retain the ends of said arms in proper position, and at the same time allow them to have a slight longitudinal motion to prevent binding of the parts, when the loom is in operation.

61,768.—JAMES SCOTT, Washington, D. C.—*Illuminating Compound.*—February 5, 1867.—Composed of naphtha, 40 galls.; sugar, 2 lbs.; liquor ammonia, 1½ lb.; lard, 5 lbs.; potash, 1½ lb.; glycerine, 8 ozs.

Claim.—An illuminating compound, composed of the ingredients heretofore mentioned in about the proportions stated, and compounded substantially as set forth.

61,769.—ALONZO SEDGWICK, Poughkeepsie, N. Y.—*Supporting Carriage Thills.*—February 5, 1867.—A turn-button pivoted to the bolster forms a catch in front of the thill bar to retain the thills in a vertical position.

Claim.—A device for the purpose specified, con-

sisting of a frame A and catch D, arranged and operating substantially as described.

61,770.—THOMAS SIMMONS, New York, N. Y.—*Compound Vacuum Rectifier for Alcoholic and other Liquids.*—February 5, 1867.—The bottom of the reservoir is covered by a perforated plate above an opening, which connects by a pipe with a cylinder below, and a second, lower, similar cylinder. The pipe has two cocks, which govern the flow of the liquor. A branch pipe leads to another cylinder, and has two stop cocks.

Claim.—The use of the cylinder D, when used in combination with one or more cylinders for receiving the rectified liquor, for the purpose of creating a partial vacuum in the receiving cylinder without the introduction of steam, substantially as specified.

61,771.—HENRY SOGGS, Columbus, Pa.—*Car Coupling.*—February 5, 1867.—The flat spring in the roof of the mouth holds the link straight for self-coupling, and the self-adjusting catch on the outside of the coupling head drops the pin when the cars collide.

Claim.—The flat spring in the upper side of the mouth of the coupling head, and the self-adjusting catch on the outside of the head, when arranged, constructed, and operated as herein described and for the purposes set forth.

61,772.—M. V. B. STEINMETZ, Ansville, Pa.—*Churn.*—February 5, 1867.—To the arms of the vertical shaft are attached oblique blades, whose relative convergence in pairs collects the cream and dashes it through the orifices in one, and the space between the two.

Claim.—First, a case B, having four sides, in combination with a dasher, composed of the spindle G, having arms and blades, and constructed and operating substantially as described.

Second, the dasher, composed of the spindle G, with its arms h k, perforated blades m m' and solid blades n n', when the said blades are inclined in respect to each other, as and for the purpose specified.

Third, the cases A B and shaft G, with its arms and blades, in combination with the standards C C', cross piece D, keys e e', or their equivalents, and driving shaft E, the whole being constructed substantially as described.

61,773.—JOSHUA STEVENS, Chicopee Falls, Mass.—*Machine for Pulling out Hat Tips.*—February 5, 1867; antedated January 21, 1867.—The four uprights are moved to and from the center in grooves by suitable gearing, and carry upon their upper extremities the four quarters of a disk, the separation of which expands the hat body into a flattened crown, as desired.

Claim.—The stretchers e e, standards E E and slides D, in combination with each other, and with a supporting table A, or its equivalent, substantially as and for the purpose herein specified.

61,774.—WILLIAM D. STROUD, Oshkosh, Wis.—*Broom Head.*—February 5, 1867.—The broom stuff is thrust into the cap, and retained by transverse bolts and side bars, which clamp it in a flattened shape.

Claim.—The combination of the metallic broom head, with the bars r and i, connected by means of the screw bolts, and the projections k k forming female screws, substantially as described and for the purpose herein set forth.

61,775.—D. M. THOMAS, Dowagiac, Mich.—*Bed Bottom.*—February 5, 1867.—The inclined springs are rooted in transverse slats, and present the flexible, upper, bowed surfaces to the mattress.

Claim.—A spring seat or bed bottom, which is composed of inclined springs that are supported and held in place by means of transverse bars B, substantially as herein described.

61,776.—FREDERICK VAN PATTEN, Auburn, N. Y.—*"Fifth Wheel" or Whiffletree Attachment for Carriages.*—February 5, 1867.—The connecting joint will enable the bolster to traverse freely, but will resist separation. The under plate has a flanged sleeve, and the upper piece is sectional, with half collars to enclose the neck of the sleeve.

Claim.—A fifth wheel or whiffletree connection for carriages, composed of the plates C D D', with the hub and collars, constructed and operating substantially as and for the purpose described.

61,777.—WILLIAM WALLACE, Ansonia, Conn.—*Chain.*—February 5, 1867.—The chain is formed of hollow spheres linked together by means of small bars having enlarged heads.

Claim.—A chain formed by uniting hollow balls and double-headed bars, substantially in the manner hereinbefore described.

61,778.—JAMES and R. C. WALRATH, Chittanooga, N. Y.—*Artificial Fuel.*—February 5, 1867.—A composition of peat, coal dust and blood, with or without salt.

Claim.—The compound prepared, substantially as herein described for fuel.

Also, cakes, lumps or bricks, pressed and dried, made from the within-described compound.

61,779.—AUGUSTUS J. WARNER, Brooklyn, N. Y., assignor to himself and JAMES E. CONOR.—*Window Blind Fastening.*—February 5, 1867.—The slot in the lever has a fixed bearing in the bracket, which allows it a longitudinal motion, but prevents vibration until it has been longitudinally moved from the position at which it has been set.

Claim.—A shutter or blind holder or fastener, having the slot *h* and face *t*, constructed and operated substantially as herein described.

61,780.—ALEXANDER T. WATSON, New York, N. Y.—*Artificial Leg.*—February 5, 1867.—The bar of the leg is adjustable in length, and is planted upon a segment of a cylinder, which has a backward and forward oscillation in its socket; the toe and heel leaf springs modify and limit its vibrations. The toe spring extends the toe section, flexed by the act of walking. The slotted hoops and set screws of the thigh adjust its capacity. An axial coil on the knee articulation extends the leg for forward movement, when raised from the ground.

Claim.—The connection of the foot with the leg by means of the joint, substantially as described, in combination with the springs extended both ways for action at the heel and at the toes, substantially and for the purposes described.

Also, the toe piece hinged to the front part of the foot, substantially as described, in combination with the spring, which controls the movements substantially as described.

Also, the leg made in two parts, and adjustable in length, substantially as described, or any equivalent thereof for adjusting the length of the leg.

Also, the adjustable longitudinal straps and the adjustable hoops, in combination substantially as described, as a means of fastening the artificial leg to the thigh or to the stump of the leg, as described.

Also, the knee joint, substantially as described, in combination with the leg and foot, or their equivalents.

61,781.—OLIVER N. WEAVER, Dover, Ky., assignor to himself and G. W. WINTER, Augusta, Ky.—*Whiffletree.*—February 5, 1867.—The tugs are attached to the ends of the spring, which is secured by its midlength to the rear of the thill bar.

Claim.—The spring whiffletree A, adapted for fastening in rear of the shafts cross-bar, its ends being provided with the yokes D D', and terminating in hooks or other devices for the attachment of the tugs as set forth.

61,782.—OLIVER N. WEAVER, Dover, Ky., assignor to himself and G. W. WINTER, Augusta, Ky.—*Unhitching Horses from Vehicles.*—February 5, 1867.—The breeching remains attached to the thills; the snap hooks by which it was suspended from the hip straps are hooked to loops on the tugs.

Claim.—First, in the described combination a provision of the snaps A on the hip strap, and of the eyes, rings, or loops B b upon the breeching and tugs, for ready hitching and unhitching, as set forth.

Second, the provision of the snaps A, at the lower ends of the hip straps, for the purpose set forth.

Third, in combination with the elements of the first clause of claim, the hook C projecting from the inside

of the shaft to temporarily support the breeching when the horse is unhitched.

61,783.—FINLEY F. WESTERFIELD, Fort Dodge, Iowa, assignor to himself and C. WESTERFIELD, same place.—*Corn Planter.*—February 5, 1867.—The hopper is attached to the beam of a double shovel plow, and the seeding mechanism is operated by hand.

Claim.—The combination of a corn planter constructed as herein above set forth, and operated by means of the bent lever E, with a double shovel plow, or sod plow, substantially as described.

61,784.—JAMES E. WHEAT, Rochester, N. Y., assignor to himself and OTIS COLE.—*Snow Shovel.*—February 5, 1867.—The hold for the left hand is secured to the stock of the blade by the stale, which affords a hold for the right hand. The parts are detachable for convenience in storage.

Claim.—The combination of the auxiliary handle *h* with the blade B and handle *b*, substantially as herein shown and described.

61,785.—THOMAS B. WICKHAM, Granville, Ohio.—*Farm Gate.*—February 5, 1867.—The gate runs upon a roller on the post, another roller on the gate resting upon a track frame. Lips on the post prevent the removal of the gate.

Claim.—First, supporting the gate upon bar E and roller G, together with the movable roller H.

Second, cutting away or dividing slot K, and leaving space at the top and bottom rails for passing through the grooves *m m'*.

Third, making a mortise in stile O, through which passes bar E, also joining grooves *m m'*, for supporting the gate in position, all as substantially described, and for the purposes set forth.

61,786.—CHARLES WILSON and J. H. McNALL, Clinton, Pa.—*Car Wheel.*—February 5, 1867.—The wheel *h* as a circular recess to receive a collar on the axle, over which is bolted a covering annular disk. This device is to allow the revolution of one of the wheels upon the axle in curves of the track.

Claim.—The construction of the wheel, with its circular recess C, collar D operating in the recess, and circular plate H, arranged and combined as herein described, and for the purposes set forth.

61,787.—JAMES R. WOODWORTH, Nunda, N. Y.—*Roofing.*—February 5, 1867.—Laths are attached to the boards which cover the rafters, and a coating of hydraulic cement spread upon them. This is afterward covered with coal tar and sand.

Claim.—The combination of the ingredients, substantially as and for the purpose set forth.

61,788.—C. M. YOUNG and E. M. BENSTER, Detroit, Mich.—*Gas Stove.*—February 5, 1867.—The generating chamber is of a metal less liable to oxidation than cast iron, and is protected by a movable plate beneath, which is suspended over the surface of the burning hydrocarbon. The heat is concentrated by an annulus which encloses the combustion chamber. A fire cup beneath the burner catches the waste oil.

Claim.—First, the combination and arrangement of the fixed ring A' with the fire cup B, for the purposes described.

Second, the combination and arrangement of a movable combustion disk C with the wrought iron or copper generating chamber D, substantially as and for the purposes set forth.

Third, the movable combustion disk C, as described.

Fourth, the fire cup B, as described.

61,789.—JOHN YOUNG, Brooklyn, N. Y.—*Piston Rod Packing.*—February 5, 1867.—The strands of hemp are wound on wire and form sections, annuli or a coil around the piston rod in the stuffing box.

Claim.—A metallic packing formed by enclosing an ordinary hemp or other packing, or its equivalent, in a netting of brass wire, by either winding, weaving, or braiding the enclosing wire around it, substantially as and to the effect described.

61,790.—FEDERAL C. ADAMS and JOSEPH PECK-OVER, Cincinnati, Ohio.—*Cooking Stove.*—February 5, 1867.—The oven top is concavo-convex, and strength-

ened by a coiled ridge on its convex upper side. The fire-back has perforations for the admission of air from the space between it and the oven, and inclined overhanging ridges to allow the passage of air. It is allowed side space for expansion. The side fire plates have curved corners to project over the fire-back and hold it in place, and are bent to allow air between them and the stove shell, with perforations leading from this air space to the fire, and perforations in the shell for air supply. A blower plate has catches which take over lugs to suspend it in front of the grate. Projections on the door hinges strike against the stove to limit the movement of the doors in both directions.

Claim.—First, the concavo-convex oven top A, substantially as and for the purpose described.

Second, the concavo-convex oven top A in combination with the spiral strengthening rib, or its equivalent, substantially as described.

Third, the short fire back B, with its air holes z, and air tubes w, substantially as described.

Fourth, the sides C C, with their flanges and air holes v s, in combination with the air passages on the sides of the stove, substantially as described.

Fifth, the combined duster and blower D, in combination with the grate and the projections n o, or their equivalents, at the top and bottom of the front opening, substantially as described.

Sixth, the quadrant shaped doors E E, arranged, attached, and operating substantially as described.

Seventh, holding the fire back in place by the overlapping sides of the end lining plates, so as to dispense with the use of catches, and permit the fire back to expand and contract freely, substantially as described.

61,791.—J. N. ADAMS, Bloomfield, Iowa.—*Machine for Jointing Stove Pipes.*—February 5, 1867.—The machine is intended to swage threads upon the ends of stove pipes for the purpose of joining them by screwing them together. The outer end of the stove pipe rests in the angle of a frame which is adjustable to give the required obliquity for the formation of a screw upon it by the swaging rollers.

Claim.—The combination with the projecting arm C of the adjustable holder D E, substantially as and for the purpose described.

61,792.—GEORGE ARRISON, Trenton, N. J.—*Water Wheel.*—February 5, 1867.—An additional bucket is placed between the usual buckets, and by vertical adjustment regulates the water space between the latter.

Claim.—The gates D, made adjustable by set screws a and slots b, in combination with the buckets C of a water wheel constructed and operating substantially as and for the purpose described.

61,793.—CHARLES C. AYER, Chelsea, Mass., assignor to himself and HENRY A. BREED, Lynn, Mass.—*Carriage Wheel.*—February 5, 1867.—The spokes are metallic bolts, and are screwed into the hub. The outer end of each spoke enters a chamber in the rim, and has a head and set-nuts with washers by which it has bearing on annular rubber springs held within the chamber.

Claim.—The combination as well as the arrangement of the two springs g h, their separate chambers f i, the head a, and the bearer e, with the wheel fellow A, and the spoke C applied to the hub B. And in combination therewith the spring l and its chamber k, arranged with respect to the spoke as set forth.

Also, the combination and arrangement of the follower e, or the same, and the check-nut d, with the series of annular springs, and the spoke made and applied to the fellow, substantially as set forth.

61,794.—THOMAS and JOHN BARBER, Brooklyn, N. Y.—*Globe Valve.*—February 5, 1867.—The stem is confined to a vertical movement by a spline key, and is actuated by the engagement of a screw upon it with the frustal socket connected with the hand wheel. This socket is supported by a spiral spring in a suitable case. A central hole in the socket conveys oil to the screw. The steam joint between the socket and case dispenses with packing.

Claim.—First, the combination of the cap F, the socket G, and the valve stem D, constructed and arranged substantially as described.

Second, the guide piece E, with the chamber h, and with the feather seat at j, substantially as set forth.

Third, the spiral spring o, in combination with the guide piece E and the socket G, substantially as described.

Fourth, the lubricating hole p, with the tapering socket G, substantially as herein shown and described.

61,795.—G. W. BEARD, Baltimore, Md.—*Heating Stove.*—February 5, 1867.—An annular heating chamber has a partial horizontal diaphragm and is traversed by a central, vertical flue. A rake beneath the grate rests on a handle and two rear slide bars, and has teeth projecting upward between the grate bars.

Claim.—First, in combination with a stove, an air-heating chamber, constructed and arranged substantially as described.

Second, in combination with the foregoing a grate, with the rake S R, constructed and operating substantially as described.

61,796.—JAMES C. BETHEA, Blakely, Ga.—*Gang Plow.*—February 5, 1867.—The standard is attached to the beam by rings which embrace forward and backward projections upon it. The rings are secured by wedges. This standard is reversible, and has flanges on its two edges for the attachment of right or left hand plows respectively.

Claim.—First, the standard A, with flanges at the front and rear edges, adapted for the attachment of a right or a left share, substantially as described.

Second, in combination with the standard A, the reversible landside, constructed and applied substantially as described and represented.

61,797.—CARL AUGUST BIERMANN, Waterloo, Ill.—*Hemp Break.*—February 5, 1867.—Two series, having three brake bars each, are supported on a fixed post, and a slide block carries two series, each containing two bars, to act in conjunction with the fixed bars both in their up and down stroke.

Claim.—First, the combination arrangement of the stationary post A and the sliding head C, substantially as described and set forth.

Second, the stationary brakes a and the operating brakes c when constructed and operated as described and set forth.

Third, the combination of the sliding head C and its brake c with the stationary brakes a, as and for the purpose set forth.

61,798.—ELI S. BITNER and J. B. HOPKINS, Lock Haven, Pa.—*Hinge.*—February 5, 1867.—A depression on the upper edge of the socket receives a projection on the pintle side of the hinge to close the shutter by gravitation. The pintle has a projection at its lower end which prevents unhooking except when brought in conjunction with a groove of the socket.

Claim.—The combination of the edge block B and spiral incline planes G G with the projections D and groove H, all constructed as and for the purpose described.

61,799.—H. A. BOARDMAN, New Haven, Conn.—*Calipers.*—February 5, 1867.—The arms have a spiral spreading spring over their pivot which is covered by a separate cylinder. A set nut confines the jaws at any required point of expansion.

Claim.—The barrel or collar C when made in one entire or continuous piece and independent of the caliper arms and secured thereto, substantially as and for the purpose described.

61,800.—JAMES D. BOURNE, De Witt, Iowa.—*Gate Fastening.*—February 5, 1867.—A swinging bar on the post engages the extension of the rails of the gate. A spring operates by friction to retain the bar as placed.

Claim.—First, the combination with a gate having elongated rails e of the front post and the swinging arm D, substantially as shown and described.

Second, the combination of the spring E with the swinging arm D and post C, substantially as shown and described.

61,801.—BENJAMIN BRITTEN, Galena, Ill.—*Window Sash Supporter.*—February 5, 1867.—The lug of the pivoted spring lever enters notches in the sash to

lock the same. The sash is freed by a thumb piece on another lever which acts on the former.

Claim.—The arrangement of the compound levers *a b* combined with the flat thumb piece *c* and the spring *e*, when applied to a sash supporter in the manner herein described.

61,802.—ANSON R. BROWN, Litchfield, Mich.—*Medical Compound.*—February 5, 1867.—An irritant to be injected beneath the skin, consisting of alcohol, croton oil, oil of cinnamon, mandrake, blood root, scoke, cuphorbium, St. John's wort, rhus toxicodendron or radicans, Spanish flies, and olive oil.

Claim.—The medical compound substantially as described.

61,803.—WILLIAM BROWN, Springfield, Mass.—*Carpet Stretcher and Tack Driver.*—February 5, 1867.—The tube has at one end a handle and at the other a claw to engage the carpet, and contains a plunger, which is propelled by a spring and retracted by a cord. A side tube conducts a tack to the end of the main tube from which the point issues. On releasing the plunger it strikes the tack head and drives it between the hinged jaws of the tube and into position in the carpet.

Claim.—First, the combining and arranging together the tubes B and D to form a compound carpet stretcher and tack conductor, as described.

Second, the combination of the tube B formed as a carpet stretcher with the tube D as a tack conductor, and the plunger E and the jaws G, constructed and operating in the manner and for the purposes described.

Third, the construction of the plunger with different dimensions in its different parts, in combination with the corresponding parts of the interior of tube B, as described, by which the action of the plunger is controlled and the tack held back in the tack conductor and then conducted point downward into the jaws when required.

Fourth, the manner of constructing and operating the jaws G, in sections for receiving the tack, in combination with a plunger for driving the tack, operating together in the manner and for the purposes described.

Fifth, the combination of the plunger, spring, and the cord with the tubes B and D and the jaws, arranged and operating as described.

Sixth, the forming of a bevel bottom to the tack conductor D, by which the tack is by its gravity turned with its point toward the opening from the tube D to that in tube B, for the purpose and in the manner described.

Seventh, making the ends of the tubes D and B removable and adjustable by box or sliding covers, for the purpose and in the manner described.

61,804.—J. B. CLARK, Auburn, Mass.—*Edge Plane for Boots and Shoes.*—February 5, 1867.—The mouth-piece is adjustable and holds the curved paring knife by means of its jaws and set-screw. The projecting side guide is also adjustable.

Claim.—First, the combination with the sides E E' of the plane F and the screw bolt J and thumbnut I, substantially as set forth.

Second, the combination with the sides E and E' of the adjustable mouth-piece G and side guide K with the adjustable screws *d* and *j* and nuts *f* and *h*, substantially as set forth.

61,805.—W. F. CLARK, Hagamans Mills, N. Y.—*Cultivator.*—February 5, 1867.—The longitudinal bars to which the shares are attached, are inserted in grooves on the under side of the main transverse beam of the carriage, to which the wheels, tongue, and seat support are also attached, the latter through the medium of perforated segments.

Claim.—First, the plank A, grooved at its under side to receive the bars B B', which have the teeth standards C C' attached, as shown, in combination with the levers F F, having the wheels I I attached to the plank A, pivoted between their front ends and the driver's seat H, secured to a cross-bar G attached to the rear ends of the levers, all arranged substantially as and for the purpose herein set forth.

Second, the perforated segments J K, attached respectively to the levers F F and plank A, substantially as and for the purpose specified.

61,806.—GEORGE H. CLINTON and D. H. HARRIS, New Haven, Conn.—*Pruning Shears.*—February 5, 1867.—One jaw has a rotary circular knife, and the other a hook.

Claim.—The construction of pruning shears, with a circular revolving knife *b* attached to the jaw or handle, as described, as the cutting edge of said shears, and the curved grasping jaw or handle, operating as described and for the purposes specified.

61,807.—A. H. COLE, Sylvania, Ohio, assignor to M. T. COLE, same place.—*Neck Yoke Trundle.*—February 5, 1867.—To avoid the wearing of the breast strap by the ring of the neck yoke, it is passed around rollers in the frame, which permit it to pass back and forth without severe friction.

Claim.—An improved neck-yoke trundle, formed by combining the two rollers C with notched frame A B, the whole being constructed and arranged substantially as described and for the purpose set forth.

61,808.—CHARLES C. COMSTOCK, Grand Rapids, Mich.—*Lumber Rack for Wagons.*—February 5, 1867.—The described device affords an inclined bed of rollers for the lumber, and are for loading and binding the load upon the rack, and running it off at the rear when unloading.

Claim.—First, the combination of the lever stakes C and rollers D with each other, and with the frame A of the rack, substantially as herein shown and described.

Second, the combination of the connecting bars F, ropes G, chains I, crank N, shaft H and spring N, with the lever stakes C, and with the frame A of the rack, substantially as herein shown and described.

Third, the combination of the shaft H and chains I, with the frame A of the rack, for the purpose of binding the load, substantially as shown and described.

61,809.—WILLIAM COOLEY, Bunker Hill, Wis.—*Plow.*—February 5, 1867.—The handles are connected to the landside by a bent bar.

Claim.—The securing of the handles D D' in the position shown and described, by means of the bar C, bent as shown, and attached to the land side, the two handles and to the beam, substantially as and for the purpose set forth.

61,810.—JOSEPH CORBETT, Salt Lake, Utah.—*Permutation Lock.*—February 5, 1867.—By the construction of the knob, arbor, and the shell enclosing the same, access by drilling is avoided. The tumblers are enclosed in a case secured to the outer plate of the lock, and are thus protected when the lock is entered. The projections on the slide serve as checks for the bolt, until withdrawn by the action of one end of the bit against the roller.

Claim.—First, constructing the shell C and the arbor D of plates or pieces of steel and other metal, arranged alternately in position, welded together or otherwise secured, and the steel hardened by tempering, substantially as and for the purpose set forth.

Second, enclosing or partially enclosing the tumblers by means of a case or chamber K, substantially as and for the purpose specified.

Third, the tumbler case or chamber K, when used in combination with an arbor D, arranged so as to be connected with the tumblers by pulling or drawing it outward from the lock case, as and for the purpose specified.

Fourth, the slide L, provided with the projections *i i'*, and arranged with the bolt B and tumblers I, substantially as and for the purpose specified.

61,811.—HUGH L. CRAIGIE, New York, N. Y.—*Water Closet.*—February 5, 1867.—The horned cam and segment are moved by the cock that operates to turn down the jet pipe previous to the admission of water into the latter. The cock is turned to regulate the force of the jet of water, and upon the reverse movement the water is shut off, and then the jet pipe turned up to its normal position by the action of the horned disk and cam.

Claim.—First, the adjustable standard and drip cup in combination with the cock *f* and jet pipe *k*, substantially as and for the purposes set forth.

Second, the thimble 2, in combination with the cock *f*, jet pipe *k*, and plug on the pipe 3 for allowing said

pipe *k* to be turned, but keeping the joint water tight, as set forth.

Third, the horned cam *i* and segment *l*, in combination with the cock *f* and pipe *k*, for the purposes and as set forth.

61,812.—JOHN HENRY DALLMEYER, London, England.—*Lens for Photographic Purposes.*—February 5, 1867.—Both outer surfaces of the combination lens belong to the crown or plate glass, protecting the flint glass surfaces from atmospheric influences. By preference the intermediate lens is a concavo-convex, enclosed between two meniscus lenses.

Claim.—The construction of compound lenses suitable for photographic use, with a negative lens of flint glass convex on one face, placed intermediate of crown or plate glass lenses, substantially as described.

Also, the construction of compound lenses suitable for photographic use, with a negative lens of flint glass placed intermediate of two crown or plate glass lenses, when the anterior crown or plate glass lens has its anterior face concave, substantially as described.

61,813.—DAVID DALZELL, South Egremont, Mass.—*Attaching Carriage Thills.*—February 5, 1867.—The semi-cylindrical eye at the end of the thill iron is fitted on a journal between two collars on the axle; the tube fitting on the collars encompassing the eye and laps over the inner end of the box.

Claim.—First, the arrangement of the semi-cylindrical eye *c*^s, on the thill iron H, and between the collars E E', journal G, tube I, axle F, and box B, when constructed as herein set forth, as and for the purpose specified.

Second, the key J, passing through the thill iron H, and fitting in the *b*^s, in the tube I, substantially as and for the purpose set forth.

61,814.—MAHLON S. DRAKE, Newark, N. J.—*Machine for Pouncing Hats.*—February 5, 1867.—Provision is made for the motion of the hat, placed upon the block of peculiar shape, and for collecting for use the fur that is rubbed from the hat during the operation.

Claim.—Combining the various parts in one whole, in the manner and for the purpose specified, as a new article of manufacture or a new implement for use.

61,815.—RICHARD DUDGEON, New York, N. Y.—*Apparatus for Expanding and Fastening Boiler Tubes.*—February 5, 1867.—The hollow stock is operated by a lever and pawl, terminating at one end in a series of cutting teeth. Within this stock is a roller stock, one end of which projects beyond the toothed extremity of the first-named stock, and carries in the projecting portion a series of rolls fitted in mortises and prevented from becoming removed therefrom. A tapering screw-threaded expanding rod passes axially through the inner stock and between the several rolls, the latter surrounding the rod and resting against its surface, and not as in other similar devices, resting in journal bearings.

Claim.—The combination in an expanding tool of the following herein described implements, viz: the roller, roller stock and free expanding instrument, these three operating in combination substantially as set forth.

Also, the combination in an expanding tool of the following implements, viz: the roller, roller stock, expanding instrument, and cutter for trimming the tube, all operating in combination substantially as set forth.

Also, the combination in an expanding tool of the following implements, viz: the roller, roller stock, cutter, and ratchet handle for turning it, all operating in combination substantially as set forth.

Also, the combination in an expanding tool of the following implements, viz: the roller, roller stock, cutter, and screw feed therefor, all operating in combination substantially as set forth.

61,816.—A. T. DUNBAR and A. McNAUGHT, Alba, Pa.—*Combined Grain Separator and Straw Carrier.*—February 5, 1867.—The grain and straw pass down the inclined slotted board and the teeth of the rising and falling beaters beneath are interminglingly projected through the slots to agitate the

straw and assist the separation of the grain therefrom.

Claim.—The separator boards G, perforated with holes, one side of each hole being beveled off as herein described, the reciprocating beaters E, attached to the frame F, upon the crank shaft B, so that at each revolution of the said crank shaft B, all the beaters may pass at the same time through the separator-boards, when all are constructed and arranged as herein set forth.

61,817.—JOHN T. ELLIOTT, Grand Rapids, Mich.—*Clothes Dryer.*—February 5, 1867.—The extensible, radiating arms are attached to a hub, whose axle is vibratable in the plane of its length.

Claim.—The combination of the arms C, pivoted and adjustable upon the projecting arms F of the head block D, mounted on a tilting arm and operating substantially as described, for the purpose specified.

61,818.—J. E. EMERSON, Trenton, N. J.—*Swage for Sharpening Saws.*—February 5, 1867.—Improvement on his patent June 5, 1866.—The peculiar bifurcated form of the cutting edge is given by the angular recess and central ridge of the die, which is contained in the stock of the swage.

Claim.—A swage for sharpening saw teeth provided with the adjustable die B, having one or more recesses *e*, formed with a central ridge *f*, substantially as described for the purpose specified.

61,819.—JOHN M. ENOS, St. Joseph, Mich.—*Steam Engine.*—February 5, 1867.—At one end of the working cylinder is placed a steam generator into which is admitted only enough water to generate steam to give the piston one stroke. The generating chamber is connected by ports leading through a superheating chamber to the cylinder. A removable cylinder is placed within the generator into which the water is injected, so that it may be converted into steam before it comes in contact with the walls of the generator.

Claim.—First, the arrangement of the generating cylinder or chamber with the steam cylinder of a steam engine when connected by one or two ports and operating substantially as and for the purposes set forth.

Second, the arrangement within the generator of one or more removable cylinders E F, substantially as and for the purposes specified.

Third, the arrangement of the generator with respect to the furnace in such a manner that after the water is converted into steam in one part thereof said steam passes through an intensely heated chamber and becomes superheated in its passage into the steam cylinder, substantially as specified.

Fourth, the arrangement of the cold air passage A', with respect to the generator and steam cylinder, substantially as and for the purposes described.

61,820.—DANA ESTES, Newton, Mass.—*Ventilating Pipe for Houses, &c.*—February 5, 1867.—Explained by the claim.

Claim.—A ventilator made of two separate flues, one located within and surrounded by the other, when each flue is provided with independent openings into the enclosed space which is to be ventilated, and is otherwise constructed and arranged substantially as described.

61,821.—THOMAS FALVEY, Racine, Wis.—*Carriage Axle.*—February 5, 1867.—The bearing is formed by a collar cast upon the skein, and the latter has an irregular thread upon it to prevent the slipping of the collar.

Claim.—Casting or forming an irregular thread upon the skein A, for the purpose of firmly securing and stationing the collars D D', which are cast over said irregular thread, substantially as herein specified.

61,822.—EDWARD FARNUM, Blackstone, Mass.—*Butter Worker.*—February 5, 1867.—The butter is driven by the plunger through the foraminous partition, issuing in long slivers, and is deposited in the drawer in a vermicular state in a favorable condition for the incorporation of salt. The buttermilk flows into a pan.

Claim.—The improved butter working machine above described consisting of the case A, with its

foramious partition *a* and drawer *b*, for the plunger C, and lever D, or its equivalent, as and for the purposes set forth.

61,823.—EDWARD FARNUM and GEORGE W. SCOTT, Blackstone, Mass.—*Husking Machine*.—February 5, 1867.—The stalks are placed on the floor and drawn through the rollers; the ear being kept back by the retaining bars, is thereby broken off, a portion of the husk going with the stalk. The ear passes down a chute and thence along the trough formed by the proximity of two endless aprons which strip off the remaining husk.

Claim.—The improved stripping and husking machine as composed of fluted rollers *e e'*, the hold-back bars *r r*, the endless aprons *g g*, the bridge *b'*, and the horizontal bars *a' a'*, combined and operating in connection with the hopper or chute *d*, substantially in manner as specified.

Also, the peculiar construction and arrangement or combined action of the two stripping rollers *e e'*, and bars *r r*, essentially in manner and for the purpose as before described.

Also, in combination with this arrangement of the rollers *e e'*, and with the chute *d*, the inclined bars or "bold" backs *r r*, substantially as before explained.

Also, the employment of the two endless aprons *g g*, as a means of husking or completing the husking of the ears of corn, in manner and for the purpose as set forth.

Also, in combination with the endless aprons *g g*, the transverse bars *a' a'*, as and for the purpose before set forth and explained.

61,824.—J. A. A. FONTAINE, New York, N. Y.—*Aerial Railroad*.—February 5, 1867.—The weight of the car is counterbalanced by an attached balloon. The cigar shaped car is driven by steam, the deeply indented side wheels traveling upon wires which rest upon brackets whose flanges project into the circumferential depressions in the wheels.

Claim.—First, the combination of the balloon car A, with the structure C, driving shaft F, sail M, when arranged and applied in connection with an elevated track K, substantially as and for the purpose herein shown and described.

Second, the posts L, provided with arm *l* and *l'*, for the purpose of continuing the track K, substantially as herein shown and described.

61,825.—CATHERINE A. GRISWOLD, Willimantic, Conn.—*Corset*.—February 5, 1867.—The flexible metallic strips are connected by belts and by an interlacing cord down the back.

Claim.—The body supporter, consisting of the strips A, extending around the shoulders and provided with the straps C and D, and the cord *a*, all arranged for joint action substantially as herein shown and described.

61,826.—ALFRED GUTHRIE, WARDELL GUTHRIE, and THOMAS L. HUMES, Chicago, Ill.—*Water Indicator for Boilers*.—February 5, 1867.—The float and weight are suspended in the boiler from the respective ends of a chain which passes over a shaft whose exterior finger indicates the height of water upon a dial.

Claim.—The combination of the floating weight with its equivalent counter balance weight operating in the manner and for the purpose herein set forth and described.

61,827.—WILLIAM L. HALLER, Carlisle, Pa.—*Fruit Jar*.—February 5, 1867.—The rim of the bottle fits in a groove in the lid, and a shoulder on the inside of the flange of the lid presses upon the collar round the neck of the jar.

Claim.—A glass jar having a conical neck, having a rubber ring invariable on its exterior and depressed by the shoulder *a'*, of the lid C, whose groove *a''*, in combination with the lip *a*, forms a nearly tight joint to keep the fruit from contact with the rubber, the whole arranged substantially as described and represented.

61,828.—G. W. HATFIELD, Holton, Ind.—*Cultivator Plow*.—February 5, 1867.—This is an iron structure consisting of two beams held together by peculiarly formed braces, clips, and keys. The handles are attached in a similar manner.

Claim.—First, the loop B, clips C, and keys or wedges D, all arranged to secure the front ends of the beams A together, substantially as and for the purpose herein set forth.

Second, the beams A A, handles E E, brace K, held together by the clips P F, and key G, when all are combined and arranged as herein set forth.

61,829.—JARAD HAWTHORN, Coshocton, Ohio.—*Converting Motion*.—February 5, 1867.—The frame has two racks and these are brought to bear alternately upon a pinion, being on opposite sides and brought alternately into action by the oscillation of the rack; the action of each upon the pinion is to rotate it in the same direction.

Claim.—The reciprocating rack frame A A', B B', guided in an oscillating yoke E, and engaging alternately with opposite sides of a pinion H, so as to impart continuous rotation thereto substantially as described.

Further, the tappet C C', to reverse the position of the rack-frame as described.

61,830.—T. HAZARD and J. M. RICHARDSON, Wilmington, Ohio.—*Door Stop*.—February 5, 1867.—A pad of India-rubber is placed in a metallic case inserted in the jamb to receive the impact of the door. Flanges upon both rubber and case enable it to be fixed in position in a hole of proper size, bored in the jambs of the door.

Claim.—The combination of the case A C and shouldered elongated cushion B, when constructed and adapted for use in the manner and for the purposes herein shown and described.

61,831.—HERMAN C. HEERMANCE, Cloverack, N. Y.—*Matting for Carpet Lining, &c.*—February 5, 1867.—Grasses or other elongated vegetable growths are sewed together so as to form the body of the fabric, while the thread acts as a warp to hold the said weft together.

Claim.—First, a matting composed of straw, grasses, rushes, or other similar vegetable growths, sewed together in the manner substantially as and for the purposes set forth.

Second, the combination with a matting constructed as herein described of sheets of paper or other thin fabric, secured upon one or both sides thereof by means of the sewing that constitutes the warp thereof, substantially as herein set forth, for the purpose specified.

61,832.—JEROME HIBBARD, Prospect Lake, Mich.—*Gate*.—February 5, 1867.—The diagonally-set posts are connected by a bar which carries the pivot of the swing bar from which the gate is suspended. The gate slides on the swing bar and is then horizontally rotated 90° by the bar.

Claim.—First, pivoting the gate L, by means of the swing bar I, to the cross bar C, connecting the two rear posts A and B, substantially as described and for the purpose set forth.

Second, the swing bar I and downwardly-projecting arms J and K, constructed, arranged, and operated in the manner described, in combination with the rear and front gate posts A B D E, and with the front uprights P P of the gate L, substantially as described and for the purpose set forth.

61,833.—PHILIP HILL, Philadelphia, Pa., assignor to himself and W. B. CURRY, same place.—*Damping Apparatus*.—February 5, 1867; antedated January 28, 1867.—The band of cloth passes over the roller, and its lower portion is submerged in the water of the cup. By rotating the roller a newly wetted portion of cloth is exposed to wet the object presented thereto.

Claim.—First, the cup A, band *a*, and roller B, or its equivalent, the whole being constructed and operating substantially as and for the purpose described.

Second, the reservoir D, in combination with the cup A, and the roller and band, or their equivalents, for the purpose set forth.

61,834.—WILLIAM B. HOWARD, Baltimore, Md.—*Shutter Fastening*.—February 5, 1867.—The shutter has a bracket with double cheeks, between which is engaged a hinged gravitating catch attached to a bracket on the jamb. The catch is raised by an

inclined face of one cheek, and is locked by falling into place between the two cheeks.

Claim.—The arrangement of the tumbler bracket C D and the cheek bracket F G E, constructed and operating substantially as described and represented.

61,835.—JAMES INGRAM, New York, N. Y.—*Hoisting Machine for Cellars.*—February 5, 1867.—A pair of screws are combined with a sustaining frame and actuating gearing moved by a crank handle. Their office is to raise a platform from the level of the cellar floor to that of the floor above.

Claim.—The arrangement of the shaft *h*, gears and handle for rotating the screws *e* *l*, in combination with the guide bars *b* *b* and platform *l*, as set forth, to form a hoisting machine for cellars or buildings, as specified.

61,836.—THOMAS JOBE, Clarksville, Ohio.—*Cultivator.*—February 5, 1867.—When the plows are at work their beams rest upon an adjustable bar in the rear of the axle, and their depth is thereby regulated. The beams are pivoted to the front bar of the frame, and vertically adjusted by levers pivoted to the bridge piece.

Claim.—The arrangement of the plow beams G and levers H, applied to the frame of the device, in combination with the adjustable bar *a*, at the rear of the axle B, all arranged to operate substantially in the manner as and for the purpose set forth.

61,837.—JAMES M. KEEP, New York, N. Y.—*Toy Cross Bow.*—February 5, 1867.—The bow is secured to the stock as usual, and the shaft of the arrow slips within a short tube which forms a holder.

Claim.—The construction of a bow and stock or handle, with the arrow guide, substantially as and for the purposes herein described.

61,838.—RICHARD KETCHAM, South Dansville, N. Y.—*Fence Post.*—February 5, 1867.—The post is made in two sections, uniting in a vertical line, passing through the mortises which receive the boards, and is secured by flanged feet and spikes to the ground. An extra, notched side piece permits the attachment of a renewed panel or a set of bar rails.

Claim.—First, the combination of the iron spikes or stakes B with the flanges *a*' of the posts A, substantially as herein shown and described, and for the purpose set forth.

Second, the iron brace G, notched bar F, in combination with the post A, when all constructed and arranged as herein set forth, as and for the purpose specified.

61,839.—J. E. KLEIN, Oskaloosa, Iowa.—*Gate Latch.*—February 5, 1867.—Two semicircular, gravitating slotted plates are pivoted on the adjacent faces of the gate post. The gate strikes one, which permits the other to fall as a detent or button to hold the gate closed. The one in the face next the gate acts as a detent for the other to allow the gate to pass it.

Claim.—The plates *a* and *a'*, constructed as described and used, substantially as and for the purposes herein set forth.

61,840.—GEORGE T. LAPE, New York, N. Y.—*Carpenter's Gauge.*—February 5, 1867.—The gauge has two sliding bars, one of which has a rack upon its upper side moved by a pinion, whose shaft is journaled in the head block; by turning a button head on the pinion shaft the bar is slipped longitudinally, and is retained at its adjustment by the clamping screw in the head.

Claim.—An improved joiner's gauge formed of two sliding longitudinal sections A A', combined with the rack *a'* and pinion *a*, the set screws *g* *g'*, the head block B, and the double marking points *d* *d'*, arranged and operating as and for the purposes herein described.

61,841.—CHAS. E. F. LEWIS, Washington, D. C., assignor to himself and C. M. ALEXANDER, same place.—*Washing Shield.*—February 5, 1867.—A corrugated palm-shield or armor protects the person and forms an effective surface for rubbing, or upon which to rub the clothes.

Claim.—The corrugated or ribbed shield or guard, when so constructed and arranged as to protect the inside of the hand and forearm and to perform the

functions of a wash board, in the manner and for the purpose set forth.

61,842.—CHARLES T. LIERNUR, Frankfort on the Main, Germany.—*Sewer.*—February 5, 1867.—When the stop cocks are closed the air is exhausted from the reservoir, and by opening the stop cocks consecutively the contents are drawn into the reservoir without the emission of bad odor.

Claim.—The method herein described of cleaning privies, sinks, &c., consisting of an air-tight reservoir A, sunk in the street and connecting with several privies, and sinks by pipes B, provided with stop cocks *a*, substantially as and for the purpose set forth.

61,843.—WM. B. MASON, Boston, Mass.—*Hand Stamp.*—February 5, 1867.—After an impression, the type rises and detaches the pawl, releasing the inking device, which swings up against the face of the type. In descending, the type bed displaces the inker, which is maintained in a perpendicular position until again detached.

Claim.—First, the disk N, with a notch, in combination with the pawl P, to hold the inking pad clear of the type and plate when they are raised.

Second, so arranging and operating the plate D that it shall release the pawl P and let the inking pad swing against the type plate and ink it, substantially as described.

61,844.—SAMUEL McCAMBRIDGE, Philadelphia, Pa.—*Car Brake.*—February 5, 1867.—A chain runs the entire length of the train and takes turns around sheaves in heads of levers which operate the brakes; the force may be applied to the chain at the engine, and the application of the brakes begins with the rear car, thus preventing cars from running together.

Claim.—The combination of the chain E, connected at each end as described, with the sheaves *e* in the ends of the levers D, and the fixed sheaves *d* arranged as described, the chain taking a half turn around each sheave throughout the whole train of cars, substantially as described and for the purpose specified.

61,845.—CHARLES A. MCCAUGHAN, Moscow, Tenn.—*Machine for Thinning Cotton Plants.*—February 5, 1867.—Shares suspended from the carriage frame pass on each side of the row of plants. A cutter swings transversely and chops gaps in the rows of plants, leaving them in hills. The cutter is attached by compound levers to the frame, and is operated by gearing and endless chain connection to the driving wheels.

Claim.—The double scraper F, attached to suspended frame E, combined with the double transverse cutter *g*, operated by the swinging frame *h*, for the purpose of thinning cotton plants in a row at one operation, constructed and operating substantially as herein described.

61,846.—SAMUEL McCLAIN, Philadelphia, Pa.—*Whistle and Bird Call.*—February 5, 1867.—The concave edge of the semi-annulus is placed in the mouth, the teeth resting on the perforated plate. By breathing upon the membrane it is vibrated, and the tension being regulated by the pressure of the teeth, different notes are produced.

Claim.—The construction and arrangement of pieces A A B and C, substantially in the manner and for the purpose set forth.

61,847.—JAMES G. MCGREW, Caledonia, Minn.—*Seeding Machine.*—February 5, 1867.—The triangular frame has a series of shovels, and at its rear carries a seeder whose feed shaft is rotated by a wheel whose peripheral spokes penetrate the soil. The wheel thus forms a motor for the seeder as the machine advances.

Claim.—First, the application of the traction wheel C, provided with spokes O, to the triangular frame A and to the axle C' of the cylinder D, substantially as and for the purpose herein shown and described.

Second, the application of the shovel plows *a* to the triangular frame A, when in combination with the wheel C, substantially as and for the purpose herein shown and described.

61,848.—HARRISON B. MEECH, Fort Edward, N. Y.—*Treating Straw and other Materials for the Manufacture of Paper Pulp.*—February 5, 1867.—

The straw is cut into short lengths and soaked in hot water in a rotary boiler, after which the water is pumped off and the air exhausted from the boiler. A solution of soda ash, lime, salt, sulphuric acid, and water is then allowed to flow into the boiler, and a pressure of from 40 to 100 lbs. to the square inch is produced by means of a pump; after this the contents are boiled until the straw is disintegrated.

Claim.—First, the composition and manner of constituting the boiling liquor in the manner and for the purpose hereinbefore substantially set forth and described.

Second, the manner of applying a boiling liquor to the stock by first producing the vacuum, in the manner and for the purpose as is hereinbefore described.

Third, the combination of the improved liquor, with the manner of applying the same by the production first of a vacuum, substantially in the manner and for the purpose above described.

61,849.—GEORGE H. MELLEN, Alexandria, Va.—*Composition for Making Elastic Hand Stamps.*—February 5, 1867.—Composed of glue, 8 parts; glycerine, 8; sugar, 4; plumbago, 2; scateite, 2; isinglass, 1; mixed and molded.

Claim.—The combining of the above ingredients to form, when boiled, a new and useful composition of matter for the purposes above described, and the coating of the same when set and cold with a varnish of shellac to render the face of the composition impervious to dampness and the immediate effects of the weather, and so that the composition produces a clear and sharp edge and surface from the mold or matrix without any blow holes or other imperfections, substantially as described.

61,850.—A. J. MILLS, Scott, N. Y.—*Churn.*—February 5, 1867.—The box has two rotary dashers which move in opposite directions, their exterior pinions being engaged by the outer and inner gears on the rim of the master wheel.

Claim.—The arrangement of the square or oblong box A, with its ridge X, formed by the interior bottom C C, shafts G H, with their interlocking arms i and exterior gear wheels D E and F, when constructed, arranged, and operating as set forth.

61,851.—WILLIAM MOLLER, New York, N. Y.—*Cooling Animal Coal.*—February 5, 1867.—The hot, reburied coal is poured into hoppers, passed through an annular opening and then through pipes into a car. The plates against which it passes are kept cool by a current of cold air through a surrounding channel. The tops of the plates may be arranged so as to form a railroad car track, over which trucks containing the hot coal may travel.

Claim.—The arrangement and combination of the diagonal plates B and D, forming chambers for the purpose of facilitating the cooling of animal coal, substantially as set forth and described.

61,852.—AUGUST MORAVEK, Rosnyo, Hungary.—*Corn Harvester.*—February 5, 1867.—The stalks, after having been cut by combined stationary and rotary cutters, are carried by an endless toothed apron upon a wagon body having a movable bottom. When a sufficient quantity of stalks has accumulated upon the movable bottom it is moved backward by the driver by means of a lever and connecting rod, and the stalks are discharged from the machine.

Claim.—The movable portion I of the bottom of the wagon body, in combination with the endless elevating apron G, stationary cutter E, and rotary cutters f f, all arranged to operate substantially as shown and described.

61,853.—W. A. MUNN, Milwaukee, Wis.—*Attaching Spouts to Sheet Metal Vessels.*—February 5, 1867.—Explained by the claim and illustration.

Claim.—Attaching the spout to the body of a sheet metal vessel with a double seam, substantially as herein shown and described.

61,854.—IRA MUNSON, Wayne, Mich.—*Scraper.*—February 5, 1867.—The frame has a pole and shovel, the latter being adjustable to any angle or depth desired by means of a lever-catch attached to the pole.

Claim.—The frame B, tongue A, lever-catch D,

arms b¹, and shovel C, all constructed, arranged, and operating as herein set forth, for the purpose specified.

61,855.—WILLIAM NASH, New Britain, Conn.—*Saw Set.*—February 5, 1867.—The saw is held between the points of the jaws and the teeth set by V-shaped projections. One of the jaws carries an adjustable guide plate. A set screw regulates the set given.

Claim.—The circular-jointed parts A and B, with their guides, dies, set screws, and spring, when constructed, arranged, and used for forming a saw set, in the manner as specified.

61,856.—ENOS S. NICHOLS, New Haven, Conn., assignor to J. H. PRENTICE, Brooklyn, N. Y.—*Curved Spring for Hat Brims.*—February 5, 1867.—The under roller has a steady revolving motion, and the upper roller, beside the rotary, has a rocking motion, giving the varying pressure to the spring.

Claim.—Producing a curvature or tendency to curvature in springs adapted for sustaining the brims of hats by passing them through rolls adapted to draw the edges alternately on one side and the other, substantially as and for the purpose herein specified.

61,857.—CHARLES PAGE, West Meriden, Conn.—*Top Driver or Spinner.*—February 5, 1867.—The top string acts on a reversible spindle, either end of which fits into a central socket of the top. The unwinding of the string in spinning with one end of the spindle, winds it for the use of the other end.

Claim.—The combination of the cord or tape with the pressers or rollers and the driving spindle arranged in the handle of the driver, for operation, substantially as specified.

61,858.—MARY E. PARSONS, Hillsdale, Mich., administratrix of the estate of MILO J. PARSONS, deceased.—*Washing Machine.*—February 5, 1867.—The revolving fluted roller operates in conjunction with a concentric series of rollers to work the clothes in the suds.

Claim.—The combination and arrangement of the crowned or curved springs H, the bars or springs E, and standards J, with each other and with the box or tub A and cylinder C, substantially as herein shown and described.

61,859.—JAMES N. PEASE, Panama, N. Y.—*Adjustable Handle for Shovels and Forks.*—February 5, 1867.—The handle is for attachment to a shovel or fork stale, at a point where it would otherwise be grasped by the lower hand.

Claim.—The supplemental handle attachment, constructed substantially as shown and described, for the purpose of being applied to the stale or handles of shovels, manure forks, and other similar implements, as set forth.

61,860.—CHAS. R. PEDDLE, Terre Haute, Ind.—*Pneumatic Brake for Railroad Cars.*—February 5, 1867.—Steam from the steam chest may be turned at will into the air pipe which connects to pneumatic cylinders on the car trucks. The piston of each of these cylinders operates through a cross-head and bell-crank levers to work the brakes.

Claim.—The combination of the steam cylinders, steam pipes, and steam chests of a locomotive with air pipes E H extending the whole length of a train of cars, the valves F in the steam chests and the air cylinders K provided with pistons L connected with the brake mechanism of the cars, to operate in the manner substantially as and for the purpose set forth.

Also, the lever N connected to the rod M of piston L and to the bent or right-angular levers P P, to which the rods c c of the levers Q are connected, for the purpose of transmitting the power to the brakes, substantially as shown and described.

61,861.—JORDAN H. PHILLIPS, St. Louis, Mo.—*Propeller.*—February 5, 1867; antedated January 30, 1866.—The paddles are hung on jointed frames and actuated by eccentrics so that they shall be extended during their working stroke and withdrawn during their back stroke.

Claim.—The combination and arrangement of the paddles G, levers F, eccentrics E, rods or bars H, levers I, and rods K, with each other and with the

driving shaft B, substantially as described and for the purpose set forth.

61,862.—ORRIS PIER, Wimhall, Vt.—*Horse Rake.*—February 5, 1867.—The rake frame and its operating mechanism are centrally pivoted to the main frame so that the rake can adapt itself to inequalities of the ground by swinging on an axis at right angles to the line of draft.

Claim.—The bar H pivoted at its center to the frame D, having the connecting bar L of the lever J pivoted on its upper side and the connecting rods I of the rake head G pivoted at its rear, substantially as described for the purpose specified.

61,863.—LUKE A. PLUMB, Biddeford, Me.—*Nurse Stove.*—February 5, 1867.—The conical frame surrounding the lamp supports a sheet iron vessel of an inverted conical form which has a conical central tube for the reception of the lamp chimney. Side openings in the central tube and surrounding vessel allow the escape of the calorific current. The matter to be heated is placed in a metal cup upon the heat chamber.

Claim.—First, the combination of the lamp chimney C, heating vessel D, tube E, and skeleton frame c, arranged and operating in the manner and for the purpose herein specified.

Second, in combination with the above, the reflector E', constructed and applied in the manner herein represented and described.

61,864.—DAN'L R. PRATT, Worcester, Mass., assignor to J. MARCUS RICE, same place.—*Spike Machine.*—February 5, 1867.—The jointed handle dies for holding the spikes are carried in the sockets of a revolving disk which works in combination with a similar disk carrying heading dies. The disks revolve in opposite directions and so as to cause the heading pressure in the direction of the length of the spike.

Claim.—First, the divided holding die B hinged together and made with handles and of tapering shape from top to bottom, with a shoulder on the outer surface.

Second, in combination with the holding die B, a revolving pocket made fast to one of the revolving wheels with a corresponding tapering surface on the inside and a shoulder to receive the pressure of the heading die while the head is being formed on the bar of metal.

Third, in machines for heading bars of metal in which rolls are used substantially as herein described, placing the blank at such an angle in the die that when the end of the blank or bar comes in contact with the heading die the pressure will be in a line coincident with the axis of the blank or nearly so, as set forth.

61,865.—JAMES W. PRESTON, Newton, Mass., assignor to A. B. ELY.—*Breech-Loading Fire-arm.*—February 5, 1867.—The rear end of a musket barrel is cut away at top for the reception of a hinged plug-block, which, when open, falls upon the barrel, and when shut is held by a spring catch which is released by pressure on a projection of its operating lever. A passage leads through the block from the usual nipple to the cartridge. A claw at the front of the block tears the rear end of the cartridge.

Claim.—First, inserting the solid plug in the barrel of the gun instead of the breech, when constructed, arranged, and operating in the manner substantially as described.

Second, the combination and arrangement of the plug constructed and inserted substantially as described with the locking bolt, constructed, arranged, and operating substantially as set forth.

61,866.—JULIO H. RAE, Syracuse, N. Y.—*Treating Auriferous and Argentiferous Ores.*—February 5, 1867.—The ores in a powdered state are put into a tank and mixed with cyanide of potash or other salt, which will produce a solution of the precious metals by the aid of a current of electricity. A wire cage of platinum revolves in the vessel and is connected with the positive pole of a galvanic battery. The other pole is connected with a plate of copper on which the gold or silver is deposited after being dissolved.

Claim.—First, the within described process of treating auriferous or argentiferous rock by exposing the

same to the combined action of a current of electricity and of suitable solvents or chemicals, substantially such as herein specified, or any others which will produce the same effect.

Second, separating gold or silver from the rocks containing the same by the action or aid of electricity, substantially as described.

Third, using the agitator B as an electrode, substantially as and for the purpose set forth.

61,867.—GEO. P. REED, Boston, Mass.—*Regulator for Timepieces.*—February 5, 1867.—The indicating end of the regulator lever has a spring on one side and a set screw on the other, by which it is moved.

Claim.—The combination of an adjusting screw and spring with the index lever of a common watch regulator, substantially in manner and so as to operate such lever as specified.

61,868.—JACOB REESE, Pittsburg, Pa.—*Fastening for Bale Hoops.*—February 5, 1867.—The flattened ring is attached to one end of the hoop and the other end passed through and rebent upon it.

Claim.—First, the hoop c constructed and attached substantially as described to one end of a metallic hoop and of a sufficient size to admit the opposite end of such hoop, so that when such opposite end is passed through and folded back in either of the forms described, it will be held in place either by the outward pressure of the bale or by sleeves n n', one or more.

Second, compressing the folded end of a hoop at or near the point of folding by the joint action of the loop c and bale, or of the loop c and sleeve n, for the purpose of preventing the slipping of the hoop at the point of fastening, substantially as described.

Third, the sleeves n n' of the metallic hoop in combination with the loop c, for the purpose of fastening bale hoops, substantially in the manner described.

61,869.—J. WYATT REID, New York, N. Y.—*Steam Generator.*—February 5, 1867.—A removable cap is placed directly over the vertical tubes to change the direction of the calorific currents and afford access to the upper ends of the tubes for repairs.

Claim.—The arrangement of the flues C C', removable cap E, shell B, jacket A, and furnace D, substantially as and for the purpose specified.

61,870.—FRANCIS C. RENNER, Ladiesburg, Md.—*Fertilizer.*—February 5, 1867.—To 1,600 lbs. of rich earth is added 100 lbs. saltpeter, 200 lbs. sulphate of ammonia, and 100 lbs. bone flour. The mixture is heaped up to sweat.

Claim.—The combination of the several ingredients as previously described, or in any manner substantially the same and for the purposes set forth, the effect of which is to furnish a cheap fertilizer and at the same time one which may be economically used and yet supply the soil with the largest amount of ammonia.

61,871.—DAN'L T. ROBINSON, Boston, Mass.—*Machine for Cutting Straw and Hay.*—February 5, 1867.—One end of the knife is carried by the depending arm of the rectangular lever and the other on a swinging bar, which gives a downward draw out.

Claim.—The special adaptation to the purposes of a hay cutter of the mechanism before described, consisting of the lever a, swinging arm d, knives c and f, and spring g, applied to and supported by the bracket b, substantially as described.

61,872.—ROBERT ROBINSON, New York, N. Y.—*Lockup Safety-Valve.*—February 5, 1867.—The lever and weights are enclosed in a lockup chamber which the steam does not enter, so that they are secure from any not possessed of the key and can be inspected at any time. A rod passing through the chamber top enables the engineer to blow off, but affords no facility for holding down the valve.

Claim.—First, the plates K and L, separately, removable when so arranged as to afford access to either chamber F or G without opening the other.

Second, the combination and arrangement of the valve chamber F, weight chamber G, partition E, blow-off C, valve D, and lever H, substantially as and for the purposes set forth.

61,873.—D. B. ROGERS, Pittsburg, Pa.—*Railroad Car Truck.*—February 5, 1867.—The journal boxes

are bolted to side bars, which enclose a spring whose two ends are pivoted to a central shackle and have bearing by shoulders on a series of transverse spring plates.

Claim.—An improved car truck to which is attached the spring *g*, or its solid counterpart, when the same is pivoted or otherwise applied at *R*, and its central connections controlled and supported by means of metallic springs enclosed in a casing with the lid *H* and catch *I*, or their equivalent, to hold them in position, as and for the purpose herein described.

Also, in combination with the devices mentioned above, the side bars *K* when bolted to either side of the journal box vertically, in the manner and for the purpose herein set forth.

61,874.—P. ROSENBLATT, Greenville, Tenn.—*Door and Window Sash Fastener.*—February 5, 1867.—The corrugated tapering plate has prongs on one side to catch in the frame.

Claim.—The fastener *A*, consisting of a plate or bar *B*, tapering in thickness at one end and at the other provided with a series of teeth or prongs *a*, substantially as described for the purposes specified.

Also, the corrugations *c* of the fastener plate *B*, substantially as and for the purpose specified.

61,875.—ALBERT D. RUST, Vernon, Mich.—*Clothes Line and Clamp.*—February 5, 1867.—The wire clasps slip upon the galvanized metallic clothes line and secure the clothes to the latter.

Claim.—A clothes line formed of links of wire, galvanized, in combination with a wire clothes fastener, arranged and operating in the manner herein described.

61,876.—JUSTIN RYAN, Waukegan, Ill.—*Manufacture of Soap.*—February 5, 1867.—Composed of beef tallow, 6½ lbs.; dark rosin, 3½ lbs.; soft water, 12 lbs.; lime, 1½ lb.; sal soda, 6½ lbs.; borax, 1½ oz.; salt-peter, ¼ oz.; and beeswax, 1½ oz.

Claim.—A soap made of the ingredients herein specified and mixed together, substantially in the manner and about in the proportion set forth.

61,877.—NAPOLÉON SARONY, New York, N. Y.

—*Holder for Retouching Photographic Negatives.*—February 5, 1867.—The negatives are secured in a frame made in two parts hinged by their edges. One portion has a reflecting mirror and the other is adjustable to occupy different angles, and has a nest of removable frames adapted to different sizes of negatives.

Claim.—The combination of the adjustable main frame sections *A B*, mirror *b*, and independent frames or holders *C C*, substantially as and for the purposes specified.

Also, the combination with the same of the hinged support *h*, essentially as shown and described.

61,878.—JOHN SCANLAN, Chicago, Ill.—*Felt Roofing.*—February 5, 1867.—The fabric is composed of a layer of dry felt, a layer of canvas, and two layers of felt saturated with coal tar, and arranged to lap upon each other on the roof.

Claim.—As a new article of manufacture, the roofing composed of the materials and arranged as herein specified.

61,879.—PETER and PETER J. SCHMITT, Waterloo, Ill.—*Grain Drill.*—February 5, 1867.—Improvement on their patent April 24, 1866. The longitudinal shaft in the seed box has blocks by which the holes are alternately closed and opened, the seed being stirred by pins upon the blocks. The motion of the bar is regulated by the distance from its axial center of the pitman whereby it is actuated. The seed holes are opened or closed by the motions of the shoes, through the medium of a lever beneath the seed box. The upper slide is connected by a lever to the horizontal wheel and the latter to an index; the graduated adjustment is retained by a thumbscrew on the wheel.

Claim.—First, the metal or wooden blocks or valves *n*, which are secured to the feed bar *D* and the pins *o*, which are attached to the blocks *n*, substantially as and for the purpose herein shown and described.

Second, the slotted crank *p* of the feed bar *D*, operating substantially as and for the purpose herein shown and described.

Third, the slotted lever *K*, which is pivoted to the seed box *A*, and whereby the flow of the seed may be automatically regulated, substantially as herein described and shown.

Fourth, the thumb screw *l*, in combination with the slot *m* in the wheel *f*, for the purpose of securing the bar *B* in any desired position, substantially as herein shown and described.

Fifth, the hand *v* and index *v'*, in combination with the rod *z*, wheel *f*, and handle *h*, all made and operating substantially as herein shown and described.

61,880.—JOHN J. SERRELL, Hudson county, N. J.—*Apparatus for Collecting Floating Oil.*—February 5, 1867.—The divergent booms rigged out from the prow of the vessel are partially submerged, and lead the oil to the skimmer, whence it is pumped into a tank, being delivered therein with such force as to create ebullition.

Claim.—First, the combination of a floating vessel containing a tank for the reception of oil, with an arm or arms placed diagonally to the motion of or through the water, substantially as and for the purposes set forth.

Second, combining with an oil-collecting apparatus a movable boom or arm, fitted substantially as specified, so as to be drawn or extended, substantially as and for the purposes set forth.

Third, in combination with an apparatus for collecting surface oil, substantially as herein described, a pump for producing a violent agitation of the oil and water, for the purpose of removing the oil from foreign substances, as set forth.

Fourth, in combination with an oil-collecting apparatus, substantially as set forth, a vat and pipe, in which the pipe opens below the surface of the oil, so that the impurities will be separated, as set forth.

61,881.—JAMES SEWARD CLITHEROE and HENRY SMITH, Enfield, England.—*Steam Generator.*—February 5, 1867.—A sediment collector is placed within the boiler on a line corresponding to the water level, and has a series of compartments divided from each other by partitions of gradually increasing height, and communicating with a discharge pipe for conducting off the sediment.

Claim.—A sediment or scum collector for steam boilers, provided with a series of compartments divided from each other by partitions of gradually increasing height, and communicating with a discharge pipe or pipes, substantially in the manner herein set forth.

61,882.—Z. B. SHANNON, Port Washington, Ohio.—*Rotary Pump.*—February 5, 1867.—The water is raised by a turbine pump actuated by a water wheel. The check paddles prevent the vertical motion of the water in the penstock.

Claim.—The combination and arrangement of the elevator *A*, penstock *D*, and check paddles *H*, constructed and operating substantially as described, and for the purposes set forth.

61,883.—I. M. SINGER, Paris, France.—*Guard for Carriages.*—February 5, 1867.—The hood on the carriage wheel is attached to the running gears instead of to the body, and always maintains its proper relation to the wheel.

Claim.—First, a carriage guard or hood covering, or extending over the sides and top of the tire or rim of the wheel, substantially as shown and described.

Second, the combination with a wheel and axle, or the equivalents thereof, whose positions relatively to the body of the wagon or other vehicle are variable, of a carriage guard so arranged as to constantly maintain the same proximity or relative position to the wheel, substantially as set forth.

Third, the combination with a carriage guard or hood covering the top and sides of the wheels of the arms or supports by which the said guard is held, substantially as shown and set forth.

Fourth, the method of uniting the guard with the arms or supports, by which it is held, by means of an elastic and detachable connection, substantially as shown and for the purposes set forth.

61,884.—AMOR SMITH, Cincinnati, Ohio.—*Machine for Cutting Cracklings.*—February 5, 1867.—Cracklings, &c., are comminuted to a condition fit for manures by means of the grinding disk, whose teeth

are frustums of cones, whose axes are vertical to the plane of the disk and their bases presented outward.

Claim.—A cutter for reducing compressed animal matter, constructed substantially as described.

61,885.—H. B. SMITH, Enreka, Ill.—*Plow Attachment.*—February 5, 1867.—The plow beam is suspended by a curved rod from the tongue, and is drawn by the usual clevis attachment. The rear support of the plow is from the bent axle of the carriage, by whose adjustment the depth of furrow is regulated.

Claim.—First, the tongue O, attached to a curved bar M on the plow beam A, by means of a clip N, in such a manner that a universal joint connection will be obtained, substantially as and for the purpose set forth.

Second, the attaching of the plow beam A to the frame D, through the medium of the clip H, attached to the frame, and having the plow beam fitted in it, substantially as described.

Third, the adjustable wheel E, fitted on the crank arms a, and adjusted by the lever F, substantially as and for the purpose set forth.

Fourth, the bar K, or an equivalent chain attached to the clip H, and extending along underneath the plow beam, and connected at its front end to the clevis at the front end of the plow beam, substantially as and for the purpose herein set forth.

61,886.—DANIEL E. SOMES, Washington, D. C.—*Moistening, Cooling, and Warming Air.*—February 5, 1867.—Systems of warming and cooling devices are combined with means for adding moisture to the air used in ventilating buildings. The air is conducted through a tunnel excavated to a depth of uniform temperature. The same pipes and tubes are used either for heating or cooling, as required, and instruments are used for indicating the hygrometric condition of the air.

Claim.—First, securing and regulating a high or low temperature of air, substantially as and for the purpose described.

Second, moistening and purifying the air, substantially as set forth.

Third, the combination of the devices herein described for moistening, with the devices for cooling and warming air.

Fourth, the series of skylights constructed with air spaces between them, substantially as and for the purpose set forth.

Fifth, the false roof above the skylights, substantially as described, in combination with the series of skylights, as and for the purpose set forth.

61,887.—JAMES F. SPENCE, Williamsburgh, N. Y., assignor to himself and ALFRED PHILIPS, New York, N. Y.—*Gas Apparatus.*—February 5, 1867.—A series of S-shaped pipes are arranged in the interior of the hollow drum which revolves in the interior of a vessel partially filled with hydrocarbon oil. The steam and hydrocarbon vapor are introduced into the central space, forced through the S-shaped pipes into the annular casing, and escapes thence through a pipe to the burners.

Claim.—The S-shaped pipes G, in combination with the revolving hollow drum C, vessel A, steam-pipe D, and liquid supply pipe E, all constructed and operating substantially as and for the purpose described.

61,888.—JOSEPH STONE, Chicago, Ill.—*Forging Machine.*—February 5, 1867.—The sliding anvil has both a vertical and horizontal face, and the two swages are operated by cams which press the bar alternately against the two faces, the anvil being moved backward and forward to permit of these two alternate actions. Two springs are so arranged as to support the bar to be forged a slight distance above the horizontal face of the anvil when the horizontal swage is to act, but readily yield to action of the vertical swage, and allow the bar to be forced down by it upon the horizontal face, the bar having been previously drawn forward from its contact with its vertical face by two hooks arranged for that purpose and operated by cams.

Claim.—First, in combination with the alternating hammers C D, the sliding anvil E, when arranged and operating substantially as and for the purpose set forth.

Second, in combination with the vertical hammer C and the anvil E, constructed substantially as de-

scribed, the arrangement of the hooks S S, or their equivalents, substantially as set forth, operating as and for the purposes specified and shown.

Third, in combination with the anvil E, constructed as described, and the horizontal hammer D, the employment of the springs s s, or their equivalent, arranged and operating as and for the purposes set forth.

61,889.—ALFRED STORM, Brooklyn, N. Y.—*Animal Trap.*—February 3, 1867.—The revolving lever is actuated by a spring which has sufficient force to deal a killing blow and knock the rat away from the trap. The motion of the bait hook actuates a pivoted lever which withdraws the stop bolt and releases the striking lever.

Claim.—The spiral cam J, levers I K, stop bolt H, spring L, catch rod M, and bait hook O, operating in combination with the revolving lever F, substantially as and for the purpose specified.

61,890.—JAMES B. STUART, Bunker Hill, Ill.—*Securing Boxes in Metallic Hubs.*—February 5, 1867.—The threads of the longitudinal screws are half in each, the box and the hub. The transverse screws traverse the hub and impinge by their ends upon the periphery of the box.

Claim.—The securing of boxes D in metallic hubs by means of the screws c and d, substantially as and for the purpose herein set forth.

61,891.—CHARLES M. STURGIS, Washington, Iowa, assignor to himself and JOHN C. WOOLLEY, Chicago, Ill.—*Harness Tree.*—February 5, 1867.—The two-part nut for receiving the screw shank of the terret is so fitted into the pad tree as to require no opening in the under side of the pad tree for its insertion.

Claim.—The combination of the two-part nut E E, pad tree A, and yoke C, substantially as and for the purpose set forth.

61,892.—J. B. SWEETLAND, Pontiac, Mich.—*Churn.*—February 5, 1867.—The air passes around the edges of the glass pane in the cover and has access to the cream, which is beaten by the vertically rotating oblique dashers.

Claim.—The cover D, provided with the ventilating door G, dropped below the opening out through said cover, whereby a free circulation of air is had to and from the churn box, around the sides of the door, used in combination with the churn box, dasher shaft, screw H, shaft a, pinion I, and spring L, the whole being arranged in the manner substantially as specified.

61,893.—J. B. SWEETLAND, Pontiac, Mich.—*Sawing Machine.*—February 5, 1867.—The sprocket driving wheel acts upon a worm sleeve on the saw shaft to give motion to the saw when engaged by means of the clutch.

Claim.—The wheel H and worm sleeve F, when used in combination with the clutch c and coupling E, for revolving the shaft D and saw I, all constructed and operating substantially as described.

61,894.—JOHN A. THOMAS, Buffalo, N. Y., assignor to himself and HENRY J. MILLER, Dunkirk, N. Y.—*Machine for Polishing Metal Tubes.*—February 5, 1867.—The series of non-revolving mandrels are arranged on a sliding carriage and act in connection with the gear wheels that revolve the tubes to be reamed out, and into which they are thrust by the motion of the carriage.

Claim.—The combination of the series of stationary cutter mandrels m m, on the sliding carriage O, with the pinions H H, and their sockets j j, adjustable bearing frame K, and driving wheels D E, arranged and operating substantially in the manner and for the purpose set forth.

61,895.—E. S. TORREY, New York, N. Y.—*Cream Freezer.*—February 5, 1867.—From the casting, permanently secured to the pail, rise two lugs, which form parts of a joint by which a plate is hinged to the casting. The latter carries the crank and fly-wheel; the plate carrying the bevel wheel and shaft of the rotary stirrer.

Claim.—The fixed plate, or casting b, sustaining the fly-wheel, with the plate d, jointed thereto so as to permit the shaft h, and its gearing, to be removed

from and coupled with the fly-wheel shaft, substantially as and for the purposes set forth.

61,896.—PHILIP P. TRAYSER, Baltimore, Md., assignor to himself and RICHARD W. TYSON, same place.—*Bolt Heading Machine.*—February 5, 1867.—The square head of the heading tool adjusts itself within the square matrix of the die to insure a more perfect formation of the bolt head, as the die comes against the bolt blank, which is clamped between the two jaws in which the matrix is formed.

Claim.—The heading tool F, working within the die D D', and so secured within the tool carrier as to be capable of adjusting itself within the die, substantially as and for the purpose herein set forth.

61,897.—JOHN E. TUCKER, Montfort, Wis., assignor to himself, THOMAS TUCKER, J. H. LINCOLN, and A. P. HAMMON.—*Rest Foot for Horses.*—February 5, 1867.—A revoluble foot rest is supported on legs which have horizontal plates projecting from their lower ends for the feet of the operator to rest on to steady the stand.

Claim.—The device herein described for blacksmiths' use in shoeing horses, said device consisting of the foot rest A, supported on the block B, so as to revolve, the leg C having feet b, all constructed and arranged substantially as shown and described.

61,898.—WILLIAM VAN WYCK, Belleville, N. J.—*Refining and Bleaching Sugar, Sirup, &c.*—February 5, 1867.—Sirup at boiling heat is filtered through fine bone black at the same temperature.

Claim.—First, in this new method of mine the keeping at a high heat (say about 212° Fahrenheit) the filter, the filtering material in the filter, also the sugar, sirup, and molasses, during the entire operation of filtration.

Second, the application of the steam jacket, or its equivalent, in the refining of sugars, sirup, and molasses, for the purpose of keeping to a high heat (say about 212° Fahrenheit) the filtering vessel, the filtering material, and the sirup, sugar, and molasses, to be filtered.

61,899.—J. C. WANDS, Nashville, Tenn.—*Roofing.*—February 5, 1867.—The breadths of fabric, felt, prepared paper, or covered wire cloth are laid parallel upon the roof from ridge to eave, their edges lapping each other upon raised, angular strips and there secured by metallic angular plates.

Claim.—The mode of fastening the edges of the fabric, by lapping between the angular strips B and the bent metallic plate D, substantially as described and represented.

61,900.—ALMON WARNER, Hamden, Conn.—*Hub for C carriage Wheels.*—February 5, 1867.—A metallic ring is shrunk on the wooden hub and has agreeing mortises therein and extended bearing upon its surface.

Claim.—The combination of the ring B, formed with its mortises a, and flanges C C, with a wooden hub A, substantially in the manner herein set forth.

61,901.—WILLIAM WEAVER, Phenixville, Pa.—*Bed Bottom.*—February 5, 1867.—The wires cross from end to end and from side to side of the frame, being connected by loops at some of their intersections. Springs at their ends give elasticity.

Claim.—The combination of the spiral springs E, curved wires F, provided with buttons f, and loops g, washers i, links L, supporting wires H I, and looped wires K, substantially as and for the purposes described.

61,902.—A. V. D. WESTERVELT, New Brunswick, N. J., assignor to himself, J. W. WESTERVELT, and H. SMITH, Jr.—*Calipers.*—February 5, 1867.—A worm wheel is axially attached to one leg of the calipers and is moved delicately by a worm whose shank has bearings on the other leg.

Claim.—First, the pivot c, fitted on one end to the leg a', forming the bearing for the two legs of the calipers, provided at the other end with the spur wheel b, operating with the worm e, mounted on leg a, substantially as and for the purpose specified.

Second, the leg a, provided with standards d, bearing the worm e, and the leg a', to which the pivot c

is secured, in combination with the pivot c, to which the wheel b is secured, constructed and operating in the manner and for the purpose specified.

61,903.—S. H. WHEELER and W. TUTTLE, Jr., Dowagiac, Mich.—*Grain Drill.*—February 5, 1867.—The axle is divided at mid-length. The seed spouts are inclined alternately backward and forward. The shoes are alternate in two series of different advancement, and have draw bars pivoted to transverse bars. The seed is covered by drag chains.

Claim.—First, the arrangement of a divided axle with the seed box discharge spouts E E, and shoes I I, the several parts being constructed in the manner and used for the purpose specified.

Second, the arrangement of the frames F F, provided with the shoes I I, in such a manner that the said shoes shall run substantially in the relative position to each other herein described for the purpose set forth.

Third, the arrangement of the chains m m with the shoes I I, as and for the purpose herein specified.

61,904.—T. L. WHITEBECK, Kenosha, Wis.—*Combined Seed Sower and Cultivator.*—February 5, 1867.—The machine is convertible into a seed drill, a cultivator, or may be used as both. The tongue hounds are connected to brace bars by which the side draft is regulated. The rear end of the tongue has a limited oscillation by which an agitator in the seed-box is moved. The height of the plow frame is regulated by wheels running at the ends of bars adjustable by bolt connections to plates with segmental slots.

Claim.—First, the bars N N, in combination with the bifurcated bars or braces H H, so they can be adjusted to form a center draft and to vary the bearing or pressure upon the castor wheels.

Second, the circular brace P and pin I, in combination with the seed-box and frame A, substantially as shown and described.

Third, a combined cultivator and seeder so combined and arranged so that the seed-box M, together with the traction wheels B B, may be elevated upon the pole and carried without impeding the operation of the cultivator, for the purposes and substantially as herein described.

Fourth, a seeder where the slide in the seed-box is worked and operated by the pole W, through the medium of the lever o, or its equivalent, for the purposes and substantially as herein set forth.

Fifth, the pole W, lever o, slide E, and cylinder M, in combination with the spur wheel F, pinion G, shaft d, and traction wheels B B, all for the purposes and substantially as described.

61,905.—N. L. WHITNEY, Effingham, Ill.—*Coffee Roaster.*—February 5, 1867.—The hexagonal barrel revolves in a trough on an axis which passes through one of the ends eccentrically.

Claim.—First, the cup G, in combination with the cylinder C, substantially as described and for the purposes specified.

Second, the combination and arrangement of the polygonal cylinder C, shaft D, supporting tray A B, plate F, and cup G, in the manner and for the purpose specified.

61,906.—CHARLES WILLARD, Newtown, Pa.—*Cultivator.*—February 5, 1867.—The frame is connected to the wheel by cranks and may be raised more or less by levers. The two central shares are movable laterally by a backwardly projecting pivoted lever.

Claim.—First, the combination of the adjustable arched couplings N and O, with the frames A and B, and rigid plows and rigid tongue, all constructed, arranged, and operating substantially as and for the purpose set forth.

Second, the combination of the plate R, carrying cultivator teeth or plows with the frames and with the rod U, when arranged to operate substantially in the manner and for the purpose set forth.

61,907.—GILES B. WILLIAMS, New York, N. Y., assignor to ELSHA M. ALLEN, same place.—*Apparatus for Stirring and Cooling Lard.*—February 5, 1867.—The revolving shaft has a spiral flange partially submerged in the lard and keeping it moving in the vat.

Claim.—The continuous flange C, secured to the

shaft B, by arms a^* , leaving an opening b^* , between the flange and shaft, in combination with receptacle A, whose bottom is curved concentrically with said shaft, substantially as described, for the purpose specified.

61,908.—WILLIAM S. WORLEY, Tuscola, Ill.—*Ditching and Grading Machine.*—February 5, 1867.—This is used to throw previously loosened earth out of a ditch when drawn with its vertex forward, but to "round up" loose earth when drawn in an opposite direction.

Claim.—First, the bars A, A, constructed as herein described, whereby they may be adapted to a ditching and grading frame, substantially as specified.

Second, the plate E, used in combination with the bars A, A, fig. 2, for the purpose of making an excavating and grading frame, as and for the purpose specified.

61,909.—MICHAEL H. WRIGHT, Chicago, Ill.—*Grain Dryer.*—February 5, 1867; antedated January 25, 1867.—The axes of the cylinders are inclined in alternate directions so as to discharge into the next in series below and give a continuity to the feed; the flue pipes pass through them consecutively, the hollow trunnions affording entrance and exit to the calorific current.

Claim.—Passing the fire flue of a furnace through a series of revolving cylinders in a grain-drying apparatus, arranged and operating substantially as herein specified and shown.

61,910.—ROBERT WYATT, Brooklyn, N. Y.—*Scrubbing Brush.*—February 5, 1867.—The handle is adjustable to any inclination upon the brush by a pivot screw. The reservoir for water has a mitral valve through which it is supplied, and which closes against the return of the liquid. The brush head may have a central sponge.

Claim.—First, the attachment of the brush A to the handle or staff C by means of the plate d , screw e , and spring g , substantially as herein set forth, whereby the brush may be adjusted at any desired angle to the said staff or handle.

Second, the collapsible bag or purse m , arranged in relation with the opening k of the reservoir B, substantially as herein set forth for the purpose specified.

Third, the combination of the reservoir B, brush A, springs h and straps c' , substantially as herein set forth for the purpose specified.

61,911.—F. G. WYNKOOP, Corning, N. Y.—*Sad-iron Heater.*—February 5, 1867.—The hollow iron is heated by a flame, and is open at each end, so as to form a chimney above the burner, when it is erected on its heel. The pins in this position slant obliquely upward and toward the sole, so as to direct the heat to that surface.

Claim.—The body A, cast in one piece, inclined pins I, directing the heat against the part J, thereby relieving proportionally the part K of the flat iron and the lid H, when arranged and constructed as herein shown and described.

61,912.—WILLIAM YAMAN, Connerville, Ind.—*Saw Mill.*—February 5, 1867.—The log carriage and the frame of the circular saws, which work at right angles to each other, are adjustable to saw boards or scantling from the log singly until the log is cut away.

Claim.—First, the carriages H and I, in connection with shaft L, pawl K, ratchet J, and curved shaft M, substantially as and for the purposes described.

Second, the lever O and upright standard Q, and pendant P, in combination with the spring N, substantially as described.

Third, a self-setting carriage, operated by means of the curved shaft M, substantially as herein shown and described.

61,913.—EDMOND JOHNSON and AUGUST STEUR-NAGEL, Washington, D. C., assignors to themselves, JOHN W. PARSONS, DAVID R. SMITH, D. W. BLISS, and MARCUS P. NORFOLK.—*Preventing Frauds on the Revenue derived from Spirits and Malt Liquors.*—February 5, 1867.—The saccharometer has a special scale in combination with a system of tables to be used by the inspector to test the gravity of the wort and mash, so as, in connection with the known capa-

city of the vessel, to ascertain the amount of spirits produced therefrom.

Claim.—First, the saccharometer A, containing scale B, when applied to and used in combination with the scale or table of sheet two of the drawings to prevent frauds in the distillation or manufacture of whiskey or other similar liquors, in the manner substantially as herein described and set forth.

Second, the employment of said scale or table, sheet two of said drawing, constructed and operated in the manner and for the purposes substantially as herein described and set forth.

Third, the process or means herein described and set forth for detecting and preventing frauds in the distillation of whiskey or other or similar liquors by distillers, substantially as herein described and set forth.

61,914.—ALBERT L. BARCOCK, New Haven, Conn.—*Arm for Car Seats.*—February 12, 1867.—The pivot is formed in one piece with the arm, and has a radial projection to lock it in place.

Claim.—The seat-arm herein described, as an improved article of manufacture.

61,915.—SAMUEL H. BARBER, East Greenwich, R. I.—*Oiling Spindles, Top Rolls, &c., of Spinning and other Machinery.*—February 12, 1867.—In order to oil simultaneously a series of spindles or top rolls, tubes having a series of orifices are so arranged as to rock and discharge the oil when wanted. Wicks may be applied to each outlet to cause a slight continual flow by capillary attraction.

Claim.—The combination of the tubes, constructed and operating substantially as described, with the various machines used for manufacturing cotton, wool, and other material, for the purpose and substantially as herein set forth.

61,916.—JOHN S. BARDEN, Providence, R. I.—*Steam Engine.*—February 12, 1867.—The piston has two connected ends, and between them, and operated by them, is the slide-valve lever. The piston rod passes through a mouth-piece, which extends from the stuffing box to and communicates with the pump cylinder, and water space.

Claim.—The improved steam engine, constructed not only with the two connected heads C D to its piston, and with the exhaust passage d , extending from the steam chest laterally into the space between the said two heads, and out the side of the cylinder, but as provided with the lever G to extend between the two heads, and into the slide valve H, such lever being for operating with such slide valve, in manner substantially as explained.

Also, the combination of the mouth-piece L, with the force pump and the steam engine, arranged and so as to operate substantially as specified.

61,917.—EDWARD BEANES, London, England.—*Treating Saccharine Matter.*—February 12, 1867.—The sugar to be bleached may be dry, moist, or in solution. Ozone to be used may be prepared by passing pure oxygen through an ozone tube, or instead of pure oxygen, common air dried and purified, may be ozonized and used for bleaching the sugar.

Claim.—Subjecting saccharine matters to the action of ozone, substantially as and for the purpose described.

61,918.—W. W. BIERCE, Cleveland, Ohio.—*Apparatus for Carbureting Gas.*—February 12, 1867.—The gas enters through the central vertical pipe, and passes through slots into the space between the float and the perforated plate, which supports the absorbent material, which is saturated with the carbonaceous liquid through which the gas passes.

Claim.—First, the float D, perforated tin F, and covering F', as arranged, in combination with the sleeve G, tube B, and slot C, for the purpose and in the manner as substantially described.

Second, the shield K, pipe B and sleeve G, in combination with the case A, for the purpose and in the manner as herein set forth.

61,919.—GEORGE W. BIGELOW, New Haven, Conn.—*Blower.*—February 12, 1867.—The shaft which communicates motion to the reciprocating piston is hollow, and is so divided by a partition, and provided

with openings as to serve for a valve, admitting the air at one end, and discharging it at the other.

Claim.—The combination of the revolving valve E, with the vibrating piston D, substantially as and for the purpose herein set forth.

61,920.—REUEL BLACKWOOD, Philadelphia, Pa.—*Dies for Forming Spike Heads.*—February 12, 1867.—The spike is clamped in the shank of the cameo die, whose salient corners are beveled. The inner corners of the intaglio die are beveled to give the proper form to the head, and to assist in forming the claws on its lower side.

Claim.—A die consisting of the parts A and B-D constructed substantially as described, and operated by any suitable machinery, substantially as and for the purpose set forth and described.

61,921.—JOSEPH BORDEN, Bridgeton, N. J., assignor to F. and J. BODINE, Philadelphia, Pa.—*Cap for Preserving Jars.*—February 12, 1867.—The cover has a gun gasket beneath, and is kept down by claw pieces, which take over its rim and under spiral segments on the neck of the jar.

Claim.—A cap consisting of a disk B and arms *b b*, the whole being constructed and adapted for attachment to a jar, substantially as described.

61,922.—ALBERT BROWN, Troy, N. Y.—*Coal Stove.*—February 12, 1867.—An open-bottom basket for coal is centrally supported above the burning fuel. Its upper end communicates with the feed opening of the stove top.

Claim.—In combination with a fire-box and combustion chamber of stoves, a fuel magazine or reservoir A, as provided with lateral vents or apertures *a a*, substantially in the manner as herein described and for the purposes set forth.

61,923.—REUBEN F. BROWN, Lewisburg, Pa.—*Sash Spring Holder.*—February 12, 1867.—This sash stop has a solid frame and a pivoted latch, pressed forward by a coiled spring, and manipulated by a thumb knob.

Claim.—[As a new article of manufacture] the arrangement and combination of the casing A, its solid base H and notches *a a*, latch B, spring D, covering plate C, all constructed and operating in the manner and for the purpose specified.

61,924.—M. H. CARD and A. SALLE, Fulton, Ill.—*Clothes Line, Reel and House.*—February 12, 1867.—The line is wound upon the reel by the force of the coiled spring. The drum is journaled in a protecting box, and retained at a given point by an end bolt.

Claim.—In a clothes-line reel, the combination and arrangement of the flanged drum G, the spring C, house J, and stop L, all operating as and for the purpose specified.

61,925.—WM. L. CARD, Gardiner, Ill.—*Churn.*—February 12, 1867.—The centrifugal force induced by the rotary motion throws the cream outward to the periphery of the churn, where it strikes against stationary arms, which throw it back again to the center.

Claim.—The combination of the revolving churn and stationary dashers, the hollow shaft *a*, and removable spindle F, arranged and operating as and for the purposes specified.

61,926.—J. S. COPELAND, Bridgeport, Conn.—*Screw Gauge.*—February 12, 1867.—The gauge has several points, which are actuated by graduated screws, so that while moving at different rates they maintain an equal distance between each other; these points corresponding with the thread to be measured.

Claim.—A screw gauge constructed substantially as described.

61,927.—EBENEZER CURTICE, Yonkers, N. Y.—*Hymn and Tune Book.*—February 12, 1867.—The page is divided horizontally. The upper contains the music and the lower the text. The text of any page on that side of the book, or section of the book, may be associated with any music adapted to it. A strap and sliding buckle lap upon the opposite pages and keep them displayed.

Claim.—First, in singing books having their leaves cut as herein described, the use of whole leaves, inter-

veining the cut leaves, for the purpose mentioned herein.

Second, the application of a holder, in the manner and for the purpose herein specified.

61,928.—GEORGE O. DUNLAP, Chicopee, Mass.—*Carpet Stretcher.*—February 12, 1867.—The bed plate of the stretcher has a projection which shields from false blows the spring used for holding the tack. Combined with the stretcher are two claws for withdrawing tacks.

Claim.—First, the spring D, arranged upon the plate A, in combination with the projections *b b'*, substantially as herein shown.

Second, the claws E E, in combination with the carpet stretcher, substantially as shown.

61,929.—TIMOTHY EARLE, (Valley Falls,) Smithfield, R. I.—*Wrench.*—February 12, 1867.—The movable jaw has teeth on the inner face of its shank, and is engaged by the teeth of a spring plate, attached to the handle, and thrown into attachment by a temper screw.

Claim.—The invention in wrenches, described, consisting of a movable jaw C, provided with a serrated or equivalent, roughened surface *a a'*, in combination with a spring clamp F, or its equivalent, substantially as set forth.

61,930.—OLIVER ELLSWORTH, Boston, Mass., assignor to himself and RICHARD SMITH, same place.—*Machinery for Drying Paper in Paper-Making Machines.*—February 12, 1867.—In passing from one drying cylinder to another, the paper is conveyed over a roller supported on spring bearings, and connected by links to a regulating valve in the steam pipe. An excess of steam in the cylinders causes the paper to dry too fast and be contracted;

this contraction depresses the roller and through its connection partially closes the valve and lessens the flow of steam; when this tension diminishes, the roller again rises and supplies more steam. When the paper breaks, a roller ceases to hold back a rod against the force of a spring, and this rod then detaches the parts of the link and so disconnects it from the valve, leaving it in the same position as when the paper broke; thus preventing the cutting off of the steam by the rising of the roller.

Claim.—Graduating the supply of steam to the cylinders which dry the paper by the expansion and contraction or tension of the paper made and dried.

Also, in combination with the drying cylinders, the movable roller over which the paper passes, and the link and lever which connect it to the valve in the steam pipe which supplies the drying cylinders.

Also, making the link which connects the movable roller with the regulating valve detachable and connecting it to a roller held in place by the paper, by the mechanism described, or its equivalent, so that when the paper breaks and releases the roller the connecting mechanism will detach the link so that it will cease to operate the valve in the steam pipe.

Also, making the link X X' adjustable in its length, by means of a slotted slide and screw, or other equivalent device.

61,931.—ANTHONY L. FLEURY, Philadelphia, Pa.—*Preparing Soluble Silica, and in Applying the same to Useful Purposes.*—February 12, 1867; antedated December 28, 1866.—Silica is converted into sulphide of silicium by means of sulphur or compounds of sulphur, and decomposed in hot water or steam, whereby a hydrate of silica is formed, which is soluble in hot water, and which may be used in the manufacture of artificial stone, fire and water-proof paint, cement, &c.

Claim.—The process herein described for preparing hydrated silica.

Also, as a new manufacture, hydrated silica, prepared substantially as described and set forth.

Also, the improvement herein described in the manufacture of artificial stone, marble, paints, cements, and the like, substantially as described.

61,932.—WARREN GALE, Chicopee Falls, Mass.—*Straw Cutter.*—February 12, 1867.—Spiral knives upon the lower cylinder act in connection with the upper adjustable pressure cylinder of softer material, and to which it is geared.

Claim.—First, the pressure cylinder A, constructed substantially as described, and geared to the cutting cylinder B in such a manner that the edge of the knife or knives shall, at the point of contact with the pressure cylinder, move at equal speed therewith, when the said pressure cylinder is constructed of disks of wood, rawhide, leather, or other similar material, not including metals of any kind, and is of full cylindrical form, substantially as set forth.

Second, in combination with the above claim, sliding box A, screws E E, spring D, operating as described and for the purposes set forth.

61,933.—WARREN GALE, Chicopee Falls, Mass.—*Straw Cutter.*—February 12, 1867; antedated August 12, 1866.—The upper and lower rollers have similar diameter and speed. The upper roller is covered with soft metal and is made adjustable by springs beneath, and set screws above its boxes.

Claim.—First, the pressure cylinder B, constructed as described, and having its entire periphery covered with a surface of soft metal, in combination with a knife-cylinder, provided with oblique of spiral knives, when the said cylinders are constructed and operated so that the edge of a knife, at the point of contact with the soft metal, shall move at the same speed as the pressure cylinder, substantially as and for the purposes specified.

Second, the sliding boxes c, springs S, and screws E, in combination with the devices claimed in the first claim.

Third, the spiral knives K, when secured in spiral grooves h, in the cylinder G, when the said cylinder is geared to the pressure cylinder B, all constructed and arranged substantially as above described.

61,934.—JAMES GREENWOOD, Clinton, Mass.—*Machine for Straightening the Weft or Figures of Textile Fabrics.*—February 12, 1867.—The cloth is passed over tension rollers and beneath the straightening roller, which is adjustable in pressure by the oscillatory movement of its journal arm, and adjustable diametrically by conical pieces which are moved longitudinally within its ends.

Claim.—The machine, substantially as and for the purposes described, that is, as composed not only of a straightening roller, made expandible and contractible, as set forth, but of rollers, or their equivalents, for presenting the cloth to the action of such roller and moving such cloth with respect to it, substantially as explained.

Also, the combination of the adjustable lever, or its equivalent, with the straightening roller, supported as described, and combined with rollers, or their equivalents, for presenting a piece of cloth to the action of such roller, in the manner and for the purpose as set forth.

61,935.—PHILANDER HARLOW, Hudson, Mass., assignor to himself and ASA F. HALL.—*Belt Clasp.*—February 12, 1867.—Two flexible metallic plates are secured by rivets, the upper having teeth, the lower provided with corresponding serrated cuts.

Claim.—The belt fastening composed of the two plates A and C, constructed and operating together in the manner and for the purpose substantially as described.

61,936.—JOSEPH W. HASKINS, Charlestown, Mass.—*Edible Preparation from Indian Corn.*—February 12, 1867.—Indian corn is parched until it splits, when it is ground in a mortar and mixed with gum acacia and sugar, made into cakes and pressed.

Claim.—The improved edible composition, as made of maize and gum acacia, or the same and one or more sweetening or flavoring matters or substances, substantially as set forth.

61,937.—HORATIO F. HICKS, Grand View, Ind.—*Steering Apparatus.*—February 12, 1867; antedated January 28, 1867.—The opposite ends of the bar by which the rudder is immediately operated connect respectively to the piston rods of two steam cylinders, so that steering is accomplished by the movements of the pistons. An index shows the position of the rudder.

Claim.—First, the arrangement of the pistons S S, rods L, index M, and pointer d, substantially as and for the purpose specified.

Second, the arrangement of the levers H H with levers a a and rods K, by means of which the boat may be steered from forward or aft, substantially as set forth.

61,938.—ALONZO HITCHCOCK, New York, N. Y.—*Machine Gearing.*—February 12, 1867; antedated January 30, 1867.—A pinion with an angularly convex rim is placed between two driving friction pulleys with concave rims. The axles of all the pulleys are in a right line, so that the side pressure of the pulleys on the pinion shall counterbalance each other.

Claim.—Distributing the power around the shaft to be driven, so that the tendency to displace the shaft on one side is counteracted by that on the other, by the means and in the manner substantially as described.

61,939.—THOMAS B. HODGE, Francistown, N. H., assignor to himself and D. McCAINE, Groton, Mass.—*Harness Clamp.*—February 12, 1867.—For making round reins and traces. The clamp has base pieces, transferable core strips, and metallic clamping jaws, to hold the pieces of leather in position while sewing.

Claim.—The above described arrangement and combination of the clamp D, the looped straps C C, the bed piece A, the rod E, and the ratchet F, and catch H.

Also, the combination therewith of one or more of the auxiliary bed pieces I, made substantially as described.

61,940.—A. D. HUFF and L. D. HUFF, Clinton, Iowa.—*Sorghum Stripper.*—February 12, 1867.—The forked stock has a double-edged knife and crescent-shaped spring stripper. The stem is topped by a forward thrust, stripped by a downward movement, and severed by an upward draw of the stripper.

Claim.—The knife C, provided with two cutting edges d e, the first for topping with an endwise thrust, and the other for cutting when drawn back, when combined with the forked guides b b of the stock A, and solid curved stripper F, arranged and operating substantially in the manner and for the purposes described.

61,941.—HENRY LEE, Oberlin, Ohio.—*Animal Trap.*—February 12, 1867.—The arm arising vertically from the armed falling disk has at top a staple which rests on the top of a vibratable lever, to which the bait is tied.

Claim.—The fall F, armed with teeth or points F', standard G, and yoke H, in combination with the post B, baited lever D, and staple I, as and for the purpose set forth.

61,942.—J. C. LEONARD, Union City, Mich.—*Fence.*—February 12, 1867.—The transversely inclined pickets are supported by a bar or enclosed wire at their intersection and confined near their feet by a surrounding wire.

Claim.—The combination of inclined stakes or pickets with a horizontal supporting wire or rod when said stakes are slotted or kerfed to receive the wire, and are prevented from spreading apart at their base, all substantially as herein described and illustrated.

61,943.—IVORY LORD and SEWALL WOODMAN, Saco, Me.—*Cultivator.*—February 12, 1867.—The shank or standard of the share is forked vertically, and the arms are traversed by rods which project laterally from the frame and on which the outer standards have side adjustment by set nuts.

Claim.—First, the shank s, as shown in all the figures of the drawings, elongated and perforated as described, and the brace b, connected therewith.

Second, the attachment of the teeth by the rods or arms at a distance from the wood, as shown in Figs. 1 and 4, and secured in place by nuts and keys, as described.

Third, the mode of widening or narrowing the machine by sliding the teeth on the arms r r h h in Fig. 4, and the combination of all, forming the cultivator as represented and described.

61,944.—JAMES S. MARSH, Lewisburgh, Pa.—*Harvester.*—February 12, 1867.—A metal platform is used in lieu of a draft frame; is supported upon the

axle of two ground wheels and affords bearings for the gearing which drives the cutters. Caster wheels support the grain platform in connexion with bars by which it is adjusted. The bars are operated by levers.

Claim.—First, casting the platform C in one piece with a tool box on its upper surface to give the required strength to this platform, and with recesses in its outer corner for gears C² C³ substantially as described and shown in Fig. 2 of the drawings.

Second, the double-hinged joint platform supported upon inner and outer caster wheels H H' in combination with the adjustable transverse bar D¹ and drag bar E, substantially in the manner and for the purpose described.

Third, in combination with the hinged platform caster wheels H H', suspending devices D¹ and E, the lever F¹, and link d², substantially as and for the purposes described.

Fourth, the combination of the lever F² with the hinged cutting apparatus and draft frame transverse bar D¹, link d¹, drag bar E, and transverse bar D², all arranged and operated substantially in the manner and for the purpose described.

Fifth, the combination and arrangement of the forward adjusting device F¹ with the rear adjusting device F², each having a separate axis whereby the ordinary adjustment is retained and the adjustment of the pitch of the points of the guard fingers made to suit the condition of the grass to be cut, substantially as described.

61,945.—JAMES MARSHALL, New Orleans, La.—*Cooking Stove.*—February 12, 1867.—The sides are held without bolts by their junction with the hollow corner column. The wrought-iron oven has curved corners. The grate bars are hollow and contain water. A wrought-iron oven is set in the chimney across the course of the calorific current.

Claim.—The combination of the columns b and ledges a with the oven A, hollow grate bars, the oven B, openings c, when covered by a cast cross-bar D, when these several parts are constructed and relatively arranged with respect to each other, as described, for the purpose set forth.

61,946.—J. B. MERIAM, Cleveland, Ohio.—*Apparatus for Extracting Paraffine, &c., from Oil.*—February 12, 1867.—The frame is placed within a pan attached to a base and has a sliding cross-head to which a follower is secured by means of a link. Below the pan is a shaft connected with the cross-head by chains, and to one end of said shaft is secured a lever operated by a cord passing over pulleys and attached to a windlass. The oil is prepared for the press by cooling in a refrigerator which consists of a box containing a series of cylindrical vessels resting on the false bottom and surrounded with a freezing mixture.

Claim.—First, the stanchions G, pulleys d N and O, as arranged in combination with the frames A and pan B, for the purpose and in the manner as set forth.

Second, the cross-head D, friction rollers c', in combination with the stanchions G as arranged and operated by the links K and levers L, for the purpose and in the manner specified.

Third, the cylinder P, as constructed with ribs or corrugations b on the inner surface, as and for the purpose specified.

Fourth, the follower E with the dependent arms c, in combination with the cylinder P, for the purpose and in the manner as substantially described.

Fifth, the arrangements of the cases S, bucket U, pipe T, in combination with the tank Q, provided with the perforated bottom R, as and for the purpose set forth.

Sixth, the cases S, buckets U, in combination with the tank Q and freezing mixture, for the purpose and in the manner as described.

61,947.—FREDERICK J. MILLER, Brooklyn, N. Y.—*Caster Frame.*—February 12, 1867.—Cells in the base piece of the caster frame contain sugar or condiments, and a spring on the handle clasps the bill of fare.

Claim.—First, the caster frame whose base is provided with receptacles or compartments for salt, sugar, &c., when constructed in the manner described and shown.

Second, the combination of the base a and th

spring or holder f when applied to a caster frame, in substantially the manner described and shown.

61,948.—GEORGE N. MUNGER, New Haven, Conn.—*Dumping Wagon.*—February 12, 1867.—The forward part of the wagon bed is attached to the front bolster, and for the purpose of tilting the bed slides on the hind bolster as the fore carriage is worked to the rear. The bed frame is hinged midway and the bed tilts as the hinge comes back of the hind bolster.

Claim.—The framework D and E which supports the body, the one part being fixed to the body and the other to the forward axle, and the two parts hinged together and combined with a device for securing the two axles in their proper relative positions, the whole constructed and arranged so as to operate substantially in the manner and for the purpose specified.

61,949.—HARVILIN PADDOCK, St. Johnsbury, Vt.—*Hardening Iron.*—February 12, 1867.—The articles of iron are heated in a tight case with a composition of common salt, carbon, and carbonate of iron.

Claim.—The within described process of hardening iron with the employment of carbonate of iron and carbon in a finely divided state, applied in the manner substantially as herein set forth.

Also, the combination of common salt, carbonate of iron, and carbon in a finely divided state, as a material for hardening iron when used substantially as herein set forth.

61,950.—PHILANDER PERRY, Charlestown, Mass., and JOSHUA BROOKS, Newton, Mass.—*Stamp Holder and Inkstand Combined.*—February 12, 1867.—The cells for stamps of various denominations, the corrugated pen wiper, and other cognate devices are associated with the ink bottles upon the stand.

Claim.—First, the stamp holder O having openings in the cover with chambers containing each a plunger O, &c., used with or without springs, substantially as and for the purpose described.

Second, in combination with a stamp holder the well G G, with a rotating cylinder H thereon, constructed substantially as and used for the purpose described.

Third, the combination of the mucilage pot I I and the sand box L L with one inkstand, substantially as described.

Fourth, the grooved steps C C C for holding pens and pencils in combination with an inkstand, constructed and used substantially as described.

Fifth, the corrugated pen wiper, substantially as described.

Sixth, the two standards Q Q, with the ears R, &c., fitted to receive a calendar, when used in combination with an inkstand and constructed substantially as described.

Seventh, the combination of the stamp holder, finger wiper, mucilage pot, sand box, pen rack, and calendar stand, with an inkstand, all constructed substantially as shown and used as described.

61,951.—RUSSEL B. PRINDLE, Norwich, N. Y.—*Hold Back Iron for Carriage Thills.*—February 12, 1867.—The loop is higher at one end than at the other, and permits the holdback strap to pass through it and over it with less strain and torsion.

Claim.—The holdback iron or stop A, substantially as and for the purpose set forth.

61,952.—AMOS RANK, Salem, Ohio, assignor to ZETNA MANUFACTURING COMPANY, same place.—*Harvester.*—February 12, 1867.—The longitudinal drag bar or brace has a right angled projection at its lower end and is employed in conjunction with a lateral brace, both of which are hinged to the main draft frame at one end, and so connected at their outer ends as to serve, in conjunction with a shoe which is hinged to their ends, as a compound brace for the finger beam and also as a brace for each other.

Claim.—First, securing the finger beam rigidly to a rocking shoe J, which is sustained at its front end by means of a transverse brace H which has a hinged connection with the draft frame and is coupled to the drag bar or brace G by means of devices i and j, or their equivalents, and at its rear end to an angular projection G' of a longitudinal brace G, all constructed and operating substantially as described.

Second, in combination with a shoe hinged as at h,

the two braces G and H coupled together by means of devices *i j*, or their equivalents, which will admit of the rising and falling of the front end of the shoe J, substantially as described.

Third, the construction of the drag bar G with the projection G' on its rear end, said projection G' and the bar being wrought metal and in one piece, substantially as and for the purpose described.

Fourth, the combination with the two-wheeled draft frame and the gearing thereof of the compound brace G G' H coupled together by the loose connection *i j* and the double hinged shoe J, substantially as and for the purposes described.

Fifth, the arrangement of the transverse brace H, angular drag bar or brace G G', coupled loosely together and a depressed hanger of a two-wheeled draft frame, said wheels being independent drivers, all substantially as and for the purpose described.

61,953.—AMOS RANK, Salem, Ohio, assignor to *ETNA MANUFACTURING COMPANY*, same place.—*Harvester*.—February 12, 1867.—To the swivel connecting pin at the forward end of the drag bar is applied an elongated collar of determinate length, by means of which, when the finger bar is raised or lowered for reaping or mowing, the proper set of the finger beam with reference to the wrist pin of the pitman crank is established by changing the collar from one side of the hanger to the other, and the pitman rod and sickle are prevented from binding.

Claim.—Providing for keeping the sickle and pitman rod of a combined reaper and mower in a straight line vertically by means of a gauge collar *h* applied to the swivel pin *a*, substantially as described.

61,954.—HELEN M. REMINGTON, Springfield, Mass.—*Mincing Knife*.—February 12, 1867.—Explained by the claim and illustration.

Claim.—The sectional stems or shanks *h* with the knives *c* in combination with the cylindrical clamp or ring *a* and the socket *g*, substantially as herein described and for the purpose set forth.

61,955.—JOHN RICHARDS, Columbus, Ohio.—*Machine for Grinding Saws*.—February 12, 1867.—The machine is designed for beveling the blades of web saws. The described devices are for supporting and ganging the blades in a position for grinding and for adjusting them up to the grindstone.

Claim.—First, the arrangement substantially as herein described, whereby saw blades are supported, fed up to the position desired, adjusted at different angles with respect to the face of the carriage D and beveled on both sides, all substantially as set forth.

Second, the combination of the two screws *a' d* with the sliding carriage D of a saw-beveling machine, substantially in the manner described.

Third, the combination of the shouldered holder *h*, hinged adjustable support G, and curved gauge *g*, substantially in the manner and for the purpose described.

Fourth, the hard metal-shouldered holder when constructed to operate as described.

61,956.—J. J. SAVAGE, Troy, N. Y.—*Cooking Stove*.—February 12, 1867.—The fuel is pushed by a lever from the kopper, forward and upward into the combustion chamber, and the lever being removed, the lid is shut down. A guard plate protects the front plate, and the upper part of the latter is perforated for the admission of air above the incandescent fuel.

Claim.—First, the location of the fuel doorway or feed mouth B, below and forward of the combustion chamber C of stove furnaces, and in such immediate position to the fire-box A, as to operate in manner substantially as herein described for the purposes set forth.

Second, when operated in combination with and through said located fuel doorway B, in manner as and for the purpose described, the lever feeder F, constructed substantially as set forth.

Third, in combination with the front plate D of stove furnaces, the arrangement of a fire or guard plate E in position above the fuel doorway B of the fire-box, and about opposite the combustion chamber C, substantially in manner and for the purpose as set forth.

Fourth, in combination with the fuel doorway B, when located substantially as described, the arrange-

ment of the front plate D of stove furnaces in an inclined or slanting position, such as to overhang the fire-box and combustion chamber of the furnace, substantially in the manner and for the purpose as herein set forth.

61,957.—CHARLES SEIDEL, New York, N. Y.—*Chemical Composition for Blasting Rocks*.—February 12, 1867.—Compounded of a powder and a liquid, separately non-explosive, but united to form a blasting compound. Sulphuret of antimony one part, and chlorate of potassa two parts, are pulverized and mixed. The fluid composition consists of phosphorus one part, dissolved in bisulphuret of carbon four parts. Of the powder seven parts are placed in the drill-hole, and one part of the liquid poured upon it. It is exploded by agitation or by a fuze.

Claim.—The above-described composition of matter, substantially as and for the purposes described and set forth.

61,958.—WILLIAM H. SHURTLEFF, Providence, R. I.—*Pavement*.—February 12, 1867.—Applied to the wooden block is a metal cap or frame, whose top is composed of wedge-shaped bars, arranged to form an opening or lattice-work, as the cap is driven down upon the wooden block.

Claim.—First, a paving block, composed of wood and iron or other suitable metal combined and applied to each other, substantially as shown and set forth.

Second, the combination with a wooden block of suitable form of a skeleton or open-work metal cap or frame applied to the said block, in such manner that the fibers of the wood shall be compressed between the sides of, and forced up into the openings in the top of the said cap or frame, substantially as shown and described.

Third, the skeleton or open-work metal cap for paving block herein described, the same consisting of a frame of iron or other like material, the sides of which extend a suitable distance below the bars forming the top of the frame, the said bars being wedge-shaped or tapering toward their lower ends, and arranged so as to form a grating or lattice-work, substantially as and for the purposes shown and set forth.

61,959.—ALANSON SLAUGHTER, Middletown, N. Y.—*Cheese Vat*.—February 12, 1867.—The vat is held up by the sides of the water trough, and forms a steam-tight joint therewith; the water trough has a downward recess, traversed by steam pipes, over which is a corrugated heat disseminating plate.

Claim.—The arrangement and combination of the hot-water trough A, with its recess C, the steam and drip pipes D E, the corrugated disseminator F and milk vat G, with or without the agitator K, substantially as and for the purpose herein specified.

61,960.—FISHER A. SPOFFORD and MATTHEW G. RAFFINGTON, Columbus, Ohio.—*Portable Pistol Gallery*.—February 12, 1867.—The revolvable, shallow, lengthened box has at the distant end a canopy to stop the balls propelled from the toy gun at marks set up at that end. Numbered divisions at the lower and nearer end receive the balls as they roll back.

Claim.—First, a miniature portable pistol gallery, constructed substantially as shown and described.

Second, the gun and turret, Figs 3 and 8, arranged and operating in the manner and for the purposes herein described.

61,961.—R. C. TAYLOR, Brockport, N. Y.—*Rail-road Time Indicator*.—February 12, 1867.—Intended to indicate the time of departure of trains from a railroad station, and is operated in connection with an ordinary clock. By shifting the adjustable cams on the wheels, the changes are made to correspond with changes in the time of departure of trains, and by the employment of adjustable centers to said wheels the indicator finger can be varied to adapt it to the various stations on the route, without changing the cams.

Claim.—First, the employment of a series of adjustable cams C C, with a graduated cam wheel B, and an escapement lever D, or equivalent, operating substantially as described and for the purpose set forth. Second, making the wheel B in two parts *c d*, when

combined with the cams, in the manner and for the purpose specified.

61,962.—ADAM P. WARE, Camden Co., N. J.—*Metallic Carriage Wheel.*—February 12, 1867; antedated January 28, 1867.—The fellos which form the rim are connected by plates, which lap upon their joints and are secured by bolts and nuts.

Claim.—Constructing a wheel for carriages, substantially as described, when the fellos B are made of malleable iron, and constructed and fitted together with the plates b, nuts a and spokes C, in the manner described.

61,963.—BENJAMIN O. WARREN, Elkhart, Ind.—*Excavator and Potato Digger.*—February 12, 1867.—The central, narrower carrier runs over the broader carrier to take the earth from a lower point. The excavating share is elevated by a lever, and guided by another lever. The bottom of the earth-receiving box is formed of pivoted boards with chain couplings, whose connections pass over a roller, which is moved by a lever to close or open the box bottom. It is convertible as a potato digger or excavator.

Claim.—First, the central carrier C', as arranged relatively to the inclined plane of the shovel b, in combination with the larger carrier C, substantially in the manner and for the purpose as herein set forth.

Second, the longitudinal frame B, arranged in combination with the beams A, axles a and carrier C, substantially in the manner and for the purpose as herein set forth.

Third, the guide lever G, in combination with the frame B and shovel b, substantially in the manner and for the purpose as herein set forth.

Fourth, the semicircular plate f, lever e', hooked spring e, and windlass F, as arranged, in combination with the beams A and frame B, substantially in the manner and for the purpose as herein set forth.

Fifth, the box I, provided with a movable bottom, in combination with the double carrier C' and C, substantially in the manner and for the purpose as herein set forth.

Sixth, the boards i of the bottom of the box I, having eccentrically constructed pivots j on their ends, and so arranged as to drop by their own gravity, substantially in the manner and for the purpose as herein set forth.

Seventh, the lever g, windlass H and looped chain l, in combination with the chain couplings k of the boards i of the box I, substantially in the manner and for the purpose as herein set forth.

61,964.—GEORGE WARRINER, Little Ilford, England.—*Furnace and Fireplace Grate.*—February 12, 1867.—Air, steam, or gas is admitted to the fire through the hollow grate bars, the ranks of which rest upon hollow bearing bars. An apron below the ash pit dips beneath a water surface, and prevents the access of air at that point. All the avenues of fluid, whether inflammable or supporting combustion, are controlled by stop cocks.

Claim.—The inverted cone or pyramid, or the air-excluding screen or apron, sealed at the bottom by water or other liquid, as herein set forth.

Also, in combination with the above, a hollow furnace or fire bars or tubes, in conjunction with solid grate bars, connected with a hollow-bearing bar or bars, whereby steam, air, or gas is introduced to support combustion, the introduction thereof being regulated by any convenient or suitable means, substantially as herein specified.

Also, introducing petroleum or other such like inflammable substance or gases through tubes over, or by the side of, or underneath the fire, as hereinbefore stated.

Also, the application or adaptation, in the manner hereinbefore described, of pipes or tubes in furnaces or fireplaces, in immediate juxtaposition with ovens or other cooking apparatus or heating chambers, which pipes or tubes admit heated air into the oven or other chamber to be heated.

61,965.—DARIUS WELLINGTON, Boston, Mass., assignor to CORNELIUS WELLINGTON, same place.—*Peat Machine.*—February 12, 1867.—The peat is disintegrated and pressed down by curved wings in a vertical cylinder, opening into a chamber which contains the molds. The latter are placed in a box,

and are pushed forward under the cylinder by a reciprocating follower.

Claim.—The combination of the cylinder d, and its reducing and pressing mechanism, the mold cell c and pit i, and the follower l, when the whole are constructed and arranged to operate together, substantially as shown and described.

Also, so combining the driving shaft n by which the follower is directly operated and the mill shaft e, that the pressure upon the peat may be increased or diminished relatively to each reciprocation of the follower, substantially as set forth.

Also, forming the bed of the mold cell of the stone, as and for the purpose set forth.

Also, combining with the cylinder b the cutting edge u, operating as set forth.

61,966.—SAMUEL K. WELLMAN, Nashua, N. H.—*Fire Brick.*—February 12, 1867.—Fifty per cent. of fire clay is combined with twenty-five per cent. of fine powdered diamond rock, (pure quartz,) and twenty-five per cent. of coarsely powdered diamond rock.

Claim.—An improved fire-brick, when made from the materials, and combined in the proportions and in the manner substantially as above described.

61,967.—GEORGE WESTINGHOUSE, JR., Schenectady, N. Y.—*Railroad Switch.*—February 12, 1867.—The frog is branched to each side of the rail, and has double grooves on its upper face to receive the flange of the wheel from either side. It is grooved below to receive the rail, and has projections to rest on and to be secured to the ties.

Claim.—First, a portable railroad switch having double branch tracks D D, which converge as shown, and are intersected by grooves H H, substantially as set forth.

Second, the double-grooved frog C, having branch tracks D, in combination with the switch bar E, substantially as set forth.

Third, the retention of the rests F of the branch tracks D, backward, so as to form a bearing surface for the switch bar behind its joint, substantially as shown.

Fourth, the combination of the double grooves, the right and left branch tracks, and the track I at the forward end of the frog C, substantially as shown.

61,968.—SETH WHEELER and EDGAR JEROME, Albany, N. Y.—*Manufacture of Paper Boxes.*—February 12, 1867.—Explained by the claims.

Claim.—First, in the manufacture of hollow paper articles directly from paper pulp by mechanical pressure, means substantially as described, whereby the water is allowed to escape freely and form is given to the pulp at one operation, as set forth.

Second, the combination of vertical and horizontal followers in a machine adapted for making paper boxes and other hollow articles from pulp, substantially as and for the purpose described.

Third, the combination of a perforated die and a follower or followers in a machine adapted for making paper boxes from pulp, substantially as described.

Fourth, in a machine adapted for making paper boxes and other hollow articles, the use of a light, rigid frame upon or within which the article of pulp is formed, said frame being removable from the dies, substantially as and for the purpose set forth.

61,969.—SETH WHEELER and EDGAR JEROME, Albany, N. Y.—*Manufacture of Boxes from Paper Pulp.*—February 12, 1867.—Different parts of the box are made directly in form, from paper pulp in molds. The parts thus formed are then united by cement.

Claim.—First, a new article of manufacture, to wit: the paper box with its body and the rim of its top pressed into form directly from paper pulp, and the end pieces of the body and top cemented in place, substantially as described.

Second, a box top, as a new article of manufacture, made as described.

Third, the body and bottom of a box, as a new article of manufacture, made as described.

61,970.—ALBERT S. WILKINSON, Pawtucket, R. I.—*Horseshoe Nail.*—February 12, 1867.—The head of the nail is lengthened into a long tapering form of

considerably larger diameter than the shank, and may project from the shoe as a calk.

Claim.—The horseshoe nail B C, for securing shoes to the feet of animals, having a slow tapering head B passing quite through the shoe or through the lower plate of a double shoe, substantially in the manner and for the purpose set forth.

61,971.—ALBERT S. WILKINSON, Pawtucket, R. I.—*Horseshoe.*—February 12, 1867.—Explained by the claims and illustration.

Claim.—First, the placing of a toe clip B on one side of the toe of the shoe, so as to be mainly opposite one of the heels of the shoe, when the said opposite heel and toe clip are used to secure the shoe to the foot, while one heel of the foot is left free for lateral expansion, substantially in the manner and for the purpose set forth.

Second, a clamping band K K', running from one heel of the shoe over in front of the hoof, and fastening to the toe of the shoe opposite to the starting point of the heel, in combination with the heel rest j, substantially in the manner and for the purpose set forth.

Third, the ratchet-headed clamping screw h i, in combination with the catch or detent m, Fig. 2, substantially in the manner and for the purpose set forth.

Fourth, the combination of the heel clip b', band K, and the bar clip J, arranged substantially as herein represented, to firmly clamp one side of the heel of the hoof.

61,972.—ALBERT S. WILKINSON, Pawtucket, R. I.—*Horseshoe.*—February 12, 1867.—The shoe is clasped upon the foot and buttoned behind. The clip is continuous from front to rear, and has two branching arms which hug the heel.

Claim.—A continuous clip B B' b g j, in combination with the bar A, elevated at the toe B', and heel b, and having the arms g j extending upward and taking hold of the heel of the foot, the heel clips being fastened by the button fastening h i, substantially in the manner and for the purpose set forth.

61,973.—ALBERT S. WILKINSON, Pawtucket, R. I.—*Horseshoe.*—February 12, 1867.—The rubber shoe extends over the entire sole and has a rear flap to be fastened up behind the heel. The air cushions project upward against the sole. An imbedded stiffening plate gives shape and facility for attachment.

Claim.—First, a rubber sole B, extending over the whole sole of the foot, in combination with a stiffening metallic shoe a, substantially in the manner and for the purpose set forth.

Second, in combination with the above the metallic shield k, substantially in the manner and for the purpose set forth.

Third, the air cushion P, in combination with the flap R, substantially in the manner and for the purpose set forth.

61,974.—ALBERT S. WILKINSON, Pawtucket, R. I.—*Horseshoe.*—February 12, 1867.—The upper face is level and the lower curved. The rounding edges are protected from rapid wear by steel plates.

Claim.—A round-bottom shoe A, Figs. 1 and 2, armed and protected at the heel and toe with steel plates e e e, substantially in the manner and for the purpose set forth.

61,975.—ALBERT S. WILKINSON, Pawtucket, R. I.—*Horseshoe.*—February 12, 1867.—Flanges from the inner and outer edges form calks.

Claim.—A calk formed by parts d f d, placed alternately on the outer and inner edge of the bar A, substantially as shown and described.

61,976.—SAMUEL WILLIAMSON, Cincinnati, Ohio.—*Molding Sash Weights.*—February 12, 1867.—Iron cut-off blocks are placed in the mold to make divisions between the weights. These blocks are cylindrical, with recessed ends, and have axial holes to receive the ends of the bent cores which extend from the side of the mold to said holes. The cores form the holes for the hanging cord.

Claim.—First, the iron cut-off or stop D, when applied and used in casting weights.

Second, the application and use of the horn-shaped

conical iron chill or sand cores E E', in casting weights.

Third, the exclusive use of the stops D D, and the cores or esiles E E', whether used separately or in combination in casting weights, substantially as set forth and described.

61,977.—JOSEPH WISE, Branford, Conn., assignor to THOMAS KENNEDY, same place.—*Die for Making Knobs.*—February 12, 1867.—The plastic material is pressed into form between counterpart dies. A socket in one of the dies occupies the space corresponding to the opening in the knob and has projections to form the notches in the knob. A spindle with projections on its end is rotated by a lever and forms a groove within the knob which may have a spiral form. The axial plunger detaches the knob from the socket.

Claim.—First, the combination and arrangement of the socket C and spindle D, provided respectively with projections a and d, and arranged to operate substantially in the manner described.

Second, in combination with the above, the arrangement of the spindle I, as and for the purpose specified.

61,978.—HARRY P. WITBECK, Rochester, N. Y.—*Manufacture of Vinegar.*—February 12, 1867; ante-dated August 12, 1866.—29 parts corn meal, 3 parts ground rye, 1 part ground malt, and 1 part ground oats are mashed together. After fermentation the liquid is filtered therefrom. The saline and alkaline properties are neutralized by dilute muriatic acid. The liquid is then treated with oxygen while agitated in a vessel exhausted of air.

Claim.—The process of producing a liquid for vinegar or acetic acid from the product of the mixture of grains, as herein described, by pressing the same through a filter, for the purpose of purification, substantially as herein specified.

Also, the rapid process of acidulating the liquid by subjecting it to a charge of pure oxygen, as herein specified.

61,979.—HENRY S. WOODRUFF, Janesville, Wis.—*Buckle.*—February 12, 1867.—Rigid tongues are placed upon the cross-bars on the outer and inner sides. The strap is bent outward to pass over them and straightened to engage with them. When two are provided the strain is thereby distributed.

Claim.—First, the application to the cross-bar b, and on the outer surface of a buckle, of a fixed or rigid tongue g, when arranged and used substantially as and for the purpose set forth.

Second, the combination and arrangement of the cross-bar b and tongue g with the cross-bar d and tongue i, substantially as and for the purpose set forth.

Third, the fixed and rigid tongue z, when arranged and used substantially as and for the purpose set forth.

Fourth, the combination and arrangement of the tongue g and cross-bar b tongue i and cross-bar d, and tongue n, with the side-bars a and end-bars c and e, substantially as and for the purpose set forth.

61,980.—ISAAC YOUNG, Byhalia, Miss, assignor to himself and ISHAM H. HAYES, same place.—*Combined Cultivator and Plow.*—February 12, 1867.—The bent colter in front of the share scrapes and cuts a track in advance.

Claim.—The attachment C, to shovel or other plows, when shaped and operating substantially as and for the purpose herein specified.

61,981.—JOHN N. ARVIN and JOSEPH M. WHITMORE, Valparaiso, Ind.—*Corn Planter.*—February 12, 1867.—The implement is drawn by horses and has a grooved pulley which receives a chain traversing the field from side to side and by which the seed, dropping device is driven.

Claim.—The driving pulley E and the friction pulleys F F, in combination with the chain e c, the rollers d d, in the hoppers g g, and the cam k on the shaft h, the pawl n, on the vibratory rod n, and the flaps p p, in the shutles k h, all arranged and operating as and for the purposes herein described.

61,982.—JOHN AUSTIN, Rockford, Ill.—*Horseshoe.*—February 12, 1867.—The shoe is attached by

bolts whose nuts are within an under recess of the shoe. In each calk is imbedded a vertical plate of steel to render it self-sharpening.

Claim.—First, securing the shoe to the animal's foot by means of the bolts C, constructed and applied as shown and described.

Second, the movable pieces e, secured in the slot n, substantially as and for the purpose set forth.

Third, making the calk self-sharpening, by inserting within the body of the calk a piece of steel, substantially as described.

61,983.—GEORGE L. BAKER, Astoria, N. Y.—*Floating Anchor.*—February 12, 1867.—The planks are attached to the spar above, and the weight beneath, by eye-headed traverse bolts.

Claim.—The combination of the spar A, detachable planks B, weight C, and bolts D, when constructed and arranged as herein set forth and for the purpose specified.

61,984.—J. S. BALDWIN, Elmira, N. Y., W. H. JONES, Rochester, N. Y., and E. N. GIBBS, Elmira, N. Y.—*Cement for Walks, Floors, Pavements, &c.*—February 12, 1867.—Retains its hardness and elasticity when exposed to heat or cold.

Claim.—A cement formed by the combination of coal tar, coal pitch, sand, coke or coal ashes, furnace cinders or iron scale and rosendale cement, substantially in the proportions herein specified.

61,985.—HOSEA BALL, New York, N. Y.—*Treating Peat.*—February 12, 1867.—The peat is broken and driven by screws through tubular conductors and discharge spouts, from which it passes in the form of hollow cylinders.

Claim.—The vertical conductor B and horizontal conductor A, arranged at right angles to each other, provided with corresponding screws B E, independent of each other, and operating substantially as and for the purpose specified.

61,986.—V. BARKER, Otisfield, Me.—*Mosquito Bar for Windows, &c.*—February 12, 1867.—The side pieces of the frame have side grooves to receive the edges of the netting, and a key-slat to fit into the grooves and confine it. The side pieces are inserted into metallic corner pieces.

Claim.—First, the corners of a frame made from sheet metal, as herein shown and described, and for the purposes set forth.

Second, the bars C, provided with grooves in which is fitted a tongue, in combination with the socket corners, substantially for the purposes herein shown and described.

61,987.—J. B. BARNES, Fort Wayne, Ind.—*Hydraulic Punching Machine.*—February 12, 1867.—A screw rod passing through a stuffing box works in the press cylinder of larger diameter, whose plunger is attached to the punch rod.

Claim.—An improved hydraulic punch, formed by the combination of the large hollow screw B, the small interior screw C, and the plunger G, with each other and with the yoke A, substantially as herein shown and described.

61,988.—JACOB BEHEL and JOHN NELSON, Rockford, Ill.—*Gauge for Saw Mills.*—February 12, 1867.—The fence is adjustable on vertical and horizontal pivots, to enable sawing of the stuff to any bevel.

Claim.—First, the adjusting of fence C to any desired angle by means of two rotary motions, one around an axis in itself and the other around an axis in B, or its equivalent.

Second, in combination with the fence B of a saw gauge, the block E, slide F, and set screw J, when said slide is grooved to fit the inclined faces of the graduated way bar L, and the latter is set into and is flush with the face of the saw table, the said parts being constructed and arranged substantially in the manner and for the purpose set forth.

61,989.—ANDREW BENNETT, Brooklyn, N. Y., assignor to himself and JOSEPH OECHLER, same place.—*Hook and Eye.*—February 12, 1867.—The re- bent ends of the hook, which form rings of attachment to the garment are carried forward and form

springs to pass beneath the eye, and prevent accidental unhooking.

Claim.—As an improved article of manufacture, a hook A, provided with side springs a a, substantially as and for the purpose herein shown and described.

61,990.—THOMAS B. BISHOP, Baltimore, Md.—*Horseshoe.*—February 12, 1867.—The rubber sheet has a thinner margin part for position between the shoe and foot, and a thicker portion to fill the space between the sides of the shoe. Its thicker portion is perforated for ventilation.

Claim.—First, the combination of the artificial calk b and flange a, formed above the base of said calk, when the calk bears upon the ground and the flange is adapted for being applied between the hoof of the horse and the shoe, substantially in the manner shown and described.

Second, the combination of air passages c with the elastic sole or frog, substantially as and for the purpose described.

Third, serrating or grooving the bottom surface of the frog b, substantially as and for the purpose described.

Fourth, the combined cushion and elastic frog or calk, constructed as described, the same being a new article of manufacture.

61,991.—VICTOR G. BLOEDE, Brooklyn, N. Y.—*Mucilaginous Compound.*—February 12, 1867.—Made by treating ordinary American starch with a mixture of nitric and muriatic acids.

Claim.—First, the gum produced by treating starch with a compound of nitric and hydrochloric acids mixed together, substantially as and for the purpose described.

Second, the within described process of producing gum from starch, by treating the same with nitric acid, in about the proportion herein set forth, and drying it on metal sheets at a heat of about 260° F., as specified.

Third, the combination of oil of almonds with an aqueous solution of gum, prepared by treating starch with acids, substantially as and for the purposes set forth.

61,992.—STEPHEN BOURNE, Headstone Drive, HARTON, England, assignor to himself and THEODORE BOURNE, New York, N. Y.—*Treating India Rubber.*—February 12, 1867.—The rubber article is enclosed in a vessel to which steam or other heat may be applied, and surrounded by charcoal, bone-black, or other carbonaceous matter. Cloth goods may be placed in alternate layers with the charcoal in powder.

Claim.—Deodorizing India-rubber, or any compound of which it forms a part, by means of charcoal, substantially as described.

61,993.—WILLIAM BOYNTON, Auburn, N. Y.—*Metal Bung.*—February 12, 1867.—The bushing which is screwed into the bunghole has grooves for the passage of the catch nut, to which the stopper disk is connected by a bolt. A gasket is placed beneath the edge of the disk. The turning of the connecting screw bolt first rotates the nut to bring its ends against projections on the bushing, and then draws down the disk to place.

Claim.—First, the screw e, in combination with disk B, the nut d, and washer e, the whole constructed and operating as and for the purpose herein set forth.

Second, the case A, constructed in the manner and for the purpose substantially as herein described.

Third, a combination of a case A and disk B, both constructed and operating substantially as herein set forth.

61,994.—GEORGE W. BRUCKER, Philadelphia, Pa., assignor to BRENKER and KESSLER, of the same place.—*Panel for Lamp Shades.*—February 12, 1867.—Explained by the claim.

Claim.—The manufacture of panels for lamp shades by applying to the varnished surface of a sheet of mica or sheet of paper, or other material, on which two or more layers of oil color have been deposited, as herein specified.

61,995.—JOHN BRUCKER, Chicago, Ill.—*Soap.*—February 12, 1867.—Composed of cocoa-nut oil, 100 lbs.; sweet oil, 25 lbs.; tallow, 13 lbs.; rosin, 10 lbs.;

soda-ash lye, 50 lbs.; potash lye, 10 lbs. Boil and discharge into frames.

Claim.—The soap consisting of the above enumerated ingredients, and prepared substantially in the manner herein described and specified.

61,996.—WILLIAM BULLOCK, Philadelphia, Pa.—*Printing Press.*—February 12, 1867.—Endless belts carry nippers to transfer the sheets from the printing or an intermediate cylinder to the fly board. The fly is raised to allow passage to the sheet, and descending at the point of its release, arrests it in place. The nippers are raised by fixed cams, and depressed by spiral springs on their axial shafts.

Claim.—The endless belts carrying the nippers in combination with the vibrating fly frame for throwing down the sheet and arresting its motion, substantially as described.

61,997.—OSCAR F. BURTON, Jersey City, N. J.—*Alloy for Mold Boards and other parts of Plows.*—February 12, 1867.—The alloy has but slight tendency to rust, and the soil does not readily adhere thereto.

Claim.—The manufacture of the mold boards, shares and other parts of plows and cultivators working in and exposed to the soil, of an alloy composed of copper, tin, and zinc, with or without antimony and lead, or either, substantially as specified.

61,998.—CHARLES BUSHMAN, West Chester, Pa.—*Skate.*—February 12, 1867.—Both ends of the runner are prolonged inward and downward beyond the heel and toe plates in a volute form. A raised socket on the heel of the skate has an elliptical hole in its top for the passage of the similarly shaped head of a screw in the boot heel, which is secured by a turn of 90°.

Claim.—The curls *c f*, formed out of the same piece as the runner, and arranged with regard to the heel and toe plate, and the runner as herein described and represented.

Also, a raised circular socket *m* on the heel plate of the skate, and furnished with an elliptically shaped hole *n* in its top, so that a screw head slightly filed away on its opposite sides and set in the heel of a boot or shoe may enter and turn in said socket to form a fastening between the heel of the boot or shoe and the skate, as herein described and represented.

61,999.—CHESMON BUTTERFIELD, West Water-ville, Me.—*Dust Receptacle.*—February 12, 1867.—The sliding cover is so connected to the pivoted bottom that the opening of either closes the other.

Claim.—A dirt or dust receptacle having its cover or top *D* and bottom plate *F* connected together through rods *G* and *J*, and swinging lever or beam *H*, so as to operate substantially in the manner and for the purpose described.

62,000.—EPHRAIM CAPEN, Batavia, Ill.—*Truss.*—February 12, 1867.—The pad is attached to a boss on the pivoted arm, which is secured by a sleeve joint on the shaft, between two collars, one of which has a sloping surface against which the sleeve is pressed by the nut so as to graduate its pressure upon the rupture.

Claim.—First, the combination and arrangement of the shaft *c*, provided with an inclined stationary shouldered *B*, the nut *D*, movable collar *C* and its pad *A*, operating substantially as described, for the purpose of adjusting and securing the requisite pressure, as herein set forth and specified.

Second, constructing the pad arm in two parts *E F*, pivoted together as described for the purpose of affording a lateral adjustment to the pad, as herein set forth.

Third, forming a boss *g* upon the arm *F*, whereunto the pad is attached, substantially as and for the purposes specified and shown.

62,001.—GEORGE J. CAPEWELL, West Cheshire, Conn.—*Button Fastening.*—February 12, 1867.—One flange of the eyelet is embraced between the cone and the annular rear plate of the button, and the other flange is seamed down upon the fabric to make the fastening. By the intervention of a second eyelet the shank is strengthened and elongated.

Claim.—First, a button provided with the cone *f*, either as shown in figure I or figure V of the drawings, substantially as and for the purpose specified.

Second, the combination of a single eyelet with the

cone *e*, either with or without the washer *d*, substantially as shown and described.

Third, the two eyelets *f f*, in combination with the cloth *c* and the cone *e*, either with or without the washer *d*, when arranged and combined as and for the purposes set forth.

62,002.—ALEXANDER CARMICHEL, Westerly, R. I.—*Tea Pot.*—February 12, 1867.—A perforated plate is reciprocated against the reticulated plate at the entrance of the discharge spout, its object being to prevent clogging.

Claim.—First, the plate *B*, arm *b*, and slot *a*¹, arranged relatively to the body *A* and the exit holes *a*, substantially as specified.

Second, the case *A*², combined and arranged as represented, and extending upward from the slot *a*¹ to a level above the top of the tea pot, substantially as and for the purpose herein specified.

Third, in combination with the clearing plate *B*, arm *b*, and casing *A*², or their respective equivalents, the spring *D*, adapted to operate substantially in the manner and for the purpose herein set forth.

Fourth, the lever *E*, arranged to operate in combination with the clearer *B*, and the several connections, substantially as and for the purpose herein specified.

62,003.—G. F. CASE, New York, N. Y.—*Drill.*—February 12, 1867.—The diamonds are secured in divergent rows upon the conical drill face, and a loose collar on the rod relieves it of friction.

Claim.—A diamond drill, having its diamonds arranged in two or more rows, substantially as described.

Also, in combination with the above, the diamonds when so set as to cut the entire surface of the rock, substantially as described for the purpose specified.

Also, the loose collar or ring upon the drill rod, substantially as and for the purpose described.

62,004.—E. CHILDREN, Lancaster, Wis.—*Cultivator.*—February 12, 1867.—The beams are hinged to a bar which rests upon a roller on the tongue, and is laterally moved by a lever. The rear of the beams is suspended by links and rock-bar, and raised by the vibration of the latter. The share is attached to the standard by staples and keys in the rear.

Claim.—First, the friction roller *j*, inserted in the pivoted draft pole *C*, in combination with the bar *H* attached to the pivoted arms *h h*, all arranged to operate in the manner as and for the purpose herein set forth.

Second, the links *I* and T-shaped levers *J* applied to the plow beams and frame *A*, to operate in the manner substantially as and for the purpose set forth.

Third, the securing of the plows *K* to the standards *L* by means of the staples *M*, bars *r* and the keys *t*, all arranged substantially as and for the purpose herein set forth.

62,005.—JOHN S. CLARK, Philadelphia, Pa.—*Grate.*—February 12, 1867.—The oscillating portion has alternately long and short bars, which act in conjunction with others projecting inward from the ring, the ends of each being deeper as more exposed to wear.

Claim.—A stove or range grate, consisting of the fixed part *A* having the two series of parallel, alternate short and long bars *a*¹ *a*², and the rotary part *B*, having the two series of parallel, alternately long and short bars *b*¹ *b*², the said parts being constructed and arranged to operate together, substantially as and for the purposes described, and in combination with the subject-matter of the preceding claim.

Also, making the free ends of all the bars *a*¹ *a*² *b*¹ *b*² deeper than the frame or shaft from which they project, and giving to the ends of the movable bars *b*¹ *b*² the curved edge form shown, substantially as and for the purposes described.

62,006.—J. WARREN CLARK, Iowa City, Iowa.—*Apparatus for Distributing Liquid Manure.*—February 12, 1867.—The stirrer in the mud box is rotated by a strap from one of the wheels, and the mortar issues from the nozzle of the hose in the rear of the plow share.

Claim.—The combination of a box wagon for containing water and earth, forming a puddling compound, with a plow for cutting a trench connected

with a mixer of the compound within the wagon box, and a hose or its equivalent for conducting it into the trench behind the plow, for the purpose of setting young trees or plants in rows, constructed and arranged substantially as herein described.

62,007.—THOMAS H. CLARK, Indianapolis, Ind.—*Steam Boiler Furnace*.—February 12, 1867.—Each cylindrical boiler lies in a cradle of form concentric therewith, the space around it forming a flue, and a ridge between the respective flues corrects the tendency to diagonal draft. Transverse channels admit air, which is introduced through pipes to aid in the consumption of the carbon.

Claim.—The combination of a boiler furnace, where one or more boilers are arranged in the same longitudinal plane of the flues E, made concentric in the transverse section with the bottom of the boilers, and which extend beneath the boilers in the direction of their length, and are separated from each other by ridges S with the transverse channels I and air channels F and H, and the continuation of the partition between the boilers over the chambers C', leaving a space under the boilers, substantially and for the purposes as herein shown and described.

62,008.—BARNES CLAYTON, Philadelphia, Pa.—*Sleeve Bygon and Stud*.—February 12, 1867; antedated February 2, 1867.—The shank is inserted and the spring plunger then slips forward and prevents the retraction.

Claim.—In combination with the shank and head of a shirt bosom stud, or sleeve button, the self-adjusting fastening, consisting of the hollow cylinder 1, slide or bolt 2, and spiral spring 4, the same being constructed, arranged, combined, and operating together, as and for the purpose described.

62,009.—CHARLES T. CLOSE, Brooklyn, N. Y.—*Lifting Jack*.—February 12, 1867.—The axle rests on a step on one leg of the lever, which is tilted forward and raised by means of a toggle, the operating limb of which has a foot upon which the middle bar raises.

Claim.—A wagon jack, composed of the legs A and B, and lever, when combined together, substantially as described.

62,010.—JAMES H. COGSHALL, Lexington, Mich.—*Nursing Couch*.—February 12, 1867.—The child lies upon the couch, which is adjustable in inclination by a segment bar and set screw, and in height by its threaded stem.

Claim.—The nursing couch, consisting of the support A, screw B, set screw E, semi-circular arms D, table C, and straps F, when constructed and arranged as herein set forth.

62,011.—C. CONKING, Ashland, Ohio.—*Letter Envelope*.—February 12, 1867.—The supplementary back and the belt are attached by wire loops to the envelope, and the latter may be reused by renewing the described adjuncts thereto.

Claim.—First, the belt D and loops B C, in combination with the envelope, substantially as described.

Second, the duplicate back F and loops E, and envelope, substantially as and for the purpose set forth.

Third, the duplicate back F, in combination with the envelope, as and for the purpose set forth.

Fourth, the self-sealing belt D, in combination with the envelope, as and for the purpose set forth.

62,012.—MAXWELL CORNELIUS, Cheviot, Ohio.—*Claw Bar for Railroads*.—February 12, 1867.—The bar is so constructed as to form a more or less powerful fulcrum itself, to apply the rail as a fulcrum, or to operate with a detached fulcrum block, to draw railroad spikes.

Claim.—First, the hinged double headed claw bar A B B' D, d, E E', constructed and adapted to operate as set forth.

Second, in combination with the above the single clawed auxiliary head F, adapted to be hinged to the bar proper, and to operate in the manner set forth.

Third, the claws proper B B', E E', adapted for ready removal and replacement, as set forth.

62,013.—JULIEN L. COURCIER, Paris, France.—*Lubricator*.—February 12, 1867.—The central tube is open, and when the oil sinks below its lower end air

is admitted through it and the annular passage to the reservoir above, and allows an equivalent amount of oil to descend. The vertical adjustment of the tube regulates the flow by determining the height of the column of oil resting upon the journal.

Claim.—The tube e, in combination with the closed reservoir a and tube g, substantially as herein set forth for the purpose specified.

62,014.—ISAAC T. CRUM, Chicago, Ill.—*Device for Forming Horse Collars*.—February 12, 1867.—The former has the shape of the collar, and has flanged projections outward from its lower part for the purpose of holding the rim in position when being bent. To the top of the former is attached a standard for holding the rim on the form when and after being bent.

Claim.—The combination of the form A with the flanges D and standard C, substantially as set forth.

62,015.—TIMOTHY A. CURTIS, Brookfield, Mass.—*Sole Cutting Machine*.—February 12, 1867.—The knife holder is swung horizontally 180° between each stroke so as to cut toes and heels in alternation. The leather is placed on a block which is elevated against the knife, and the same motion actuates levers, &c., which rotate the knife holder, disengaging the stop pin temporarily for that purpose.

Claim.—First, supporting the knife holder B on an internal support in connection with the solid bearings of the holder on the frame at x' x, when the knife is swung half round between each cut by means of the levers, rack, and catch ring, or their equivalents, substantially as set forth.

Second, raising the block and table in connection with the swinging knife, in the manner and for the purposes substantially as above described.

62,016.—GEORGE CUSTER, Monroe, Mich., assignor to himself and CHARLES TOLL, same place.—*Toe Calk for Horseshoes*.—February 12, 1867.—To assist the welding joint the toe calk has one projection at its center, on the inside, the front part having a recess.

Claim.—A toe calk provided with a recess and also a projection upon its inner and upper surface, all as set forth, and substantially as described.

62,017.—GEORGE W. DAVIS, Milford Centre, Ohio.—*Boot Heel*.—February 12, 1867.—The hollow metallic heel is secured to the boot by nails which turn over and clench upon the foundation sole.

Claim.—A cast metallic heel, constructed as described, in combination with the devices for uniting the same to boots and shoes, as herein set forth.

62,018.—JOSEPH DE LA MAR, Brooklyn, N. Y., assignor to himself and ABRAHAM EMANUEL.—*Machine for Pressing Hats*.—February 12, 1867.—Hydraulic pressure is introduced into an expandible sac within the hat and the latter thereby forced against the cylindrical shell which rests on the brim of the hat and also against the follower, which is vertically adjustable to determine the height of the crown.

Claim.—First, the combination of steam cylinder d, piston l, and steam ring e, for the purpose of affording heated surfaces to press against.

Second, the application of hydraulic pressure into an expandible india-rubber hat over which the hat to be pressed is placed.

62,019.—FRIEDRICH EICHNER, Chicago, Ill.—*Razor Strap*.—February 12, 1867.—Composed of oxide of iron, crocus martus, stone dust, and emery flour, rubbed on to the strap with a lather of soap in such combinations as required for the respective sides of the strap.

Claim.—The use of the four substances herein enumerated in three different proportions as herein set forth, for the purpose of making three different kinds of razor straps, in the manner substantially as herein described and specified, for concave razors as the barbers use.

62,020.—JAMES E. EMERSON, Trenton, N. J.—*Saw*.—February 12, 1867.—The portions projecting into the recess of the saw plate or from the rear of the tooth constitute an equivalent for the dovetailed form previously used.

Claim.—The method of securing teeth inserted in

or attached to a saw plate by forming the dovetail of one or more rivets, permanently secured either in the saw plate or the tooth, in the manner substantially as shown and described.

62,021.—GEORGE A. ENO, Philadelphia, Pa.—*Ice Pitcher.*—February 12, 1867.—The contraction of the chamber at its lower end renders the bottom less liable to injury in placing ice therein.

Claim.—The inner casing of an ice pitcher or water cooler contracted at the lower end as described, for the purpose specified.

62,022.—B. GARVIN and R. J. PETTIBONE, Oshkosh, Wis.—*Tubular Grate.*—February 12, 1867.—The tubes are combined into a continuous passage for the water, the alternate ends being connected by caps which admit of expansion.

Claim.—The combination of the tubes A with the caps B when constructed and applied substantially as and for the purpose set forth.

62,023.—A. W. GIFFORD, Worcester, Mass., assignor to himself and HENRY D. WARD, same place.—*Scissors Sharpener.*—February 12, 1867.—The scissors blades is passed between guide plates, with its edge in contact with a cutter set at the proper inclination.

Claim.—The serrated or file bar B with the sides D C provided with the spring F, substantially as described for the purpose specified.

62,024.—HENRY GILBERT, Philadelphia, Pa.—*Vaporizing and Burning Gasoline for Heating and Illuminating.*—February 12, 1867.—Improvement on the patent of Wm. Beschke, Aug. 14, 1866. By means of the stopcock the amount of vapor which comes from the burner can be regulated. Other devices are cited in the claims.

Claim.—First, the screw stop, with or without valve at the bottom, intended to fill the reservoir or vessel with the combustible fluid from below.

Second, the stop cock, or its equivalent in the burner, serving to regulate the exit of gasoline vapors, and consequently the size of the flame.

Third, the filling of the lamp or burner, or both, with sawdust, charcoal, powdered or otherwise, bone dust, cotton, flax, hemp, wool, ratan, jute, or other similar porous substance.

Fourth, the modification of said lamp by omitting the metallic burner entirely and burning it by means of a wick, covered or not covered by a cap of wire gauze, or by burning without any wick by means of the metallic burner.

Fifth, the use of a bundle of fine metallic wire in the openings and stop cocks of cans, bottles, tanks, barrels, or other reservoirs for fluid combustible substances, giving a better ingress and egress to the liquid material than is the case with wire gauze, and acting as an improved safety arrangement in preventing any flame to communicate to the interior and cause explosion.

62,025.—H. C. GILBERT, Cambridge, Vt.—*Evaporator.*—February 12, 1867.—The pan is attached to a frame which may be moved from over the fire by means of the pinions and racks.

Claim.—The combination of the shaft D, cog wheel G, racks H, and sliding frame I with each other, and with the top a' of the furnace A when said parts are constructed and arranged substantially as herein described and for the purpose set forth.

62,026.—J. S. GOCHNAUER, Goshen, Ind.—*Washing Machine.*—February 12, 1867.—The lower pan has springs beneath and a circular system of conical rubbers; similar rubbers are pivoted in the hinged segments above which revolve the lower series in the pan.

Claim.—The yielding bed formed of a series of radiating conical rollers in combination with the rubber F, composed of a series of conical radiating rollers and made in two parts, which are hinged together by a rod e passing through the vertical shaft D, substantially as and for the purpose described.

62,027.—W. B. GOULD, New York, N. Y.—*Stair Rod.*—February 12, 1867.—The rod is held at each end in fixed sockets, one or both of which have spring or adjustable bottoms, so that the rod may be entered into one socket and partially returned into the other.

Claim.—The combination of a stair rod A and socket or hollow tips B when they are constructed or arranged together so as to hold the rod at either one or both of its ends with an elastic or yielding pressure, substantially as and for the purpose described.

62,028.—RANSOM W. GREEN, Bradford, Pa.—*Car Coupling.*—February 12, 1867; antedated February 10, 1867.—The pin is attached to a rectangular guide-frame which moves in vertical grooves in the side of the draw-head. It is supported by a flanged pivoted spring arm which is vibrated to the rear by the entering link, allowing the pin to drop into coupling connection.

Claim.—The arrangement of the flanged draw-head B, the link I, the shouldered pin E D, guide frame C, and the shouldered spring arm H G, operating substantially as described.

62,029.—W. H. HANKINSON, New York, N. Y.—*Carpet Beater and Cleaner.*—February 12, 1867.—The carpet is carried by feed rollers sustained on supporting cords and is acted on by flexible revolving beaters and brushes.

Claim.—First, the two pairs of feeding rollers B and C and the cylindrical brush F made self-adjusting as described, and arranged in relation with each other and with the supporting cords E and flexible beaters a*, substantially as herein set forth for the purpose specified.

Second, the stiff brushes c arranged upon a rotating frame in combination with the feeding rollers B C and cylindrical brushes F, substantially as herein set forth for the purpose specified.

62,030.—THEOPHILUS HARRISON, Bellville, Ill., assignor to himself and Wm. C. BUCHANAN, same place.—*Horse Power.*—February 12, 1867.—The power of the master wheel is communicated to two pinions on nearly opposite portions of the rim. The pinions are on different shafts having an oblique relation to each other and united by bevel gears. The elliptical pin is intended to compensate for irregularity in the action of the gears.

Claim.—The arrangement of the pinion D and the pinion D', shaft F, and pinion H, diagonally with the pinion H' and the shaft E in combination with the master wheel A, constructed in the manner and for the purpose herein specified.

Also, the elliptical or oval pin or axle B of the master wheel A in connection with the two pinions D D' and separate shafts E F, substantially as and for the purpose set forth.

62,031.—THOMAS HENNEY, Dubuque, Iowa.—*Heating Stove.*—February 12, 1867.—Interior pipes traverse the diving fine pipes surrounding the main body of the stove. These interior pipes are supplied with outer air and discharged into the room. A damper regulates the admission of air.

Claim.—First, the combination of the branch pipes I, inlet pipe H, pipes G G', damper J, central fire cylinder A, hollow base B, cap section C, and the pipes D D', all arranged and operating substantially as and for the purpose described.

Second, the combination of pipes H I with the pipe G' and D' applied to a stove composed of sections A B C and pillars or pipes D, substantially as described.

Third, providing for securing the several movable sections of the stove together by means of rods, nuts, and flanges applied to the air pipes G, substantially as described.

Fourth, the arrangement of the air pipe G' opening at the top and bottom of the stove and passing through the exit pipe D' and damper E, substantially as described.

62,032.—JOHN HENRY, Jersey City, N. J.—*Printing Press.*—February 12, 1867.—Two fountains distribute the ink from two points so that it may be spread in regular and small quantities. Revolving ink disks are connected to the oscillating table.

Claim.—First, the arrangement in combination with the reciprocating distributing table C, of disk distributors D D, for action in concert with distributing rollers, substantially as specified.

Second, the combination with the inking rollers, distributing rollers, table C, and disks D D, of separate

fountains E F, essentially as and for the purpose or purposes herein set forth.

62,033.—**JOSIAH HOLMES** and **CHARLES W. NICKERSON**, Pittsburg, Pa.—*Burglar and Fire Alarm*.—February 12, 1867.—The alarm is sprung by the burning or breaking of an inflammable guard cord stretched throughout the building.

Claim.—The plate lever *n*, with the slot *s*, in combination with the catch rod *m*, and scape wheel *h*, when arranged and operated in connection with a clock alarm, substantially as and for the purposes herein described.

Second, the guard cords *v v*, with their ends *v' v'*, the spiral springs *r r*, and the lever plate *n*, combined, arranged, and operating substantially as and for the purposes set forth.

62,034.—**EDGAR HUSON**, Ithaca, N. Y.—*Horse Rake*.—February 12, 1867.—The rake is raised to discharge the hay by a lever assisted by a spiral spring. Horizontal bars run back between the rake teeth to clear them from the hay when raised.

Claim.—First, the spring B, anterior to the rake head for the purpose of relieving the labor of operating the rake and also for the purpose of a quick upward motion of the teeth, so that the hay or other article raked shall not be bound, by the forward motion of the horse, between the teeth and the strippers or cleaners of the rake.

Second, the combination of the spring B, rod E, and head lever F, as described.

Third, the rake head O P, teeth I, and staples J, all constructed and arranged substantially as and for the purposes set forth.

62,035.—**ROBERT V. JONES** and **HENRY FESSLER**, Canton, Ohio, assignors to themselves and **JAMES SHORT**.—*Harvester Rake*.—February 12, 1867.—The rake is operated by treadles under a segmentally slotted shield situated immediately over and hinged to the platform. The rake teeth are elevated and depressed in passing to and fro over the slotted platform, by means of tumblers and lugs.

Claim.—First, the circular metallic case A, provided with the wheels L, M, G, and F, springs G, M, I, and R, in combination with the pins I and 2, treadles N and O, rack bar K, and wheel P, all arranged and used substantially as herein specified.

Second, the quadrantal-shaped platform D, with its slotted shield, hinged as described, and the rake bar P, connected to a stud at the geometrical center of the platform, rake shaft Y, tumbler U, and lugs J and J', for carrying the grain to the rear of the machine, the whole being constructed, arranged, and operating as specified.

Third, the circular metallic case, constructed as described, with rack bar K and wheel P, in combination with the platform and rake, the whole being constructed and operated in the manner herein specified.

62,036.—**FRANCIS JUST**, Buffalo, N. Y.—*Door Lock*.—February 12, 1867.—The lower edge of the bolt enters a slot in the key. The side tumblers catch in separate notches. The latch has to be partially or wholly drawn back and the key inserted in inverted position to move pivoted spring catches out of the course of the key when moving the bolt. The latch is reversible.

Claim.—First, in combination with the tumblers B B, and a key bit, the bolt A, when constructed and operated as shown.

Second, the catches F F, in combination with the key bit, for the purpose specified.

62,037.—**HENRY KELLOGG**, New Haven, Conn.—*Manufacture of Hats*.—February 12, 1867.—Animal and vegetable fiber reduced to a pulpy condition are intermixed in 50 to 80 times the quantity of water used for the manufacture of paper pulp. This mixture is poured into a cylinder above the perforated hat-former. The plunger is then slowly raised, causing the liquid to pass through the "former" to the partial vacuum beneath, and so depositing the particles upon the "former." The wool fibers prevent the pulp from obstructing the passage of water through the perforations, thus avoiding the unequal distribution of the material on the "former."

Claim.—A hat formed and constructed by com-

bing animal fiber with vegetable pulped fiber, substantially as herein set forth and described.

62,038.—**LEWIS Y. KETCHAM**, Port Jervis, N. Y.—*Water Crane for Supplying Locomotives*.—February 12, 1867.—The supply pipe has a vertical pipe stepped in it, which passes through and is revealable in a packing box, to bring its discharge spout over the tender of the locomotive. A lever on the spout has connection to a valve in the supply pipe.

Claim.—First, the water shaft C, within the pedestal A, constructed, arranged, and operating substantially as described.

Second, the arrangement of means or devices for operating the water valve and the outlet valve, as herein shown and described.

62,039.—**JOHN KIPS** and **WILLIAM ALLMENDINGER**, Melrose, N. Y.—*Oiler*.—February 12, 1867.—The elastic bulb supplies pneumatic pressure to the oil in the reservoir, and the orifices is thus adapted for use above the level of the operator and in an upright position. Air is admitted through the aperture of a valve, which is closed by the movement of compressing the bulb.

Claim.—First, an oiler consisting of a reservoir C and air pipe B, a discharging pipe E with a removable nozzle F, all constructed and operating substantially as herein described, for the purpose of oiling below the level of the operator.

Second, in combination with the elements recited in the foregoing claim, an elastic bulb, operating substantially as and for the purpose as herein described.

Third, in combination with the elements recited in both of the foregoing claims, a suitable device for opening and closing the air hole in the air pipe B, substantially as and for the purpose herein described.

Fourth, the curved removable nozzle and the adjustable discharging pipe, in combination with the other parts of an oiler, all being constructed substantially as herein shown and described.

62,040.—**J. KNIGHT**, Louisville, Ky., assignor to **T. C. COLEMAN**, same place.—*Cotton Bale Tie*.—February 12, 1867.—The otherwise rectangular metallic plate has one oblique side, and the parallel sides are bent over to form a loop. One end of the hoop is rebent over this loop and the other passed through the loop and doubled over the oblique edge, which favors its presentation, to be tucked underneath and held by the expansion of the cotton against it.

Claim.—Forming a bale tie loop A, with turned edges *a a*, and one diagonal and one square end, arranged and applied for securing the ends of a hoop in the manner herein described.

62,041.—**EZRA B. LAKE**, Bridgeport, N. J.—*Railway Switch*.—February 12, 1867.—A rod projecting from the car turns down a lever by the side of the track, and operates the switch in advance; the rod being reversed on the rear car, the switch may be replaced by a person on the train.

Claim.—First, the rails A and A' of the main track, and the rails B and B' of the turnout and switch rails C and C', in combination with the operating lever J, and the devices herein described, or their equivalents, for communicating motion from the said operating lever to the switch rails.

Second, the operating levers G H and D, and their connections, in combination with the switch rails.

Third, the combination of the above-mentioned operating levers with the movable bars X, situated beneath the cars.

Fourth, the combination of the slotted bar D, eccentric P, its arm I, and rods I and N.

62,042.—**BENJAMIN LEE, JR.**, Williamsburg, N. Y., assignor to himself and **ALFRED WOODHAM**, New York, N. Y.—*Fish Hook*.—February 12, 1867.—The hook shank is twisted to constitute it a spiral spring.

Claim.—A spring B, or its equivalent, in combination with a fish hook, substantially as and for the purpose described.

62,043.—**C. P. LLOYD**, Portsmouth, Ohio.—*Beehive*.—February 12, 1867.—Several interior boxes, with glass sides and movable comb frames suspended therein, are provided with entrance openings at the bottom; the same being regulated by slides.

Claim.—The combination of the boxes C, with sides as described and openings *f*, slides *g*, and suspended attachable frames D, constructed and operating substantially as and for the purpose specified.

62,044.—JOHN KNOX LOWE, Cleveland, Ohio.—*Bronzing Machine.*—February 12, 1867.—An improvement on his patent of August 28, 1866. The freshly-printed paper is carried between endless tapes under a fur-covered roller, through a fur-lined box, and around a roller beneath a wiper apron. It operates by first coating the freshly-inked parts with bronze dust, and then removing the same from between the letters.

Claim.—First, the fur or otherwise lined case, described, constructed and operating substantially as and for the purposes set forth.

Second, wiping cylinder D and cloth E, in combination, for the purposes, and operating in a bronzing machine, substantially as described.

Third, the combination of the fur roller with the lined box, its cylinder, the wiping cylinder, and its cloth, constructed and operating together, substantially as and for the purposes explained.

Fourth, feed tapes G G, or their equivalents, in combination with tapes F F, to receive, carry and deliver the sheet substantially as described.

62,045.—ALMON D. MANLEY, Washington, Mich.—*Mud Boat.*—February 12, 1867.—The mud boat has several vats resting on two boats, which are placed parallel and connected by timbers. The floors of the vats have sectional drops for discharge, and lever catches which control their discharging functions.

Claim.—First, the combination of one or more mud vats C with two boats or buoys A, placed parallel with each other and connected with timbers B, substantially as herein described, and for the purpose set forth.

Second, the combination of the sectional drop bottoms $c^1 c^2$ and the lever catch E with the mud vats C, when the said drop bottoms are constructed and arranged substantially as herein described and for the purpose set forth.

62,046.—GEORGE W. MANSON, Buxton, Me., assignor to NICHOLAS W. MANSON, same place.—*Churn.*—February 12, 1867.—The dasher rods are connected to a walking beam reciprocated by a pitman and gears. A support for the beam rises from the cover, and by detaching the dasher rods the top hamper can be lifted off together.

Claim.—As a means of imparting motion to two dashers in a churn, the arrangement of the geared wheel B, geared wheel D, crank shaft E, connecting rod *h*, and working beam F, swinging on the support G, the working beam F being so connected with the two dashers that it can be separated from the dashers when the cover of the churn is to be removed, in the manner and for the purposes set forth.

62,047.—FRANK MARTIN, Aurora, Ind.—*Seat for Railway Cars.*—February 12, 1867.—The car seat has a hinged back, is reversible on its frame, and has hooks and flexible side straps for supporting the arms of the sitter.

Claim.—First in combination with a revolving seat E F F', and ainged back G, the flexible straps H H' and retaining hooks I I', or their mechanical equivalents.

Second, in combination with the frame A B and revolving seat E F F', the hooked bar K k' and lugs L L', employed to secure the seat against rotation, substantially as described.

62,048.—J. B. McCLANATHAN, Horicon, Wis.—*Machine for Sharpening Calks of Horseshoes.*—February 12, 1867.—The foot of the horse is lifted, and the calk of the shoe being inserted between the cutter and the rest, is sharpened by rotating the cutter.

Claim.—First, the frame A having the bur D mounted therein, in combination with the rigid pivoted plate C and set screw E, arranged as described.

Second, providing the upper front face of the plate C with the corrugations, to act as rests or supports for the point of the calk as described.

62,049.—A. D. McCoy, New Orleans, La.—*Tent Bedstead.*—February 12, 1867.—The canopy is made in sections, so as to be readily detached and packed for transportation, and is supported on the bed frame.

Claim.—The bedstead A having adjustable head rest B, operated by the frame C, supporting the uprights b, with connecting stretcher rods c d, bearing the inclined rod d^2 , which intersect and form crutches *f*, on which rests the beam g, constructed and operating as described, for the purpose specified.

62,050.—JAMES S. McCURDY, New York, N. Y.—*Sewing Machine.*—February 12, 1867.—The claims and illustration explain the loop-taking devices. The feed is varied by turning the thumb screw, so as to bring the cam edge of the adjustable feed cam nearer to or further from the arm of the feed dog; a spring serves constantly to press back the cam against the thumb screw.

Claim.—First, the hoop F, constructed with an opening *d*, a point *b* on one side of the said opening, and a hook *c* on its inner circumference, and driven by a tongue or projection *a* on the rotating mandrel of the sewing machine, all substantially as herein specified.

Second, in combination with a rotating hoop, constructed and operating substantially as hereinbefore specified, a bobbin so held within but out of contact with the said hoop as to be confined in the direction of its axis, but to be capable of free rotation, substantially as herein specified.

Third, the holding device by which the bobbin is held within and in proper relation to, but out of contact with the rotating hoop, consisting of the two rings K and L, one of which has an offset *k* for the partial support of the bobbin, substantially as herein specified.

Fourth, the arrangement of the adjustable feed cam P, stop collar R, spring *t* and nut T, the whole applied to the rotating mandrel C, or its equivalent, substantially as herein set forth.

62,051.—CHARLES MCGREW, Bloomington, Ill.—*Beehive.*—February 12, 1867.—Holes in the side beneath the bottom board allow the moth to deposit her eggs in a place absolutely separated from the bee chamber. A water trough around the sides prevents the passage of the moth.

Claim.—The bottom *c* above the openings *b'*, leaving the space *d*, in combination with the case A, having water trough C on its sides, which with the front space below the alighting board is painted white, for the purpose described, and operating in the manner as and for the purpose specified.

62,052.—PURCHES MILES, New York, N. Y., assignor to THEODORE MACE, same place.—*Sausage Stuffer.*—February 12, 1867.—The pivoted follower oscillates 180° in the hopper, folding against the side while filling, and then as the handle is vibrated, forcing the meat out of the nozzle into the gut.

Claim.—The follower *d* and axle *c*, in combination with the vertical hopper *a*, having a curved bottom and the nozzle *f*, introduced through the vertical side *a'*, as specified.

Also, forming the hopper *a* with the curved bottom and sides, cast in one piece to receive the follower *d*, axle *c* and front *a'*, as and for the purposes specified.

62,053.—WARREN P. MILLER, San Francisco, Cal.—*Fireplace.*—February 12, 1867.—The air is admitted to a smious chamber behind the fireplace, and again emitted by openings into the room. Absorption of heat by the back plate of the chamber is reduced by giving it a reflecting surface.

Claim.—First, a lining or partition *g*, made of a suitable reflecting metal, and located within an air-heating chamber behind the fireplace or chamber, and separating the latter from the dead air chamber, substantially as and for the purpose specified.

Second, in combination with the partition *g*, the air-heating chamber *c c c*, and dead air or non-conducting chamber *d*, all constructed and arranged in the manner and for the purpose specified.

62,054.—JACOB F. MORRIS, Lansingburg, N. Y., assignor to himself and CALVIN LOCKROW, same place.—*Lubricating the Axles of Vehicles.*—February 12, 1867.—A cup inserted in the hub has a capped supply tube and a discharge tube which penetrates the

boxing of the spindle. The lubricant passes through a filtering sponge, supported on a perforated diaphragm.

Claim.—The combination of the oil cup or reservoir I, one or more furnished with short tubes G and J, strainer H, sponge I and cap K, or equivalent, with the hub D and axle box E of the wheel, substantially as herein shown and described, and for the purpose set forth.

62,055.—WILLIAM MULLEE, Franklin, Pa.—*Preparing India-rubber.*—February 12, 1867.—The rubber is cleaned and ground in the ordinary manner, and rolled into sheets. These are placed in frames made of iron wire, and the mass immersed in melted sulphur at 220° or 230° F., where they remain for an hour or more. They are then clear of any adhering crystals of sulphur. A mass of these sheets is then passed through the kneading mill, and next rolled into very thin sheets, which are wound upon the steam heated drum, on which it is pressed by a roller. It is then removed from the drum, and pressed while heated into flat plates.

Claim.—First, the above described process or method of treating or preparing india-rubber for use or manufacture.

Second, as a new article of manufacture the substance produced by subjecting india-rubber, either pure or when mixed with other substances, to the process herein described.

Third, the racks R or their equivalent for holding the sheets of rubber while in the bath, as set forth.

Fourth, the combination of the feed roller B and the roller C, armed with teeth for removing the crystals from the sheets as described.

Fifth, the hollow drum E and roller D, when combined and used for the purpose set forth.

Sixth, the bath with the fireplace A and the heat fue or passage a, arranged as herein shown and described.

62,056.—WILLIAM M. MURREY, Tiffin, Ohio.—*Machine for Dressing Stone.*—February 12, 1867.—The machine is so attached to the "runner" that the former can be adjusted, and set at any desired angle. For the purpose of regulating the depth of the furrows, the fulcrum of the vibrating pick handle is made vertically adjustable, while the pick is in motion or at rest. The main frame is adjustable upon its bed, toward or from the center of the stone at right angles to said motion. The speed of the pick or the cessation of its motion is effected without changing or stopping the motion of the main driving shaft.

Claim.—First, supporting the adjustable frame A, which carries the vibrating pick and the mechanism for operating it upon a bed frame A' and adjustable frame B, in such manner that frame A can be adjusted substantially as described.

Second, the combination of the adjusting screw a, hook A², stay a' and perforated cross bar A³, with the bed frame A', substantially in the manner described.

Third, the construction of the device m m' n, for the purpose and in the manner substantially as described.

Fourth, pivoting the pick arm E to a vertically adjustable block d', substantially as and for the purpose described.

Fifth, the means substantially as described for adjusting the fulcrum block d² for raising and depressing the rear end of the hammer arm.

Sixth, the application of the shaft of the wheel G to a vibrating frame H, substantially as described.

Seventh, the combination of vibrating frame H, pinion wheel h and spur wheels d and j, arranged and operating substantially as described.

Eighth, supporting shaft c carrying the parts described at one end by frame A, and at the other end upon the end of a lever C, substantially as and for the purposes described.

62,057.—JOHN H. NELLIS, Richmondville, N. Y.—*Attaching Bits to Braces.*—February 12, 1867.—The bit of the shank is grooved, and the latter contains a spring having a catch upon it to engage with a recess in the socket of the brace.

Claim.—A bit having a groove, with the spring C, constructed as described, and operating in the manner substantially as specified.

62,058.—WILLIAM NELSON, Boston, Mass.—*Construction of Papier Mache Matrices for Stereotype Plates.*—February 12, 1867.—The composition of the matrix consists of two parts by measurement of wheat flour, made into a paste, one part of moistened Paris white, and a small quantity of plumbago, well incorporated. This is spread on thick paper, is covered with a thinner sheet, and the latter with a linen paper. The combined layers are pressed between wet cloths, backed with zinc plates, and when fully softened the sheet is used as a matrix.

Claim.—A papier mache matrix for casting stereotype plates, composed of flour paste, Paris white and plumbago, and molded in the manner substantially as herein set forth.

62,059.—HEIMANN NEUMANN, New York, N. Y.—*Buckle.*—February 12, 1867.—The tongue is loose or looped to the frame, and the free end of the strap is folded round it, and thereby clamped against the side of the frame when tension is applied.

Claim.—The combination of the tongue B, free at one or both ends, with side bars F of the buckle frame, the whole constructed and operating substantially as described.

62,060.—W. J. OXER, Williamsport, Ind.—*Cultivator.*—February 12, 1867.—The frame is made of four pieces—a draft piece carrying the forward share, two bent side bars, to which the rear shares are attached, and a transverse brace bar.

Claim.—An improved iron cultivator frame formed by the combination of the bars A C and F with each other, when said bars are constructed and arranged substantially as herein shown and described.

62,061.—J. A. PARK, Lansing, Mich.—*Door and Gate Latch.*—February 12, 1867.—The latch is of triangular form, is hung in bearings, and has an overbalance weight and a spring. The oblique edge of this plate comes in contact with the keeper in closing, and is pushed to a perpendicular or locking position.

Claim.—The arrangement of the plate A with the latch C, and shaft with weight D, with or without the spring, when constructed in the manner substantially as herein set forth.

62,062.—JOHN PEACE, Camden, N. J.—*Pipe Tongs and Cutter.*—February 12, 1867.—One jaw has a hook, and the other a socket, which is set in or out to suit varying sizes of pipe. By placing a bridle over the socket, a corner of the socket is presented to the pipe, which is cut by the rotation of the tongs around it.

Claim.—A pair of pipe tongs having an adjustable screw E, socket D, with a series of gripping edges at each end, substantially as and for the purpose described.

62,063.—JOHN PEACE, Camden, N. J.—*Machine for Bending Skelp.*—February 12, 1867.—A die of required form is made in two parts, so arranged on a slide as to open for the admission of the end of the sheet and be closed by a lever. The end is then bent up, when it is seized by the proper apparatus and drawn through the die.

Claim.—The horizontal slide rest A, or its equivalent, the adjustable bracket C, the bent lever E, the adjustable stop D, and the dies F F', all constructed, combined and arranged substantially as and for the purposes herein described.

62,064.—DANIEL PETERS and JOHN W. PAULY, Keokuk, Iowa.—*Carrier's "Slicker."*—February 12, 1867.—The handle is made in two parts, each having on its inner surface a longitudinal semicircular groove lined with metal. In each groove fits a bar of corresponding shape, and between these bars the blade is clamped; the bars acting as a pivot, by means of which the blade may be adjusted.

Claim.—First, forming the handle A in two parts a' a², substantially as herein described, and for the purpose set forth.

Second, forming the blade B with a slot b², substantially as herein described, and for the purpose set forth.

Third, the combination of the half round friction wires b' b² and the metallic-lined grooves a² and a³ with the blade B and handle A, substantially as described, and for the purpose set forth.

Fourth, the combination of the friction and strengthening bolt C with the slotted blade B, and with the handle A, substantially as described, and for the purpose set forth.

62,065.—ABRAHAM H. PHILLIPPI, Reading, Pa.—*Oil Can.*—February 12, 1867.—An interior spring closes the valve against the inner end of the exit nozzle.

Claim.—The box L, flat spring X, rod R, arm A, and rod U, when the whole are arranged as and for the purpose set forth and described.

62,066.—HIRAM PULSE, St. Paul, Ind.—*Grain Drill.*—February 12, 1867.—The draft bar is laterally adjusted to obviate side draft by a notched rod and bell crank. The seed passes through a rotary screen on its way to the discharging seed slide, being cleaned in transit. The screen is rotated by band connection to gearing operated by the ground wheel.

Claim.—First, the provision in a grain drill of the separator I between the place of supply and delivery, substantially as and for the purpose set forth.

Second, the arrangement of notched rod W, bell crank X, draft rod Y, and slotted clevis Z, or their mechanical equivalents, for the optional rectification of the side draft by a person at the rear of the machine, substantially as set forth.

62,067.—JOHN M. REEDS, Millwood township, Mo.—*Corn Planter.*—February 12, 1867.—Two planters are united by bars, at the proper distance, to plant two rows simultaneously. The actuating levers are drawn together in the act of dropping the corn, and the springs on each assist in the return movement.

Claim.—The steel spring marked A on the drawing, and roller and double gearing, also above described, in combination with the hand corn planter, as specified.

62,068.—JOHN REILLY, Racine, Wis., assignor to himself and THOMAS FALVEY.—*Axle Box for Vehicles.*—February 12, 1867.—The axle box is cast around rings which bear upon the thimble skein, and has longitudinal ducts for a lubricant, fine radial ducts leading from them to the surface of the skein. The box is secured by flanges on the thimble skein at the axle end, and by a nut at the outer end.

Claim.—Casting the box around the rings, as and for the purpose described.

Also, the arrangement, as described, of the rings within the boxes, so that the box shall overlap the rings to prevent the displacement of the rings from end thrust of the axle on the boxes.

Also, the combination substantially as described, with an axle box of hollow longitudinal ribs, which serve both to fasten the box in the hub and to convey oil to the axle, whether said ribs or chamber be cast with the box, or made separately of cast or wrought metal, and afterward attached to the box.

Also, the arrangement of the oil reservoirs, the axle, and the lining rings, as and for the purpose set forth.

62,069.—J. REINECKER, New Orleans, La., assignor to GUSTAVUS RICKER, Covington, Ky.—*Cotton Bale Tie.*—February 12, 1867.—The end of the hoop is bent around one end bar of the locking piece, and the other end is passed through the diagonal opening near the other end, while the plate is at an angle relatively to the bale. As the cotton expands against its tie the last mentioned end becomes doubly bent against the sharp edges, which prevent its retraction.

Claim.—The plate B, provided with the semicircular opening a and the opening c, with inclined sides d, presenting two sharp edges or angles to the strap, substantially as described for the purpose specified.

62,070.—JOHN W. RICHARDSON, Ogden, Ohio, assignor to himself, DANIEL L. DAVIS, and JEREMIAH KIMBROUGH, same place.—*Manufacturing Alcoholic Spirits.*—February 12, 1867.—Sorghum juice is fermented with yeast prepared from rye meal and barley malt, and the fermented liquor is distilled in the ordinary manner.

Claim.—The process of manufacturing alcohol from the juice or skimming of sorgho, or other (so called "northern" cane, substantially as described.

62,071.—JOHN D. RILEY, Cincinnati, Ohio.—*Gauge for Circular Sawing Machines.*—February 12, 1867; antedated February 2, 1867.—The fence or stiff-supporter is hinged to the frame of the carriage, so that it can be adjusted to any angle with respect to the saw, to cut a keef of the required bevel.

Claim.—First, the beveling fence B, hinged to the arms A A, and adjustable to cut a bevel at any desired angle, substantially in the manner and for the purpose set forth.

Second, and in combination with the above, the guide bar G and piece H, having curved slots, set screws I I, and hinged arms F F, connected with the cross bar E, substantially in the manner and for the purpose set forth.

Third, The hinged beveling fence B, provided at its back edge with the hinged slotted cross bar C, in combination with the hinged uprights D D, to adjust said fence to any desired angle, substantially in the manner and for the purpose set forth.

62,072.—WILLIAM E. RISHER, Austin, Texas.—*Smith's Forge.*—February 12, 1867.—A cylinder is introduced for the reception of the refuse from the fire, and contains a drawer beneath for emptying the same. Air is introduced into a chamber surrounding the cylinder, and passes thence around the top of the same to the fire.

Claim.—First, the construction of the tuyere with a central chamber k, into which the ashes, cinders, and other matters collect; said chamber having a passage between its upper end and the fire bed of the tuyere, so that the air of the bellows or blast nozzle shall circulate in a chamber outside of the chamber k, and pass up to the grate through the space which is between the fire bed plate and the upper edge of the chamber k, all substantially as and for the purpose set forth.

Second, the construction of the tuyere, substantially in the manner and for the purpose described.

62,073.—CHARLES E. ROBINSON, Concord, N. H.—*Belt Lap Cutter.*—February 12, 1867.—The knife is attached to a grooved sliding block, and works in grooves in the top leaf or upper part of the machine. The upper and lower leaves are hinged to each other, and the latter has a rubber seat enabling the knife to cut leather of unequal thickness.

Claim.—First, attaching the knife to a grooved sliding block E, working in grooves in the top leaf or upper part B of the machine, and provided with a handle G, substantially in the manner and for the purpose herein shown and described.

Second, the combination of a rubber or other elastic seat with the lower leaf or part A of the machine, substantially as herein shown and described.

Third, hinging the lower and upper parts or leaves A and B to each other at one end, substantially as herein shown and described.

62,074.—W. S. RYERSON, Philadelphia, Pa.—*Enamel for Covering Hoop Skirt Springs.*—February 12, 1867.—The enamel is composed of white lead, pumice stone, No. 1 carriage varnish, and turpentine.

Claim.—Enameling the covering of hoops or springs of a hoop skirt, or of so many of them as may be necessary, with a composition prepared of the ingredients, and in the manner and proportions herein described and set forth.

62,075.—JAMES SERRILL, Philadelphia, Pa.—*Ice Planer or Cutter.*—February 12, 1867.—A fixed plane for the comminution of ice for immediate use. The ice is moved by the hand and discharged from the mouth below into a glass.

Claim.—An ice cutter or planer, consisting of the adjustable cutting knife A, supporting block B, guides C C, incorrodible surface plates D D, and the tunnel or spout E, arranged and combined together as described, as an improved article of manufacture, for the purpose specified.

62,076.—GEORGE SEWELL, Poughkeepsic, N. Y.—*Horseshoe.*—February 12, 1867.—The upper plate is nailed to the hoof and has dovetail sockets on its lower surface, which are entered by projecting dovetail tenons on the upper surface of the supplementary shoe. Transverse keys lock the plates together.

Claim.—First, the construction of a horseshoe

with a supplementary detachable portion B, substantially as herein set forth, for the purpose specified.

Second, the attachment of the supplementary portion B to the part A of the shoe, by means of the tapering dovetails *g*, tapering dovetail socket *e*, spurs *h*, and keys *i*, arranged in relation with each other, substantially as herein set forth.

62,077.—CHRISTIAN SHARPS, Philadelphia, Pa.—*Breech-loading Fire Arm.*—February 12, 1867.—An improvement on his patents September 12, 1848, and October 29, 1861. The breech piece is prevented from accidental elevation by a hooked projection on the operating lever. The longitudinally sliding spring-bar at the breech has a catch which takes over the cartridge flange, and by which the shell is withdrawn, either by hand or automatically, by a pivoted lever which engages the said bar. This pivoted lever is acted on by a pawl spring on the operating lever-guard.

Claim.—First, the combination of the hooked projection *w*; or its equivalent, or the lever D, with the lip *y*, or its equivalent, on the sliding breech, for the purpose specified.

Second, the spring-bar H, arranged to slide in the frame B, and having a notched projection *j*, in combination with the lever D, and its arm F, the whole being arranged substantially as described, so that the cartridge may be extracted either by the manipulation of the lever D or sliding rod H.

Third, the combination of the spring plate G, on the lever D, the notch *e*, on the arm F, and portion *h* of the frame, by which the said spring plate is released from the notch on moving forward the said lever D.

62,078.—J. D. SIMMONS, Quincy, Ill.—*Window Fastener.*—February 12, 1867.—One side of the angle plate is attached to the sash, and the other is perforated for the passage of the cam part of a lever, and for a pin projecting at right angles from a spring, to enter the frame and fasten the sash. The spring is operated by the cam lever, and the same cam also supports the sash.

Claim.—The eccentric lever B, provided with the notch X, and the lug or wing Z, for the purpose of stopping the spring and preventing strain upon the same, in combination with the plate A, formed as described, and the spring D, provided with bar *b*, the whole arranged and used as and for the purpose specified.

62,079.—JACOB SLAUDER, Osborn, Ohio, assignor to himself and LEVI C. SMITH, same place.—*Wheat Drill.*—February 12, 1867.—The agitator rod of the seed hopper has screw-threaded sections with plain intervals. One side of each thread is at a right angle to the axis, the inclination being all on the other side.

Claim.—The shaft *d* with the worms or screws *c* over the openings *i* in the bottom of the hopper C, in combination with the gear wheels *b* *c* and one of the driving wheels E, constructed, arranged, and operating substantially as and for the purposes herein described.

62,080.—FREDERICK F. SMITH and ADNAH THURSTON, Four Corners, Ohio.—*Seeding Machine.*—February 12, 1867.—Draft upon the lever rotates the shaft and simultaneously raises the shares and unlatches the connection with the rotary seed cylinder. The side plates of the latter are retained in place by a rabbit on the frame at their lower side and above by the removable upper portion of the hopper.

Claim.—First, so combining the lever E with the seeding stocks G and clutches *e* *f* that the movements of the said levers will elevate the seeding stocks simultaneously with the operation of the clutches to stop the motion of the seed-dropping mechanism, substantially as herein set forth.

Second, the retention of the plate *e* in its place with reference to the cylinder J and hopper I, by means of the groove *e'* and removable upper part *a'* of the aforesaid hopper, substantially as herein set forth for the purpose specified.

62,081.—HENRY K. SMITH, Norwich, Conn., assignor to himself and CHARLES OSGOOD, same place.—*Shaft Coupling.*—February 12, 1867.—By turning the screw-bolts the wedge blocks jam the shaft against

the opposite side of the sleeve and couple the shaft thereto.

Claim.—The shaft coupling herein described, the same consisting of the sleeve C having beveled or inclined ways or grooves D, pieces or blocks F, and screw bolts H, when combined and arranged together, substantially as and for the purpose specified.

62,082.—SIDNEY SMITH, Greenfield, Mass.—*Sink.*—February 12, 1867.—The sink has near the bottom a grating and its grooved sides furnish support to movable metallic baskets.

Claim.—First, the arrangement in a metallic kitchen sink of a grating C, substantially as described and for the purpose set forth.

Second, the arrangement in a metallic kitchen sink of the movable baskets, substantially in the manner described.

62,083.—WILLIAM STAMP, Susquehanna Depot, Pa.—*Steam Gauge.*—February 12, 1867.—The steam presses upon the under side of the flexible steel diaphragm and elevates the pendent lever. The latter presses upon the arm of the segment rack which engages with the pinion on the shaft of the index finger. A set screw on the arm impinges on the lever and by rotation adjusts the device.

Claim.—First, a concave flat-bottomed or saucer-shaped steel plate diaphragm fitted in a steam gauge and constructed substantially as herein described.

Second, the eccentric adjusting pin *i*, or its equivalent, in combination with the pendent lever *h* and the segment *d*, constructed and operated substantially as herein described.

62,084.—M. W. STAPLES, Catskill, N. Y.—*Wash Boiler.*—February 12, 1867.—The wash boiler has two perforated diaphragms dividing it into three chambers, the upper and lower ones of which are connected by side tubes.

Claim.—The chambers B and C, the perforated partition E and the circulation tubes D with apertures *a*, arranged substantially as shown and described, in combination with a boiler for the purposes herein set forth.

62,085.—GEORGE STORER, New Britain, Conn.—*Basket Machine.*—February 12, 1867.—The "former" holds the basket either in a horizontal or perpendicular position while being made. A socket clamp is forced upon the basket stuff to conform it to the shape of the "former" and the pressing upon the axial center of the "former" allows it and the basket to be revolved while thus clamped by the socket.

Claim.—First, the gudgeon *c* extending from the stock *m* and turning upon the pin *i* in combination with the mold block *d*, as specified, so that said gudgeon *c* will be sustained by its stock in a horizontal or vertical position, for the purposes set forth.

Second, the mold block fitted so as to be revolved in combination with the clamping cap *e* and movable center *f*, substantially as and for the purposes specified.

62,086.—JOHN E. SWEET, Syracuse, N. Y., assignor to JOHN T. BON and E. R. SANFORD, same place.—*Machinery for Making Oral Picture Frames.*—February 12, 1867.—The wooden frame having been brought to its true form but in a rough condition, a plastic composition is laid thereon suitable for receiving the finishing pigment or gilding. The frame is moved during the operation, the "former," which determines the contour of the molding, remaining at rest. The motion of the frame is derived from a crank wrist and proportioned by a sleeve thereon.

Claim.—First, the combination and arrangement of the shafts C D E and their pinions with their crank and its boxes, substantially as described and for the purposes set forth.

Second, the eccentric sleeve S for varying the throw of the crank, substantially as described.

Third, the combination of the scraper R, arm O, upright L, with or without the pedal P, as described and for the purposes set forth.

62,087.—WILLIAM J. THORN, Westbrook, Me., assignor to himself and F. A. BETTS, same place.—*Picker Cushion for Looms.*—February 12, 1867.—Several layers of leather are cut of the desired size and

shape. They are then soaked in water to soften the leather, then covered with a thin layer of cement and next placed in a former, layer upon layer, and pressed forcibly together.

Claim.—A tanned leather picker cushion for weaving looms, manufactured and prepared in the manner herein set forth.

62,088.—WM. E. TICKLER, EZRA T. MARSHALL, and DAN'L M. MARSHALL, Pierceton, Ind.—*Smut Machine.*—February 12, 1867.—The hollow shaft of the cylinder contains another shaft having conical projections which act on the lower ends of the rods supporting the brushes to thrust them against the cylinder sides; springs act in opposition to these projections. The brush bars are so inclined as to forward the grain. A pan draws in the air over the grain at its discharge opening for the removal of dust. A plate in the spout spreads the grain to the action of the air.

Claim.—First, the smut machine consisting of the cylinder B, hollow shaft C, brushes E, shaft D, cones *d*, standards *e*, riddle G, fan T, and pipe P, operating substantially as described for the purpose specified.

Second, the spreading device consisting of the pivoted valve *n*, elastic fingers *o*, arranged in the spout *m*, substantially as and for the purpose specified.

62,089.—WILLIAM H. TOWERS, Boston, Mass.—*Brick Burner.*—February 12, 1867.—A turntable revolves in a circular kiln. The unburnt bricks are placed upon this turntable, and are by revolution carried over the furnace and delivered when completely burnt.

Claim.—The revolution of unburnt bricks within a circular turret or kiln in such a manner that during the first part of the revolution they shall dry and become gradually heated, then be thoroughly baked during their passage over a furnace, and then gradually cool until, at the completion of the revolution, they shall be delivered perfectly burned and serviceable bricks, using for the purpose the apparatus hereinbefore described, or any other substantially the same and which will produce the desired effect.

62,090.—SAMUEL W. TYLER, Troy, N. Y., assignor to himself, THOMAS M. CLEEMAN, GEORGE P. PRESCOTT, WILLIAM DEYERMAND, EDWARD H. JONES, and HENRY HOLMES.—*Machine for Pulling Flax.*—February 12, 1867.—The endless belts run between pairs of pulleys, the series of which is inclined from the horizontal so as to raise the flax from the ground as the machine progresses.

Claim.—First, for pulling flax and such other crops as require such similar harvesting, the use of a series of two or more belts or bands made flexible so as to ply around pulleys or cylinders and properly arranged to work in conjunction by pairs so as to eradicate or pull the crop from the earth, and this, irrespectively of any pulling or eradicating movement that may be given to the belts, or of any particular form or kind of material employed in the construction of the same, substantially as set forth.

Second, constructing the belts with irregular or corrugated surfaces upon their outer or grasping sides, for the purposes set forth and substantially as described.

Third, constructing pullers with webbing or other comparatively non-elastic foundation, cushioned with india-rubber or other soft material, substantially as described.

Fourth, arranging the belts upon the machine in the position of an inclined plane in such a manner that their grasping sides shall traverse upward and backward at the same time, for the purposes set forth and substantially as described.

Fifth, so imparting motion to the pullers that each section of each pair thereof shall move in a direction around its axis or axes opposite to that of its fellow, so that the conjunctive sides of the two shall move together in one direction, in combination with impinging elastic surfaces, substantially as described.

Sixth, so arranging the belts as to leave an open space between their grasping sides at the point X', substantially as set forth and described.

Seventh, giving to the belts Z and Z' when used in pairs a motion so corresponding to that of the driving wheel that their grasping sides shall traverse backward at the same rate of speed as that at which the

machine is advanced, for the purposes set forth and substantially as described.

Eighth, the intermediate pulleys *u*, or their equivalent, for the purposes as set forth.

Ninth, the revolving fingers *v*, or their equivalent, in combination with the traveling elastic pullers, for the purposes set forth.

Tenth, the brace boards Y, or their equivalent, for the purposes set forth and substantially as described.

Eleventh, so constructing that portion of the frame upon which the pullers are situated as to form an open space through which the crop may pass unimpeded to the platform, substantially as described.

Twelfth, attaching the intermediate pulleys *u* in such a manner that they may be so adjusted as to produce any desired degree of pressure upon the crop between the belts, substantially as described.

Thirteenth, an automatic raking or delivering device when arranged in a manner to support the crop in an upright position while it is being conveyed along from the pullers or cutters to the point at which it is delivered from the rake, substantially as described.

Fourteenth, in combination with the pullers a vibrating separator for separating the swath from the standing portion of the crop, substantially as described.

Fifteenth, the separating swords or blades X, for the purposes set forth and substantially as described.

Sixteenth, so attaching the pullers to the machine, in connection with springs, as to secure to them an automatic or self-adjusting pressure upon the crop, substantially as described.

Seventeenth, the adjustability of the tongue E in combination with the traveling elastic pullers, substantially as described.

Eighteenth, so constructing and attaching the deflecting guards N as to allow the crop to approach the pullers at a point upon the opposite side of the line of their axis, for the purposes set forth and substantially as described.

62,091.—SAMUEL C. UPHAM, Philadelphia, Pa.—*Nutritive Medicine.*—February 12, 1867.—Extract of beef 2 lbs. and refined sugar 14 lbs. are dissolved in one gallon of hot water, and when cool tightly bottled for use.

Claim.—A nutritive medicine composed of the within-described ingredients, prepared in the manner and in the proportions substantially as set forth.

62,092.—P. H. VANDER WEYDE, Philadelphia, Pa.—*Lubricating Oil.*—February 12, 1867.—Crude petroleum is filtered and the volatile part evaporated at a temperature of 300° F. or less, till the residue is reduced to a gravity of 28°. The oil is then boiled with animal matter containing fibrine, albumen, gelatine, marrow, &c. A small quantity of resin may be dissolved in it.

Claim.—The manufacture of illuminating or burning oil and a superior lubricating oil from common petroleum, combining the filtering, evaporating at a low temperature, and thickening processes above described.

62,093.—P. H. VANDER WEYDE, Philadelphia, Pa.—*Preventing Incrustation in Steam Boilers.*—February 12, 1867.—Explained by the claim and illustration.

Claim.—The attachment within the upper part of the steam room of a boiler of a number of short rods resembling small inverted straight or curved lightning rods, or their equivalents, intended to carry the positive-electricity of the steam to the bottom of the boiler, where it, discharging in the water, repels the electro-positive deposits, preventing them from settling, and thus protects the boiler from incrustation.

62,094.—P. H. VANDER WEYDE, Philadelphia, Pa.—*Making and Using Nitrous Oxide Gas.*—February 12, 1867; antedated January 30, 1867.—The nitrous oxide generated by the action of nitric acid on moist zinc or iron is liquefied by pressure and employed for medical uses, for the production of artificial cold, and as a substitute for oxygen in producing the Drummond light, &c.

Claim.—First, the new economical method of making nitrous oxide gas, as above described.

Second, the apparatus for compressing and liquefying it, as above described.

Third, the use of the liquefied gas after its re-expan-

sion as an anæsthetic for surgical operations, (and anti-spasmodic,) in cases of typhoid fever, cholera, &c., and other medical operations.

Fourth, the use as a substitute for oxygen for the Drummond or calcium light, or hydro-oxygen blow-pipe for magic lanterns, light-houses, melting of platinum, &c.

Fifth, its use as a bleaching, oxidizing, deodorizing, and disinfecting agent.

Sixth, its use of the liquefied gas as a store of motive power, for driving railroad cars and other contrivances.

62,095.—P. H. VANDER WEYDE, Philadelphia, Pa.—*Gas Generator.*—February 12, 1867; antedated January 30, 1867.—The upper part of the acid chamber above communicates with the generator beneath by tubes, a stopcock shutting off the acid when desired. One of the tubes is connected with a pipe which terminates in a washing bottle. The latter has cocks through which the water and gas may be withdrawn.

Claim.—First, a gas generator when the acid is entirely separated from the substance from which the gas is evolved, brought in contact only in proportion to the pressure and quantity required and adapted to the instantaneous generation, without the application of heat, of the following gases: hydrogen, oxygen, carbonic acid, hydro-sulphuric acid, sulphide of ammonia, nitric and nitrous oxide, and hypo-nitric acid.

Second, the long-necked bell jar A, contracted and expanded below as described above, preventing the absorption of the gas by the liquid.

62,096.—P. H. VANDER WEYDE, Philadelphia, Pa.—*Tubular Still for Continuous Distillation.*—February 12, 1867; antedated January 30, 1867.—A series of zigzag tubes are placed in the flue through which the liquid runs in a small stream, and in which it is exposed to an increasing heat as it approaches the fire. At different distances tubes are provided for the escaping vapors, which are separately condensed.

Claim.—First, a still consisting of a series of tubes situated in the flue, through which tubes the liquid to be distilled is uninterruptedly passed in a small stream and in its downward course submitted to a continually increased heat.

Second, a number of vapor tubes attached at different heights to this tubular still giving exit to vapors of different density and volatility, each exit tube condensing its own vapor separately in a common worm Liebig's condenser, or any other kind, and thus producing liquids of different density by one single uninterrupted operation; also preventing fusi and other oils from contaminating any other part of the apparatus, or of its products, with their vapors.

Third, the manner of connecting the tubes by means of traps for the separation of the different vapors, and by screw caps giving access to their interior for cleaning, repair, or other purposes.

62,097.—P. H. VANDER WEYDE, Philadelphia, Pa.—*Manufacture of White Lead.*—February 12, 1867; antedated January 30, 1867.—The vapors evolved in the destructive distillation of wood are condensed to obtain acetic acid for the manufacture of acetate of lead. Air is passed through the heated charcoal in the retort, after distillation, in order to obtain carbonic acid to decompose the acetate of lead.

Claim.—First, to effect with the same apparatus and one single operation the separation of the products of the distillation of wood, chiefly of the acetic acid, the immediate transformation of the remaining charcoal into carbonic acid, and the use of those two products to the manufacturing of white lead, in the manner described.

Second, the spiral inverted gutter *h h*, intended either to secure a more perfect absorption of the carbonic acid, or any other gas by the liquid, or to charge air or gas more perfectly with the vapor of the liquid through which it passes.

Third, the treatment of the precipitate with a hot alkaline solution of quicklime, or its equivalent, and the washing out of the filters with lime water.

62,098.—R. M. VAN SICKLER, New York, N. Y.—*Elevator.*—February 12, 1867.—The guide posts of the elevating platform rest on gudgeons, and are adjustable in inclination by a lever connected to their lower

ends. The main platform rests upon wheels, and by the movement of a lever other wheels are brought down to sustain the platform and enable a movement at a right angle to the former wheels.

Claim.—First, a portable elevator, consisting of a car or truck mounted on two sets of wheels, substantially as described, with grooved tracks or guide posts mounted thereon, and a carriage or platform supported by and moving in connection with said posts, substantially as herein shown and described.

Second, having the tracks or guide posts made adjustable, substantially as and for the purpose herein shown and described.

62,099.—A. VAN WINKLE, Newark, N. J.—*Soda-Water Stand.*—February 12, 1867.—The sirup cocks are upon one side of the stand. The cans of the upper tier are narrower than the lower, to allow access to the latter from the rear, inside the casing.

Claim.—First, the arrangement of two or more tiers of sirup cans one above the other in a soda-water stand, substantially as and for the purpose described.

Second, making the cans of the upper tier narrower than those of the next succeeding one below, substantially as and for the purpose set forth.

62,100.—GEORGE W. WALKER, Boston, Mass.—*Cooking Stove.*—February 12, 1867.—A flue from the lower heat chamber passes up between the fire plate and the oven, then over the oven and discharges into the diving flue, from which it passes under the oven and returns above the stove bottom to the chimney.

Claim.—The arrangement of the flue *i*, with respect to the oven and the main flue, substantially as described.

62,101.—JAMES WALKER, Cincinnati, Ohio.—*Brewers' Mash Tun.*—February 12, 1867.—The main pipe for admission of water for raising the temperature of the mash, or for allowing the outflow of the wort, has a removable head, from whose chamber radial pipes conduct the liquid to various points to raise the temperature at all parts alike. In drawing off the wort each of these pipes furnishes a place of exit, for the avoidance of any great current which a single outlet causes. A pipe ascending from the central chamber affords exit through the side of the tun when desired.

Claim.—First, the provision in a mash tun of the radiating inlets to the drain pipe or pipes, substantially as and for the purposes set forth.

Second, the elevated drain pipe proper within the mash tun, substantially as set forth.

62,102.—W. T. WELLS, Decatur, Ill.—*Latch for Gates.*—February 12, 1867.—The latch has a guide plate whose upper cross bar limits its movements, so that by changing the position of the plate the play of the latch is regulated.

Claim.—The combination with a latch of a slotted plate, or its equivalent, when the two are so constructed and arranged together as to operate substantially in the manner described and for the purpose specified.

62,103.—JOHN WILDHACK, Pekin, Ill., assignor to himself and R. POPKISS, same place.—*Oil Cup for Steam Engines.*—February 12, 1867.—The cock stem, whose mouth forms an oil-receiving cup, is screwed into the cylinder. The plug handle has, at one end, an oil chamber communicating by a central duct through the plug to the oil passage in the stem at one side, so that when the oil chamber is turned down it may be filled from the oil cup, and when it is turned up it furnishes oil to the cylinder.

Claim.—First, an oil cup for the cylinders of steam engines, in which a chamber C in the handle B is made the reservoir for receiving the oil, substantially as set forth.

Second, the stem A and stopcock B, when so constructed and arranged that the stopcock shall be the receiver for the oil, and the passage of steam through the stem be prevented, substantially in the manner set forth.

Third, so combining the stem A and stopcock B that the pipe C' may be brought alternately into connection with the openings through the stem on each side of the stopcock, substantially as and for the purpose set forth.

62,104.—L. R. WITHERELL, Galesburg, Ill.—*Elastic Marking Roller*.—February 12, 1867.—A handle, perpendicular to the axis of the marking roller, carries arms which give it journal bearings. The arms of another handle are pivoted to the first-mentioned at right angles, and this latter handle is used to raise or depress the roller.

Claim.—The supplementary bail and handle G h, in combination with the bail and handle D F of an elastic printing cylinder, substantially as and for the purpose set forth.

62,105.—J. YERKES, Fox Chase, Pa.—*Making Hammers*.—February 12, 1867.—The hammer is of malleable iron, and cast with a groove where the separation between the claws is to be made. The claws are split apart by a saw, so as to make the edges well defined and sharp.

Claim.—Constructing claw hammers of cast iron, in the manner described.

62,106.—ANDREW ALBRIGHT, Dryden, N. Y.—*Covering Harness Trimmings with Vulcanized Rubber*.—February 12, 1867.—The buckles and other trimmings of harness are coated with raw rubber, which is then vulcanized.

Claim.—Providing metallic trimmings for carriages and harness with a coating of vulcanized caoutchouc or hard rubber, substantially as and for the purposes herein set forth.

62,107.—SYLVESTER E. AMENT, Oswego, Ill.—*Horse Rake*.—February 19, 1867.—The revolving rake has double runners, the only contact of which with the ground is behind the rake head, so as to throw the points of the teeth near the ground. The rear end of the runner is free, the runner being attached at its front end to the rake head. By means of a weight, duplicate pawls and a spring, all of which are connected with the handle of the rake, the latter is made to revolve to discharge the hay. Draw bars are attached to each end of the rake head by means of bolts, tenon plates, and disk pieces, the latter being so constructed as to prevent the rake head from splitting or wearing.

Claim.—First, the formation of a groove or channel H cut within and around the cylindrical part of the bearing D', when employed substantially as and for the purpose herein set forth.

Second, situating the radial or perpendicular faces W X Y Z within the joint rim or parts E D G, substantially as and for the purpose herein set forth.

Third, putting the stops I and J beneath the tangents of the strap G, or in other words, concealing the same within the handle E, substantially as and for the purpose herein set forth.

Fourth, the employment of duplicate pawls I and J, when adapted to operate relatively to one or more pairs of reversed faces W Y, substantially as and for the purpose herein set forth.

Fifth, the employment of a spring K, inserted through a hole in the handle E, and adapted to serve in combination with the duplicate pawls I and J, substantially as and for the purpose herein set forth.

Sixth, the employment of a cam shaft N, having a cam N' and a hook n upon each end thereof, adapted to operate in combination with the locking devices of a single-handled revolving rake A a E, substantially as and for the purpose herein set forth.

Seventh, the employment of a ball or weight M, adapted to slide or to be dragged upon the earth behind the rake head A, and to serve in combination with the locking devices of a revolving rake A a, substantially as and for the purpose herein set forth.

Eighth, the application of the disk pieces C C to the ends of the shaft A, when constructed and employed substantially as and for the purpose herein set forth.

Ninth, the use of the bearing bolts F F, when constructed and employed substantially as and for the purpose herein set forth.

Tenth, in revolving rakes A a the use of one or more chocks or braces T T, when employed to brace the runner in rear of the rake head, substantially as and for the purpose herein set forth.

Eleventh, the wooden runners T T, provided with braces in rear of the rake head, in combination with a revolving rake A a, in such manner that the only point of contact of said runners with the ground shall

be in rear of the rake head, substantially as and for the purpose herein set forth.

Twelfth, in combination with a single-handled revolving rake A a E, when its locking devices do not depend upon the teeth for resistances, except uniformly upon the whole, through the medium of the shaft A. The employment of two pairs of reversed faces W Y and X Z, when arranged relative to each other, and to pawls I and J, or their equivalents, substantially as and for the purpose herein set forth.

Thirteenth, the use of a check chain or connection M', when employed substantially as and for the purpose herein set forth.

62,108.—WILLIAM R. ANDERSON, New York, N. Y.—*Mucilage and Marking Brush*.—February 19, 1867.—The bristles are held in place on the tube, around which they are arranged by means of a cap. A filter at the end of the tube of communication strains the mucilage, which passes through the hollow brush.

Claim.—The combination of the shield tube d with the cemented surface of the brush tube i, for extending moisture and forming a durable shield fastening, substantially in the manner set forth.

Also, in combination with the reservoir, the filtering plate a a, substantially as set forth.

62,109.—JAMES ARMSTRONG, JR., Elmira, Ill.—*Cultivator*.—February 19, 1867.—Improvement on his patent December 26, 1865. The curved lever is pivoted to the tongue or shovel frame, so as to support it by resting its eccentric surface upon the axle. A latch holds the lever at the required adjustment, which is obtainable, whether the machine be at rest or in motion.

Claim.—First, providing a shovel-carrying frame D, which is pivoted to levers C, so as to operate substantially as described, with an auxiliary adjusting lever G, or its equivalent, whereby the driver can regulate the depth of the shovels at pleasure, whether the machine be in motion or at rest, substantially as set forth.

Second, pivoting a lever G, which has an eccentric bearing g upon one end, to the draft tongue of frame D, and providing such lever with a locking device for holding it in any desired position, substantially as described.

Third, supporting an adjustable shovel-carrying frame D upon the axle A, by means of the levers C and an adjusting device G g f h, substantially as described.

Fourth, the use in a cultivator of an eccentric lever g g, for the purpose described.

62,110.—NICHOLAS A. BUILE, New York, N. Y.—*Grinding or Polishing Implement*.—February 19, 1867.—An equal quantity of blood and linseed oil are mixed with sufficient Paris white to bring the compound to the consistency of sirup. Emery, sand, or rotten stone are added according to the fineness of the grit required, and the whole in a plastic state is molded and baked to hardness.

Claim.—First, the composition above described for making, grinding, or polishing stones, wheels, or other implements, substantially as above set forth.

Second, in grinding or polishing implements of artificial stone, making their different surfaces, or portions of their surfaces, of different degrees of fineness, substantially as described.

62,111.—JOHN W. BURNHAM, Winterport, Me.—*Liniment*.—February 19, 1867.—Composed of one part each of the oils of spruce, hemlock, cedar, origanum, rosemary, juniper, saffras, and rectified amber, and the same proportion of aqua ammonia, sweet oil, tincture arnica, fir balsam, spirits turpentine, laudanum, gum camphor, Turkey gum myrrh, dissolved in eighteen parts of alcohol.

Claim.—The liniment, consisting of the ingredients mentioned, combined substantially as described.

62,112.—L. F. CARTER and W. W. CARTER, Bristol, Conn.—*Clock*.—February 19, 1867.—A rod is secured to the case, and when required is thrust or vibrated into contact with the balance wheel to stop the motion of the clock.

Claim.—The employment of the attachment d in combination with a clock movement, substantially as and for the purpose described.

62,113.—ANTOINE GALY CAZOLAT, Paris, France, assignor to himself and JULES DESPECHER, same place.—*Furnace for Converting Iron into Steel.*—February 19, 1867.—The bed of the reverberating furnace is divided into two parts by a fire brick partition, near the fire bridge of the furnace; the partition has a communicating aperture. The small compartment is charged with pigs of spathic iron, and the large compartment with ordinary cast iron. Both metals being melted, the spathic iron is run into the ordinary iron in proper quantities through the aperture in the partition. The waste heat is used to generate steam in a boiler surrounding the chimney of the furnace, and the boiler is connected with a series of passages opening into the furnace on each side just above the bed.

Claim.—First, the arrangement of parts, as above specified, applied on either side of the furnace for introducing steam into or through the molten metal.

Second, the upper reservoir of cast iron, as above described, for the purpose of restoring to the purified iron the requisite amount of carbon for converting the same into ordinary steel.

Third, the conversion of ordinary steel into homogeneous steel by maintaining the liquid metal in a quiet state of fusion, and at a high temperature, by injecting steam in the chimney.

Fourth, the means indicated of submitting steel cast in molds to high gaseous pressure, whereby the blisters are expelled, and the metal close grained and condensed.

62,114.—Cancelled.

62,115.—JOHN P. COWING, Seneca Falls, N. Y.—*Composition for Roofing.*—February 19, 1867.—A composition of fire clay and coal tar is used for spreading upon felt paper or boards for roofing.

Claim.—The simple compound of ground fire clay, rock, and coal tar, as specified.

62,116.—JACOB CREAMER, Jeffersonville, Ohio.—*Mole Plow.*—February 19, 1867.—A portable capstan for mole plows. The frame is supported on bent axles, which by rotation swing it clear of the ground for transportation, or allow it to rest on the ground when in operation; in the latter position the rearwardly inclined anchor bars penetrate the soil. The sweep rests in the crotch of the "horse" when not in use.

Claim.—First, the combination of the rectangular frame A, bent axles B B', and hinged retaining bars i and k, the said parts being respectively constructed and arranged for use substantially in the manner and for the purpose set forth.

Second, the arrangement of the swinging frame A, capstan b'', capstan head b'', parallel bars c, chains e, lever d and "horse" f, substantially as set forth.

62,117.—A. M. CULVER, Bedford, Ohio.—*Lifting Jack.*—February 19, 1867.—In the lever are pivoted two pairs of feet, and the pivotal points of the latter become the alternate fulcrums as the lever is reciprocated. The load is raised by successive movements, the free feet advancing toward each other in the intervals of their duty as fulcrums.

Claim.—The arrangement of the legs B B', pivoted to and in combination with the lever A, in the manner and for the purpose described.

62,118.—R. O. DOREMUS, New York, N. Y.—*Extinguishing Fires.*—February 19, 1867; antedated February 6, 1867.—The liquid or solid gases are contained in a strong vessel, which is placed in the hold of a vessel or communicates by tubes with different parts of the ship or building, so as to be liberated for the extinguishment of fire.

Claim.—The within described method of extinguishing fires by means of sulphurous acid, ammonia or carbonic acid in a liquid or solid state, substantially as set forth.

62,119.—A. E. DOTY, Iliou, N. Y., assignor to J. I. NEW and C. H. DOTY.—*Sleigh.*—February 19, 1867.—Knees are dispensed with, and the runners, which have a bowed shape, are curved upward fore and aft, and then inward to be attached to the benches. Braces from beneath the benches are planted in the middle of the bows.

Claim.—First, a metallic runner, curved and attached to the beam, as seen in Fig. 1.

Second, the compound ox-bow brace, as seen in Figs. 1 and 2.

62,120.—SMITH DYAR, Charlestown, Mass.—*Prepared Leather.*—February 19, 1867.—The surface of the skin is filled with a composition, which will receive a frictional polish. Before undergoing the latter process the surface is printed in design, and is then polished by a burnishing tool.

Claim.—As a new article of manufacture, skins prepared, printed, and polished, substantially as set forth.

62,121.—BELDEN R. EATON, Clifton, Wis.—*Churn.*—February 19, 1867.—The crank attached to the dasher shaft receives a reciprocating motion from the rotation of the handle crank, and two upward and two downward motions are produced by each revolution of the latter.

Claim.—The combination of the two levers g and i, so constructed and arranged on the shaft h that two motions or strokes are produced upon the dash k and l at one revolution of the handle e, all of which will more fully appear and as shown in the drawing aforesaid.

62,122.—NATHANIEL T. EDSON, New Orleans, La.—*Washing Machine.*—February 19, 1867.—The rollers on the periphery of the segment reciprocate against the other rollers, which form a concave suspended by elastic cords, and limited in its expansion by non-elastic cords. A spring connects the axis of the rubber with the side of the box, and assists the return motion.

Claim.—First, the combination of the apron with the rubber and with the segments l and guides e, in the manner and for the purposes substantially as specified.

Second, the combination of the elastic and non-elastic bands b b and c e, substantially as and for the purposes specified.

Third, the springs k, in combination with the rubber B and apron A, for the purposes specified.

Fourth, the manner of hinging and fastening the revolving roller h, in combination with the rubber and the apron.

Fifth, the strips or bands of elastic or non-elastic materials d d, in combination with the apron and with the segments l and guides e e, for the purposes specified.

62,123.—JOHN EGLIN, Manchester, England, assignor to THOMAS ALDRIDGE WESTON.—*Drift.*—February 19, 1867.—The spiral, inclined grooves twist in opposite directions and cut the surface of the tool into diamond shapes.

Claim.—Forming the cutting edges of a series of double-edged diamond cutters by the intersection of two series of spirally inclined grooves in opposite directions, substantially as and for the purposes set forth.

62,124.—G. R. FORSYTH, Pemberton, Ohio, assignor to himself and NICHOLAS LOVET, same place.—*Churn Dasher.*—February 19, 1867.—The square dashers present their edges to the cream when revolved, and drive it upward and downward, the square edges of the shaft assisting the operation.

Claim.—A revolving churn dasher, constructed, arranged and operating substantially as described.

62,125.—SAMUEL GARDINER, JR., New York, N. Y.—*Apparatus for Lighting Gas by Electricity.*—February 19, 1867.—The reciprocating bar has spring keys so spaced in reference to the distance between the burners that by moving the bar they are consecutively brought into connection, each with its own burner, and not simultaneously. By this means the electric current from a small battery is made to light a large number of burners, consecutively but rapidly.

Claim.—First, the arrangement upon a bar of a series of keys so spaced in reference to the burners as to be consecutively brought into electric connection therewith by a single impulse, substantially as described.

Second a sliding bar with an insulating support,

and furnished with keys adapted to a series of gas burners, for the purpose described.

62,126.—CYRUS F. GILLETTE, Sparta, Wis.—*Axle Box for Vehicles.*—February 19, 1867.—The bearing sections are cast in position in the box, and sustained by flanges on the box and studs which enter recesses in the box.

Claim.—First, a cylindrical or conical carriage axle-box cast in one piece, with flanges *a* and *a'* at each of its ends, and with separated Babbett or other soft metal bearing surfaces *b b* cast between said flanges, all substantially in the manner described.

Second, holding the cast soft metal in its proper position by the combined agency of the flanges *a* and *a'* and the sprue lugs which fill the sprue holes *e e*, substantially in the manner described.

62,127.—ABRAHAM GREGG, Forest City, Cal.—*Railway Car.*—February 19, 1867.—A central wheel receives the pressure of the brake, causing the stoppage of the car. This wheel is divided, each half being attached to the inner end of the axle, and forms an axle coupling as well as brake, which clasps both sides of the wheel.

Claim.—First, the method of attachment of the extreme ends of the trucks to the car by king bolts *g'*, so that the brakes can be worked in the center of each shaft; also, the combination and arrangement of the box coupling *D* to the center of the axle, so as to insure the two-fold purpose of a brake wheel and coupling.

Second, the combination and arrangement of the double-acting brake *E E*, with springs *F* and levers *I H* and *K*, so that it will clasp both sides of the wheel at the same time with equal pressure.

Third, the two bearings *a a*, to each section of the axle, to prevent binding in the coupling box, likewise placing the springs *f f* between the trucks, and platform, and carriage, so that each shaft will have bearings near its center.

Fourth, the cross tongue *h* attached to street cars, when operating in parallel slots *i i*, so that when the car passes a curve the outer end of the cross will move back in the slot, bringing the draft on the outer end of said cross or tongue, substantially as described and for the purpose set forth.

62,128.—JULIUS HACKERT, New York, N. Y.—*Artificial Ivory.*—February 19, 1867.—Chloride of zinc, prepared by dissolving 1 part zinc in 3 parts of muriatic acid, is mixed with $1\frac{1}{2}$ times its weight of lime. $4\frac{1}{2}$ parts of the above are mixed with 4 parts of oxide of zinc or lead, to which powdered glass may be added if extra hardness is required.

Claim.—First, the combination of chloride of zinc and lime with oxide of zinc or other metallic oxide, substantially as above set forth, for producing artificial ivory.

Second, the combination of chloride of zinc and lime with oxide of zinc, or other metallic oxide, and pulverized glass, or its equivalent, substantially as and for the purpose above set forth.

62,129.—BENJAMIN HANDFORTH, Chicago, Ill.—*Churn.*—February 19, 1867; antedated February 3, 1867.—The sliding sleeve upon the upper end of the tubular handle, and by which it is operated, upon being raised exposes the side openings for the admission of air into the handle which passes into the recess beneath the dasher. On the return movement the sleeve covers the side openings, and the air is forced through the valves in the dasher.

Claim.—First, the combination of the hollow handle *C*, provided with an opening or openings *c*, and the sliding sleeve *H*, arranged and operating substantially as and for the purposes set forth.

Second, the combination and arrangement of the hollow handle *C*, provided with openings *c*, the sleeve *H* and valve dasher *d d*, operating substantially as described and for the purposes specified.

62,130.—HENRY HANNEN, Philadelphia, Pa., assignor to SAMUEL W. GREENE and S. A. HANNEN, same place.—*Manufacture of Carbonate of Lead.*—February 19, 1867.—A mass of ordinary white lead is placed in a tank, mixed with water, and heated to about 130° F. A stream of carbonic acid gas is then passed through it by pipes.

Claim.—The manufacture of a pure carbonate of lead by subjecting a mass of white lead, (containing the oxide or the acetate of lead,) mixed with water and heated, by the action of carbonic acid gas.

62,131.—JAMES W. HARPER, Xenia, Ohio.—*Instrument for Digging Post Holes.*—February 19, 1867.

—The lower end of the shank is forked, and each horn has a plate riveted to it whose sides are bent round nearly rectangularly to meet those of the fellow plate. In use the spade is inserted into the ground or the earth brought from the hole between the two wings.

Claim.—The spring blades *C C*, of rectangular form and construction and entirely separated, on opposite sides, so that they may be sprung apart or away from each other, substantially as and for the purpose herein specified.

62,132.—JOHN K. HARRIS, Madison, Ind.—*Apparatus for Unhitching Horses from Vehicles.*—February 19, 1867.—The operative parts of the harness center in frames which have pins held by devices upon the shafts. In the said devices an oscillatable block is released by the retraction of a spring catch, which frees the said pin and releases the horse.

Claim.—First, the provision upon each shaft of a carriage of a vibrating hook *J*, adapted to receive and hold a tongue *E* upon the harness and to be released by the driver, through the instrumentality of a strap *U*, and its described or equivalent accessories, substantially as set forth.

Second, the releasable hitching lock, consisting essentially of the vibrating hook *J*, sliding bolt *N*, and springs *O* and *P*, the same being placed under control of the driver by the strap *U* and its accessories, as set forth.

62,133.—WILLIAM H. HART, Medfield, Mass.—*Ice-Water Receptacle.*—February 19, 1867.—A revolving annular disk around the stem of the urn for holding drinking vessels.

Claim.—The above-described ice-water receptacle, consisting of the urn *A* and the revolving disk or plate *c*, for holding drinking utensils, substantially in the manner and for the purpose as above described.

62,134.—HIRAM HERRICK, Boston, Mass.—*Piano-forte Action.*—February 19, 1867.—A pivoted lever upon the key has a vertical wire connected by a string to the pivot block of the hammer. The lever end rests against an adjustable padded button, by which its movement is regulated.

Claim.—The combination of the arm *D* and its connecting cord *b*, or the equivalent or equivalents thereof, with the piano-forte action, consisting principally of the key *A*, hammer *B*, and jack or fly *C*, as described.

Also, the combination as well as the arrangement of the lever *E* and the adjustable stop *e*, or the equivalent thereof, with the arm *D* and its connection cord *b*, combined with the piano action as described.

62,135.—G. H. HOWARD, South Braintree, Mass.—*Cap for Coffin Screws.*—February 19, 1867.—The cap has a notch upon its edge which receives the catch on the base piece.

Claim.—An improved arrangement of the latching devices *c d* of the coffin screw, cap cover and base, with respect to such cover and base, substantially as described, viz: so that the cover by its inherent diametric elasticity may be caused to operate as a spring to connect or engage the latching devices together and keep one of them in connection or engagement with the other, or prevent their accidental disengagement, as specified.

62,136.—S. E. JAMES, Smithfield Station, Ohio.—*Gate Fastening.*—February 19, 1867.—The interdental cavities of a free spur wheel upon the post receive a fixed latch pin upon the gate, which by the turning of the wheel is carried up under a plate that prevents its elevation from the cavity. A pawl acts on the cogs to prevent back rotation of the wheel.

Claim.—First, the combination of the pin or latch *c*, the toothed support *C*, and retaining device *b*, substantially as described and for the purpose set forth.

Second, the block *d*, arranged over the toothed

wheel C, substantially as and for the purposes described.

62,137.—JOHN JOHNSON, Saco, Me.—*Pipe Tonge*.—February 19, 1867.—The eccentric is adjustable in one cheek of the tongs so as to render the same applicable to various sized pipe by varying the position of the eccentric around the pivot attached to the other cheek.

Claim.—The combination and arrangement of the eccentric *a*, set into one of the arms of gas pipe tongs, with *c*, spring *d*, and the bolt *b*, operating as and for the purpose set forth.

62,138.—W. J. JOHNSON, Newton, Mass., assignor to himself and H. A. HILDRETH, Lowell, Mass.—*Carpet Stretcher*.—February 19, 1867.—The head of the tack is placed against the end of a bar within a cylinder attached perpendicularly to the stretcher plate. This bar is driven down by a hammer and withdrawn by a spring.

Claim.—First, a carpet stretcher with a piston, or its equivalent, magnetically charged, for the purpose substantially as described.

Second, a carpet-stretching device, in combination with a magnetic tack-driving arrangement, for the purpose substantially as described.

62,139.—ARTHUR KNOWLES, JAMES KNOWLES, and JOSHUA BARRACLOUGH, Bristol, England.—*Apparatus for Extracting Wool from Mixed Articles and Furbies*.—February 19, 1867.—The material, after it has been steeped in acid in the usual manner, is placed in a slowly revolving wire cylinder over a fire. A series of back-turned spikes within the cylinder prevent the material from entangling. In order to prevent the heat from injuring the wool, water or steam is injected into the cylinder.

Claim.—The means or apparatus shown and described, for the purpose of extracting wool from cotton and other vegetable substances contained in mixed fabrics.

62,140.—CHARLES W. LAWRENCE, Milton, Ind.—*Spring Hinge*.—February 19, 1867.—Explained by the claims and illustration.

Claim.—First, the combination, with the leaves of a hinge of otherwise ordinary or suitable construction, of one or more compression springs placed at right angles and transversely to such leaves, and connected by a flexible and elastic steel or brass band, under the arrangement and for operation as herein shown and described.

Second, the combination of the tubular sheath or sheaths and the spiral spring with the elastic and flexible rod or band, substantially as shown and set forth.

62,141.—J. J. E. LENOIR, Paris, France.—*Telegraphing Apparatus*.—February 19, 1867.—The apparatus consists of a despatching instrument and a receiver at the respective ends of the line. The message is written with a non-conducting ink on a sheet of foil, which is then lapped around the roller, and a sheet of white paper is wrapped on the receiving roller and covered by a sheet of transfer paper. The electric circuit being established, so long as the point of the lever of the despatcher is in contact with the metallic surface of the paper, the armature of the receiver is attracted by its magnet, and the stylus of the receiver elevated. When the stylus of the despatcher crosses the non-conducting ink the circuit is broken, the stylus of the receiver drops upon the transfer paper and imprints a mark upon the paper beneath.

Claim.—First, the revolving rollers H and H', in combination with the revolving screws F F', traversing frames I I', their magnets K K', levers J J', and armatures *e e*', the whole being constructed, arranged, and operating as described.

Second, the shafts G G' and the rollers H H', screws F F', frames I I', magnets K K', and levers J J', in combination with the trains of wheels E E, or the equivalent to the same, the whole being arranged and operating substantially as and for the purpose set forth.

Third, a sheet of transfer paper and a sheet of plain paper, combined with the roller H, and arranged to

be operated on substantially as and for the purpose specified.

Fourth, the combination of a receiving roller or holder H', having an inked surface, a lever or pencil J' and a sheet of transparent paper, or its equivalent, for the purpose described.

Fifth, the magnets O O', connected electrically with each other and the arms *l l*, in combination with two instruments, A B, when the latter are constructed and operate together as described.

Sixth, the shaft L with its disk N, and the shaft L' with its arms *q q*, in combination with the driving mechanism of two instruments, A and B, and with the arm *j* and the electro-magnet P, the whole being constructed and operating substantially as and for the purpose set forth.

62,142.—HENRY C. LULL, Montpelier, Vt.—*Machine for Scouring Marble*.—February 19, 1867.—The metallic block has a handle by which it is moved backward and forward over the marble floor to be scoured. Sand is carried in the recessed top which has holes communicating with the lower face. A box on the handle contains water, which is supplied to the working face through a nose and a perforated funnel.

Claim.—In the said marble scourer, the combination of the handle, the troughed block, and the water vessel, constructed, arranged, and applied together substantially in manner and so as to operate as specified.

Also, the combination, as well as the arrangement, of the perforated tunnel with the troughed block, the handle, and the water vessel, constructed, arranged, and applied together substantially in manner and so as to operate as specified.

62,143.—GEORGE F. LYNCH, Milwaukee, Wis.—*Railroad Box and Journal*.—February 19, 1867; antedated February 4, 1867.—The conical axle end revolves upon surrounding anti-friction rollers, which are kept in place by revolvable rings occupying annular grooves in the box.

Claim.—Combining, with a box or bearing for an axle or journal, a series of rollers or rings, not positively fastened to each other or to the box or bearing, but so controlled as to be kept in proper working position, and free to move with or independent of each other, and with or independent of the journal or shaft, substantially as and for the purpose set forth.

62,144.—G. B. MASSEY, New York, N. Y.—*Leakage Alarm for Vessels*.—February 19, 1867; Improvement on his patent August 11, 1857.—The water rising in the hold elevates the float, permitting the spring drum to revolve and wind up the chain. This rings the alarm bell, and moves the index which signifies the depth. As the water falls the float winds the spring.

Claim.—First, the drum D, having the plate G attached thereto by the pins *c*, or an equivalent device, in combination with the jointed arm E of the hammer, when arranged to operate as and for the purpose set forth.

Second, the combination of the drum D, having the plate G and pinion *u* attached, with the wheel H, index *h*, and dial I, the drum being operated by the rising and falling of the float F, as shown and described.

62,145.—THEODORE McPHERSON, Burlington, N. J., assignor to JOHN McPHERSON, same place.—*Fastening for Carriage Curtains*.—February 19, 1867.—The projection upon the sleeve of the screw Shank passes through a gain in the curtain plate, so that a turn of 90° or less fastens it.

Claim.—The combination of the screw, revolving barrel, and flange, as represented in Fig. 3, when the same are arranged and operate substantially as described for the purpose specified.

62,146.—F. MICHAEL, Gratis, Ohio.—*Apparatus for Granulating Sugar*.—February 19, 1867.—A series of troughs surround the inner walls of a granulating room, through which the heated sirup is allowed to flow slowly. The temperature of the room is raised to a proper degree, and the sirup flows from trough to trough in the descending series.

Claim.—The conduits *f c h L K d*, and trough *m*,

Claim.—The swinging frame C C in combination with the standards A A and supporting bars B B, when constructed and operating as and for the purpose set forth.

62,160.—HENRY M. STOW, San Francisco, Cal.—*Rock Chamber Drill.*—February 19, 1867.—The chisels are pivoted at their upper ends in the lower end of the handle. The handle has a slot for the guide pin which connects the upper ends of the side guides. At the lower ends these guides have a wedge piece to spread the chisels in their downward movement. The handle can be so turned on the side guides as to expose the chisels for removal.

Claim.—The chisels B connected with handle C, in the manner described and for the purpose specified.

62,161.—JAMES B. STUART, Bunker Hill, Ill.—*Metallic Hub for Wheels of Vehicles.*—February 19, 1867.—One of the circumferentially projecting flanges is cast upon the hub and has radial side projections whose outer ends are so enlarged as to form concave sided recesses for the reception of the spokes. These recesses enlarge from the disk to allow of the compression of the spokes on insertion. The spokes are held in place by a loose disk held to the former disk by screw bolts.

Claim.—A metallic hub for the wheels of vehicles, cast with a collar B having lateral flanges or projections a, of the form shown and described, so that the spaces between the flanges which receive the spokes will be of wedge or taper form longitudinally, or in a direction parallel with the hub and of double taper form in a radial direction, in combination with a loose collar C fitted on the hub and secured to the fixed collar B by bolts, substantially as and for the purpose herein set forth.

62,162.—J. W. SUMMERS, Sandy Hill, N. Y.—*Steam Generator.*—February 19, 1867.—The generator is of a conical form with the apex turned down. The part near the fire is of increased thickness. The water supply pipe has an air chamber and loaded escape valves, so that when the pressure of steam is below the point desired the water will be forced into the boiler, but when raised above that point will be thrown back on the valves and escape thereby. The water enters the generator under a spring valve, by which it is spread out for quick conversion to steam.

Claim.—First, the generator H, when constructed as and for the purpose herein described.

Second, the air chamber D, for the purpose of governing and controlling the pressure of steam in the generator, as and for the purpose set forth.

Third, the valve I for the purpose of dispersing the water, in the manner and for the purpose specified.

Fourth, the combination of the valves L K and O, the air chamber D, and generator H, the whole constructed, arranged, and operating as and for the purpose herein set forth.

62,163.—JOHN RUSSELL SWANN, Edinburgh, Scotland.—*Safety Valve.*—February 19, 1867.—The end of the lever is pivoted in a spring stem, and a rest is placed under the lever between the valve and weight, so that an increase of the weight will raise the pivoted end and cause an escape of steam. These devices are contained in a drum, so as to be out of reach of the engineer.

Claim.—The combination and arrangement of the spring k and stud k with the lever d, fulcrum g, and its stem g', substantially as described.

62,164.—WM. A. TORREY, Mont Clair, N. J.—*Manufacture of Elastic Rolls.*—February 19, 1867.—The rollers are formed of two different vulcanizable gums, such as india-rubber and gutta percha. The gutta percha is secured to the shaft in the ordinary manner and the rubber placed around it. The gums are then vulcanized in the ordinary manner.

Claim.—Securing rollers constructed of india-rubber and other vulcanized elastic gums to shafts or spindles by the use and application of the compounds and cement, substantially as and for the purposes set forth.

62,165.—GEO. E. VAN DERBURGH, New York, N. Y.—*Composition for Artificial Stone.*—February 19, 1867; antedated February 14, 1867.—Sand or other

silicious matter is combined with fluid, semi-fluid, or gelatinous silicate of lime, and the mass molded into proper form, after which it is allowed to harden.

Claim.—An artificial stone or composition for various useful and ornamental purposes, formed of siliceous matter in combination with silicate of lime, with or without other ingredients, when produced before the composition has been molded or allowed to dry and harden, substantially in the manner herein set forth.

Also, the production of silicate of lime in combination with siliceous matter, by excluding atmospheric air from a formed or molded mass, block or device composed of caustic lime and sand, with or without other ingredients, and subjecting the same to moisture with or without heat, substantially in the manner and for the purpose herein set forth.

Also, the application of steam to a composition containing siliceous materials and lime, in any form or in any proportions, for the purpose of producing an artificial stone, substantially as herein set forth.

62,166.—GEO. E. VAN DERBURGH, New York, N. Y.—*Artificial Stone for Building.*—February 19, 1867; antedated February 14, 1867.—Caustic lime is mixed with moist sand in an air-tight vessel in the proportion of one part of lime to eight parts of sand. The mixture is protected from the atmosphere until the lime is partially converted into silicate of lime. The mixture is then formed into blocks and exposed to the atmosphere, by means of which the remaining lime is converted into carbonate.

Claim.—A finished block or stone of any desired form for building or ornamental purposes, produced substantially in the manner herein set forth.

62,167.—ISAAC VAN HAGEN, Chicago, Ill.—*Foot Rest.*—February 19, 1867.—The post rests on the bottom of the tub and is hooked to its margin. It forms a support for the foot while washing.

Claim.—A foot rest, constructed substantially as and for the purpose described and set forth.

62,168.—RICHARD WALKER, Milford, Mass.—*Let-off Motion for Looms.*—February 19, 1867.—The warp on the yarn beam is let off when at a proper tension by means of a positive motion imparted by the backward motion of the lay. A sliding bar is provided with two pawls, one fixed to it and the other vibrating on it at its opposite end, and so arranged that one pawl will hold a ratchet wheel which is placed between the two while the other is passing over a tooth of the ratchet, the pawls acting alternately. On the shaft that carries the ratchet is a pinion that engages with a gear wheel on the yarn beam.

Claim.—First, a let-off motion in looms, effected by means of a horizontal sliding bar R provided with pawls, as described, in connection with a ratchet wheel P, the said sliding bar being operated by the hammer u on the lay, which in its backward movement strikes the horizontal intermediate bar M.

Second, the combination of the pivoted pressure bar C, located as described, with a series of adjustable levers and rods in such a manner that the tension of the warp upon the pressure bar will cause a bar M to be brought in a position to be operated by the backward movement of the lay, and thus operate the escapement slide H, substantially as described.

Third, regulating the degree of tension which will determine the position of the bar M by means of the series of adjustable bars, levers, and rods operated by the pressure bar C located below the warp, substantially as described.

62,169.—THOS. C. WALTER, San Francisco, Cal.—*Cooking Range.*—February 19, 1867.—The ovens in vertical series and the oven at the side are heated by the caloric current in or around them, the dampers regulating the course as may be necessary for the purpose. Dampers in the ash pit regulate the access of air.

Claim.—First, the furnace A and the ovens D and E, with the flues K F f and h, with their regulating dampers, constructed as described for the purpose set forth.

Second, the compartment C in combination with the furnace A, arranged as described.

Third, the register N with the damper m and the damper B combined with the furnace A, as described.

Fourth, the arrangement of the furnace A with the damper B and the register N, the ovens D and E with their flues and compartment C, all operating together, substantially as and for the purpose set forth.

62,170.—BENJAMIN R. WATSON, New Bedford, Mass.—*Horseshoe*.—February 19, 1867.—The dovetail tenon is entered at the wider part of the mortise and jammed by a screw into the narrower part.

Claim.—Securing calks in metallic shoes by fitting them with tapering dovetail tenons to tapering dovetail mortises cut through the shoes and tightening them by screws, or their equivalents, as set forth and described.

62,171.—WILLIAM J. WAUCHOPE, Brookfield, Ill.—*Ditching and Grading Machine*.—February 19, 1867.—For grading roads by removing earth from the gutters and depositing it on the track. The plow raises the earth, which is received upon transversely traveling belts, by which it is carried and deposited. The lower end of the belt is vertically adjustable by a winch, and the motion is derived from the ground wheels. The plow also has a vertical adjustability.

Claim.—First, supporting one end of the transversely-arranged endless conveyor G upon a roller, arranged in the main frame of the machine, and the other end upon a roller having a vertically-adjustable supporting frame independent of the main frame, arranged and operating as and for the purposes specified.

Second, the arrangement of the longitudinally-adjustable beveled bars J within the endless apron G, and with the roller I, operating as and for the purposes set forth.

Third, the combination and arrangement of the plow S, the transverse conveyor G, stationary roller H, adjustable roller I, bars J, and rollers K, operating as and for the purposes described.

62,172.—JOSEPH DAVID WESTGATE, San Francisco, Cal.—*Sad-iron Heating Apparatus*.—February 19, 1867.—The face of the smoothing iron rests upon a plate above the fire chamber of the stove; a cap on the iron retains the heat.

Claim.—An ironing apparatus consisting of the sad-iron B and stove A, constructed as herein described, lined with non-conducting material, substantially as and for the purpose set forth.

62,173.—THOMAS WESTLEY and THOMAS RICHARD BEAUMONT, Preston, England.—*Spinning Flyer*.—February 19, 1867.—The flyer has solid legs, and at about the top of the straight part of each is a collar supporting a bearing capable of revolving around the leg. The bearing carries the upper part of a split tube, and its motion around the leg of a flyer is limited by a notch in the bearing working against a projection on the collar.

Claim.—Attaching split tubes to the legs and presser-arms of solid leg flyers, substantially in the manner and for the purposes hereinbefore set forth.

62,174.—LORIN WETHERELL, Boston, Mass., assignor to himself and JOHN H. WELLS.—*Dies*.—February 19, 1867.—The upper and lower dies have grooves formed of the shape of the article to be produced, and are so constructed that the article being hammered can be turned around and the surplus metal forced into a bulge made for the purpose in the dies; this surplus gradually disappears in the operation instead of appearing as a "flash" which has to be afterward trimmed off.

Claim.—The use in the trip hammer of dies constructed as described for the purpose of forging articles of the description specified.

62,175.—ELI ZIMMERMAN, Pamela Four Corners, N. Y.—*Lifting Jack*.—February 19, 1867.—The lever is linked to the stand and its inner end acts upon the notches of the sliding ratchet bar, the position of the latter, during the intervals of the impulses, being retained by a pawl.

Claim.—First, in a jack for raising fences and for other purposes, the swinging lifting hook arranged so as to be adjusted to different heights on and relatively to the sliding bar by which it is actuated, substantially as set forth.

Second, the combination with the sliding ratchet bar, the actuating lever, and the spring latch and pawl

of a slotted lifting hook suspended from said bar and adjustable thereon, substantially as shown and described.

62,176.—W. M. BAKER, Fortville, Ind.—*Table, Cupboard, and Clothes Rack*.—February 19, 1867.—The table is arranged as cupboard, beneath has a rack for clothes, one for tin ware, a rolling board, and drawers and trays for various purposes.

Claim.—First, a combined table, cupboard, and clothes rack or frame, substantially as and for the purpose described.

Second, in combination with the above the rack or frame N, for tins, rolling board P, and tray O, when arranged together and within the body of the table, substantially as described.

62,177.—JOHN BALMORE, New York, N. Y.—*Pipe Cutter*.—February 19, 1867.—The movable jaw is hinged to a nut which traverses the threaded shank and operates in opposition, either to the socket end of the shank or to a cutter inserted therein.

Claim.—The cutter D and groove *d*, in combination with the shank C, nut B, and hook A, constructed, arranged, and operating substantially as described and for the purposes set forth.

62,178.—P. M. C. BÉZIEL, Paris, France.—*Forming the Parts, Links, &c., of Chains, Bracelets, &c.*—February 19, 1867.—A design is engraved in two hollow corresponding dies whose edges are shaped to cut out the margin and openings. A sheet of malleable metal, soluble in acid, is placed between two sheets of gold and the pack swaged between the dies. The baser metal is removed by acid.

Claim.—The method, substantially as herein set forth, of forming links, leaves, or other similar articles of gold or silver for ornamental or useful purposes.

62,179.—D. O. BLAIR, Abington, Ill.—*Churn*.—February 19, 1867.—The dashers receive a rotary reciprocation from a cord wound around an enlargement on the dasher shaft and alternately pulled in either direction by an oscillating lever to which it is attached on opposite sides of the center of vibration.

Claim.—First, the combination of the lever E, cord c, pulleys *d*, socket drum C, and dasher shaft B, with each other and with the frame D, constructed as shown, and operating substantially in the manner herein set forth.

Second, in combination with the above the vertical dashers F, beveled toward their outer ends, for the purpose described, substantially as specified.

62,180.—DANIEL CAMPBELL, Elizabeth, N. J., assignor to HENRY SKYMOUR, New York, N. Y.—*Pruning Shears*.—February 19, 1867.—The curved shank of the knife moves in guides which give it a draw cut while the blade advances upon the stationary knife. The motion is given by a draw rod operated by toggle lever and pivoted handles.

Claim.—First, the combination of the curved shank *c* of the movable blade C with the grooved plate *f* and stationary blade A, substantially as and for the purpose herein shown and described.

Second, the application to pruning shears of the double set of toggle levers D and arms *d*, made and operating substantially as herein shown and described.

62,181.—MOSES CHANDLER, Corinth, Me., and JOHN B. NICKLES, Kenduskeag, Me., assignors to V. S. PALMER and J. B. NICKLES.—*Horse Hoe*.—February 19, 1867.—The frame has two slotted, transverse bars to which the winged shares are adjustably attached so as to regulate their obliquity to the line of draft. Their vertical obliquity is regulated by a toothed clutch connection to the standards. Adjustable toothed terminal blades on the inward ends of the shares operate in the immediate vicinity of the plants in the row.

Claim.—First, adjustably attaching the wings or blades H, when formed as described, to the uprights G, substantially as and for the purpose set forth.

Second, the combination of teeth or cogs with the blades H and uprights G, substantially as herein shown and described, and for the purpose set forth.

Third, the combination of the pivoted rake heads K with the blades or wings H, substantially as herein shown and described, and for the purpose set forth.

Fourth, securing the uprights G to the caps C and to the slotted cross bar B by means of angular bolts E and steady pins I, substantially as herein shown and described.

Fifth, the combination of the stay braces J with the uprights G and adjustable caps C, substantially as herein shown and described.

Sixth, the combination of the adjustable slotted caps C and slotted cross-bars B, having bands D around their slotted ends, with each other and with the draft beam A, substantially as herein shown and described.

62,182.—O. O. CHAPMAN, Seneca, Wis.—*Wheelwrights' Machine.*—February 19, 1867.—For boring the hubs and fellos and tenoning the spokes. The adjustable head block carries and revolves the auger. The stuff is held in place and fed to the operating tool by a spring clamp and sliding carriage.

Claim.—The head block G, bearing the wheel H, pinion I, movable table C, lever T, treadle Q, rod P and lever N, when constructed, arranged, and operating substantially as herein set forth.

62,183.—H. M. CLIFFORD, Philadelphia, Pa.—*Stove Pipe Joint.*—February 19, 1867.—The adjacent ends of the sections of pipe have outward-turned flanges, which are embraced by a grooved band fastened by set screws.

Claim.—The band b, constructed and applied substantially as described for the purposes herein set forth.

Also, the lip or flange a on the end of the pipe, in combination with the band b, as and for the purposes specified.

62,184.—WESLEY A. COE, Greensboro', N. C.—*Apple Parer, Corer and Cutter.*—February 19, 1867.—The apple is impaled on the fork, and the paring removed by the knife during the rotation of the fruit. A lever then simultaneously advances the ring on the fork and the cutting and coring tool: the circular edge of the latter cuts out the core, which is received in the cylinder, and the radial flanges divide the peeled apple, the ring forcing the core from the fork.

Claim.—First, the tubular bar C, having its opening continuous throughout for cutting out the core and discharging it beyond the working parts of the device, in combination with the shaft M, cross-bar N and bar D, in the manner represented and described.

Second, the sliding bar D, provided with the bar L, in which is the ring i, substantially as shown and described.

Third, the shaft M and cross-bar N, in combination with the bars C and D, for the purposes as shown and described.

62,185.—J. W. CONNELLY, Charleston, Ill.—*Cultivator.*—February 19, 1867.—The two forward plow beams are pivoted to arms, which descend obliquely rearward from the forward transverse bar of the frame. The standards of the rear outside plows are pivoted to the frame and suspended by chains. The frame is supported on wheels, and the plows are all vertically adjusted by a single lever and branching connecting chains.

Claim.—First, the machine, in combination with a cultivator of the several parts as arranged and described.

Second, the arms O O, made either of wood or iron, and manner and place of attachment to bar or double tree on forward end of hounds of frame, as described and shown.

Third, the flexible connecting beams F F, with arms O O, either by bolts, pins or clevis, as shown and described.

Fourth, the bar B, arms O O, beams F F and stocks T T, as constructed and shown and described.

62,186.—E. H. CRAIGE, Brooklyn, N. Y.—*Work-supporting Plate of Sewing Machines.*—February 19, 1867.—Explained by the claims and illustration.

Claim.—First, a cloth plate of the Wheeler & Wilson sewing machine, constructed in three or more parts, the parts to be removed being tongued and grooved, substantially as and for the purpose set forth.

Second, the throat piece f, constructed as described, so as to be inserted in the cloth plate in the direction

in which the fabric is fed, substantially as and for the purpose described.

Third, holding the throat piece f in place by the movable part b of the cloth plate, substantially as and for the purpose set forth.

62,187.—HENRY G. DAYTON, Maysville, Ky.—*Refrigerator and Water Cooler.*—February 19, 1867.—As the water is drawn from the cooler an equal quantity is admitted into the latter from the outer reservoir by the double cock, which operates in each pipe.

Claim.—First, the combination with a water cooler A and reservoir or supply chamber F of the double cock D' G', or its equivalent, substantially as and for the purpose specified.

Second, the perforated pan E, arranged and employed in combination with the pipes G and D, in the manner and for the purpose set forth.

62,188.—H. FASSMANN, New Orleans, La.—*Cotton Bale Tie.*—February 19, 1867.—Explained by the claim.

Claim.—The plate a having a slot or opening b provided with serrated or toothed sides to receive the end C of the hoop, and prevent the slipping or withdrawing of C from b, substantially as shown and described.

62,189.—DAVID F. FETTER, New York, N. Y.—*Bushing for Barrels.*—February 19, 1867.—The bushing forms a lining for the bung hole, and prevents the wear of the staves. It is secured by barbed creases on the outer periphery of the bush, which catch upon the wood. The peripheral plate may be fastened by screws.

Claim.—The bush constructed with the angular ridges presenting an inclined or wedged-shape surface to the wood, while the bush is being driven into place, and a flat surface opposed to the wood when a power is exerted to withdraw the bush, substantially as described and represented.

62,190.—FRIEDRICH FISCHER, Garabaldi, Iowa.—*Rotary Steam Engine.*—February 19, 1867.—The annular cylinder has a piston, whose advancing conical end separates the halves of the abutment, which close behind it, the inclined planes in the rear of the piston preventing slapping shut. Steam is excluded during the passage of the abutment. The hinged end of the valve stem can be vibrated out of contact with the cam and the valve dropped, shutting off steam, or turned back, taking on steam and starting the engine.

Claim.—First, the abutment H H, which opens from the middle, in combination with the toe i on the advancing end of the piston B, constructed and operating substantially as and for the purpose described.

Second, the inclined planes k on the piston head, in combination with the abutment H H, opening from the middle, substantially as and for the purpose set forth.

Third, the hinged or jointed valve stem N, cam M, and starting bar O, in combination with the piston valve I, abutment H H, piston B, and cylinder A, constructed and operating substantially as and for purpose described.

62,191.—CHARLES FLESCHE, Rochester, N. Y.—*Permutation Lock.*—February 19, 1867.—The stem of the bolt, which is thrown in or out to lock, or not to lock or unlock the door, is engaged by a pair of pivoted jaws, whose retraction is governed by the coincidence of the projection on the dog plate with the depression in the head. The dog plate falls to allow the dog to enter the notches of the permutation wheels, when the fly is centered in the slot. At other positions of the fly it acts as detent by engaging in indentations of the dog plate.

Claim.—First, the combination of two jaws G G, connected by the toggle levers r r, or equivalent, operating substantially as and for the purpose herein set forth.

Second, the combination of the dog plate F with the jaws G G, operating substantially as and for the purpose specified.

Third, the combination of oscillating fly g, with the dog plate F, or equivalent, operating in such a manner as to allow said plate to fall when centered, but to hold it elevated at all other times, as specified.

Fourth, the combination of the rollers or cams *b b* of the head *a*, with the oscillating plate *E*, operating substantially as and for the purpose set forth.

Fifth, so connecting the head *a* with the dog plate *F*, or equivalent, that in turning from the bolt said plate will only touch the cam points *j j*, but in turning toward the bolt the dog will be allowed to fall to unlock the device, substantially as set forth.

Sixth, clamping the center of the combination wheels in place, by means of a rim *y*, tightened or loosened by a screw *a'* or equivalent as set forth.

Seventh, connecting the screw *a'*, with the rim *y*, by means of the shoulders *b' c'* or equivalent, and the slot *d'*, in such a manner that the rim is attached to and raises with the screw, substantially as specified.

62,192.—JOHN M. GLEICHMAN, Evansville, Ind.—*Stump Extractor.*—February 19, 1867.—The frame is mounted on wheels, and supports a lever, which is vibrated by tackle and windlass on the forward part of the carriage. The suspended stump may then be transported. For heavy lifting a second lever is employed, with a fulcrum on the ground, and its lifting chain passing around the upper lever.

Claim.—The lever *G*, tackle *H* and windlass *I*, arranged, combined, and applied to a mounted frame *A* to operate in the manner substantially as and for the purpose set forth.

Also, the supplemental lever *N*, in combination with the lever *G*, tackle *H* and windlass *I*, substantially as and for the purpose specified.

Also, the windlass *J*, in combination with the lever *G*, tackle *H* and windlass *I*, substantially as and for the purpose set forth.

62,193.—SAMUEL GULICK, Klines Grove, Pa.—*Lifting Jack.*—February 19, 1867.—The notched bars slide in vertical grooves in the frame, and are operated by the pawls, which are pivoted in the front and rear ends of the slots in the lever, and held to their work by springs.

Claim.—The bars *B C* sliding in opposite directions, pawls *D F* and *F G*, lever *H*, and springs *I*, constructed and arranged and operating as herein set forth.

62,194.—WILLIAM B. HAYDEN, Columbus, Ohio.—*Wire Rein Snap.*—February 19, 1867.—Explained by the claim and illustration.

Claim.—The application of a guard or shield *B* to a rein snap, which is made of wire, substantially in the manner and for the purposes described.

62,195.—CHARLES E. HAYES, Lancaster, Pa.—*Money Drawer.*—February 19, 1867.—A tongue is attached to the side of the drawer, and moves in a groove on the drawer slide. The groove is bifurcated, and the drawer has to be pushed in till the tongue clears the point at the bifurcation, when it is depressed to cause the tongue to follow the other groove, which allows it to come open.

Claim.—The tongue and groove pieces, with spring attachment, to be made of wood or other material, and for the purpose set forth in the specification.

62,196.—CHARLES HERMAN, Schuylerville, N. Y.—*Gate Hinge.*—February 19, 1867.—The gate is carried on two rollers, one of which traverses the base piece, and the other is attached to a leaf of the gate hinge, and is traveled by the top bar of the gate.

Claim.—First, the construction of a gate hinge of a leaf *a* and plates *b b*, the latter having a wheel *c* between them and an eye on one side for receiving the pintle on the leaf *a*, substantially as described.

Second, in gates which are allowed to move in a direction with their lengths, and also to swing about on axes, providing for elevating or depressing such gates at pleasure, so as to adapt them for both summer and winter use, substantially as herein described.

62,197.—CHARLES L. HEYWOOD, Boston, Mass.—*Railway Safety Guard.*—February 19, 1867.—A light horizontal arm is attached to an upright, by yielding springs, for the purpose of warning persons on the top of cars, by touching them on the approach of the train to bridges, &c.

Claim.—A railway guard, arranged and operating as described and for the purpose specified.

62,198.—AARON HIGLEY, South Bend, Ind.—*Car Brake.*—February 19, 1867.—When the speed of the cars is checked friction clutches upon the axles are put in action, which contract a spiral spring upon a bar between the two axles. The draft upon the draw head in starting frees a pawl and allows the spring to assist in moving the cars.

Claim.—In a car brake and starter for railroad cars the combination of clutch coupling *D*, pulley *F*, ratchet *g*, and pulley *E*, substantially as and for the purpose set forth.

62,199.—AARON HIGLEY, South Bend, Ind.—*Car Brake.*—February 19, 1867.—A device similar to the preceding, in which the power exerted in stopping the cars is stored in a spring, which is automatically freed to assist in starting.

Claim.—In a car brake and starter for railroad cars clutch lever *G*, spring *H*, dog *I*, swivel *J*, and chains *c c* and *o*, in combination with clutch coupling *D*, ratchet *g*, pulleys *F* and *E*, substantially as and for the purpose set forth.

62,200.—W. J. HOBSON, Savannah, Mo.—*Corn Planter.*—February 19, 1867.—The serrated wheel has anti-friction rollers, which impinge against one arm of an oscillating yoke, having connections to the seed slides. A marker arm revolves with this wheel. The said wheel and the seed hopper are on a frame, which is connected to the main frame by springs at its fore end, to insure steady movement of the slides in rough ground. This frame may be raised by a pivoted treadle.

Claim.—First, the wheel *I*, provided with a sharp serrated edge, and fitted between bars *H H*, attached to a shaft *G*, to which the seed boxes *F* are secured, substantially as and for the purpose specified.

Second, the operating of the seed-distributing bars *K* from the wheel *I*, through the medium of the rollers *b b* attached thereto, the *g*-shaped lever *N*, attached to the rod *M*, the spring *O*, and right angular levers *L L*, all arranged to operate substantially in the manner as shown and described.

Third, the marker *J* attached to the axis of the wheel *I*, when used in combination with the seed dropping mechanism, constructed and arranged as set forth.

Fourth, the treader *R*, applied to the rear parts of the bars *H H*, and arranged in relation with the driver's seat, substantially as and for the purpose specified.

62,201.—LEWIS HOVER, Chicago, Ill.—*Sad-iron Holder.*—February 19, 1867.—The two sections of the holder are held together by springs, and have plates to protect the fingers from radiated heat.

Claim.—The combination of the springs *D*, semi-cylindrical holders *A*, and deflectors *B*, when the parts are constructed substantially as and for the purpose set forth.

62,202.—JAMES S. HUGG, Philadelphia, Pa.—*Broom Head.*—February 19, 1867.—The head has end slits and double lanceolate openings along the sides to allow the passage of the edge of the elongated washers, by which and the indrawn sides of the head the corn brush is clamped in place.

Claim.—The combination of the broom head *A*, with slitted ends, the partition plate *E*, and socket *D*, secured thereto, and the armed washers *f*, substantially as described.

62,203.—ERNST V. JEINSEN, New York, N. Y.—*Car Coupling.*—February 19, 1867.—The coupling link is dropped over upward projections of the draw bar, which are formed so as to allow uncoupling in case of accidents. The inner end of the draw bar has annular springs with nuts for adjustment.

Claim.—First, the hinged coupling pins *C C'*, provided with shoulders *b b'*, in combination with lips *a a'*, and with the shackle bar *B*, constructed and operating substantially as and for the purpose described.

Second, the adjustable springs *c c'*, in combination with the coupling pin *C*, shoulder *b*, and lip *a*, constructed and operating substantially as and for the purpose set forth.

62,204.—BARTON H. JENKS, Bridesburg, Pa.—*Index Chain for Looms.*—February 19, 1867.—These

chains are designed for operating drop shuttle boxes; and the mode of connecting the links by pins and hooks may be applied to the card patterns of jacquard looms. The openings through the links are designed for receiving the teeth of a revolving drum. The projections on the links are to enter depressions in the periphery of a wheel. The lateral projections are intended to actuate spring levers.

Claim.—First, constructing the links of index chains for looms, with hooks and eyes or pins in such manner that the links can be readily separated from each other without removing said pins, substantially as described.

Second, the construction of hooked links of index chains for looms with teeth upon them for entering spaces between the teeth of a wheel or rack for moving the links, substantially as described.

Third, the construction of hooked links of index chains for looms, with fast or movable studs *a*, whether such studs be applied to the outer or upper surfaces, or to the sides of the links, substantially as described.

62,205.—GEORGE JOHNSON, Detroit, Mich., assignor to himself, FRANCIS BROSSY and ABOLPHUS CADRON, same place.—*Sawing Machine.*—February 19, 1867.—The wood to be sawed is clamped in the buck by means of a lever having a cam upon its lower end, which is brought in contact with the wood to hold it firmly in place, and is adjustable by means of the sliding frame and ratchet bar.

Claim.—The ratchet bar *a* and sliding or adjustable frame *Y*, with the dog *X* and lever *I* attached thereto, and arranged to operate as shown and described for holding the wood.

62,206.—DANIEL A. JOHNSTON, Memphis, Tenn.—*Printing Apparatus for the Blind.*—February 19, 1867.—The disk has a circular series of vertical plungers with raised letters on their lower ends to imprint the paper, which is properly fed beneath. Corresponding with the series of vertical plungers are horizontally moving plungers whose raised letters are exposed on the periphery to the touch of the operator. The letter being selected is pressed inward, and the rotation of the disk brings it to the stopping place, at which an impulse is given to the vertical corresponding plunger. Each selected letter is brought to the same spot, being arrested by engagement with a depression in the stationary ring.

Claim.—The wheel *W*, provided with the circular series of plungers *a*, provided with impressional characters on their faces, and the plungers *b*, provided with characters for the touch of the operator.

Also, the stationary ring *g*, provided with the depression *h*, in combination with the plungers *b* *b*, as and for the purpose set forth.

62,207.—JAMES J. JOHNSTON, Allegheny City, Pa.—*Brick Machine.*—February 19, 1867.—The intermittently moving horizontal disk containing the molds passes beneath the clay hopper to receive the clay, which is afterward ejected by a plunger, and deposited upon the off-bearing table. The actions of filling and ejecting are simultaneously executed upon bricks at different parts of the disk, while the latter is temporarily stationary.

Claim.—First, a brick machine provided with a revolving disk *C*, filling and discharging the molds or brick upon a bearing-off table *D*, the whole operating substantially as described and for the purpose set forth.

Second, the bearing-off table *D*, in combination with mold disk *C*, plunger or press *f*, lever *J*, cam *m*, constructed, arranged, combined and operating substantially in the manner herein described and for the purpose set forth.

Third, the locking pin *V*, provided with arm *q* and spring *l*, when used in combination with the cam *9* and openings *6* in the mold disk *C*, as herein described and for the purpose set forth.

62,208.—JOHN JOSLYN, Canton, N. Y.—*Crimping Machine.*—February 19, 1867.—The leather to be crimped is drawn between two counterpart plates, having a series of circular depressions or cavities in their opposite and parallel faces; the leather is drawn down by means of a suitably shaped former, which moves between the said circular depressions working the leather, stretching or condensing it into the required shape.

Claim.—Crimping boots by passing or drawing the

leather down and between two stationary or fixed plates having their surfaces opposite to each other, or with which the leather comes in contact, corrugated or formed with a series of circular or other suitable shaped cavities or depressions, substantially as herein described.

Also, so arranging the corrugated plates *E E*, or their equivalents, that they can be adjusted to any degree of pressure upon the leather being crimped, substantially as and for the purpose described.

62,209.—THEODORE E. KING, Painesville, Ohio.—*Fence.*—February 19, 1867.—The frame foundation for the post has cast-iron horizontal and vertical pieces, and brace screw bolts with an upper disk, to which the post is attached.

Claim.—First, a base for fence posts composed of the sole figures 6 and 9, short standard *A*, cap figures 1 and 7, made separate and detachable, and formed into a rigid body by means of the adjustable braces figures 1 and 9, used and operating in a pair or pairs, substantially as herein shown.

Second, attaching the post *K* to the said base by means of the said braces passing through the flange *K* thereof, and secured thereto by the nuts *J J*, substantially as and for the purpose specified.

62,210.—W. A. LAVERTY, Philadelphia, Pa., assignor to JOSEPH NICHOLSON, same place.—*Necktie.*—February 19, 1867.—The holding plate has side wings and downward projections; the latter are perforated for attachment of an elastic cord, which passes over the button and springs the holder plate into the angle made by folding over the lap of the collar.

Claim.—The plate provided with an elastic cord *E*, secured to the arms *D*, which form the crotch *C*, retaining the plate against the neck, and allowing the button to protrude through the crotch while resting on the elastic, substantially as described.

62,211.—W. P. LONG, Wheatland, Ind.—*Making Ploes.*—February 19, 1867.—The land side and mold board are made of a single plate of metal, by rolling, cutting and swaging it into shape.

Claim.—Forming the land side and mold board from one plate of metal, in the manner substantially as described for the purpose specified.

62,212.—JAMES MAGUIRE, Trenton, N. J., assignor to JOHN B. BRUSHER, same place.—*Bedstead Fastening.*—February 19, 1867.—The side bars have end plates with a round perforation to admit the passage of the head of the post pin. The pin shank slides in an inclined slot by the descent of the side bar, which tightens the joints.

Claim.—The plate *D*, provided with the inclined slot *d'*, so as to pass over the head of the pin *E*, whereby the rails *A* are drawn against the posts *C*, and the said plate and screw proportionately relieved from strain, as herein set forth.

62,213.—DAVID MANUEL, Boston, Mass., assignor to himself and WILLARD MANUEL, same place.—*Bed Bottom.*—February 19, 1867.—The part of the spring wire which enters the groove of the slat and on which it rests is covered by a rubber tube.

Claim.—The roller-covered loop of the springs moving in the notches of the slats for the purpose described, as specified and shown.

62,214.—H. H. MASON and JOSEPH MESSINGER, Springfield, Vt.—*Mop Head.*—February 19, 1867.—The upper clutch bar is adjusted by the screw on the handle end. The handle is prevented from back rotation by its spring catch, which engages the ratchet socket of the frame.

Claim.—The fixed screw *B* on the handle *A*, in combination with the ratchet *D* on the ferrule *C*, the pawl *E*, the jaw *G*, provided with a tube or socket having an internal screw thread to work on the screw *B* and the jaw *F*, connected to the ratchet *D* and fitting in the ends of the jaw *G*, substantially as and for the purpose herein set forth.

62,215.—JOHN T. MILLER, Iowa Falls, Iowa.—*Ditching Plov.*—February 19, 1867.—The short, forwardly-inclined cutter divides the sod centrally as to the ditch. This is followed by a backwardly-inclined cutter, passing from the beam to the solo plate. Two

inclined blades cut the side of the ditch, and the earth is raised upon the wings on each side of a central mold-board, and thrown laterally on the surface by wings at the rear of the plow.

Claim.—First, a ditching plow, constructed, arranged, and operating substantially as herein described.

Second, the sole B, with its plate *b*, supporting the sward colter *c*, cutters *c'* *c''*, secured to the cross-frame C, the inclines *e* and mold-board D, combined and arranged substantially as described for the purpose specified.

62,216.—PETER OLLOM, Muncie, Ind.—*Well-Boring Auger.*—February 19, 1867.—This auger, in other respects like an ordinary carpenters' auger, has, in lieu of a screw point, a triangular projection. A vertically-adjustable sweep is attached for rotation.

Claim.—The improved auger or well borer, constructed and operated substantially as described.

62,217.—L. S. PACKARD, West Stockbridge, Mass.—*Railroad Switch.*—February 19, 1867.—The parallel switch rails are pivoted, at a common point, at their mid-length. By them a car is directed from the main to either one of the switch tracks, each switch rail serving as a leader from the main to one of the others.

Claim.—First, the arrangement of a set of parallel tracks A, moving on pivots B, and kept in a parallel position by means of the bars C, when constructed and operating substantially as herein set forth.

Second, the combination and arrangement of the rails A, parallel bars C, slotted lever D, pusher N, springs L, rod F, lever E, lever G, pin H, and spring J, as herein shown and described, and for the purpose specified.

62,218.—JOSEPH C. PAINE, Dubuque, Iowa.—*Revolving Bread Toaster.*—February 19, 1867.—A slice of bread is placed in each holder and set before the fire. All are turned at once by moving the thumb piece.

Claim.—The plate A, with slots or guides *c c c c*, thumb piece F, slide bar B, with flutes or rests D D D, and holders E E E, or their equivalents, substantially as and for the purposes herein specified.

62,219.—JULIUS PARKER, Meriden, Conn., assignor to CHARLES PARKER, same place.—*Hinge.*—February 19, 1867.—One leaf has a pivot on its projecting flange, and the other a corresponding socket. The two form the hinging axis. The socket rises on the pivot to permit the catch hooks to pass each other, and then gravitates into position again, the blind being locked.

Claim.—The combination of the socket E upon the plate A, with the pivot C upon the plate B, when constructed, arranged, and operating substantially as herein set forth.

62,220.—CHARITY PENDLETON, Iowa City, Iowa.—*Washing Machine.*—February 19, 1867.—One compartment forms a wash tub, and the other a boiler. The contents of the latter are heated by a furnace beneath and admitted to the tub by a grated opening.

Claim.—The water-tight compartments E and F, formed by the partition D provided with the hole G and sliding gate H, when constructed and arranged as herein set forth, for the purpose specified.

62,221.—P. PHILLIPS, Beardstown, Ill.—*Axle Box.*—February 19, 1867.—By the described arrangement the wheel is secured upon and readily removed from the axle, the lubricant retained, and the dust excluded.

Claim.—The box B, fitted in the hub A, and provided with a nut C on its outer end, in connection with the thimble D, provided with the screw, which is screwed into the inner end of the box, and the annular plate or flange F, secured in the outer side of the flange *a* of the thimble, with the collar *b* of the arm between the shoulder *a'* and the annular plate or flange, substantially as and for the purpose herein set forth.

62,222.—W. ALERIAN PITROWSKI, New York, N. Y.—*Painting and Varnishing Wood and Metals.*—February 19, 1867.—Instead of the successive coats of paint, the surface is coated with a composition of

linsed oil with asphaltum, which serves as a basis for the finishing painting.

Claim.—The new mode of preparing the surface of wood and of metals ready for the reception of finishing colors and varnishes, substantially as herein described, for the purpose of simplifying, shortening, and cheapening the whole process of painting wood and metals for carriages, &c., and to obviate, in a great measure, the cracking of the coat of paint when exposed to the influences of the weather.

62,223.—JONAS POTTS, Bridgeport, West Va.—*Cultivator.*—February 19, 1867.—To each beam is attached a share standard. By the use of all, or the removal of parts, the beams in the case of side plows, and the standard in the case of the middle plows, the implement is convertible into a treble, double, or single shovel plow.

Claim.—First, a cultivator, provided with movable uprights D D¹ D², and their arms *d d'* *d''*, to enable it to be changed to a double or single shovel plow, substantially as and for the purposes described.

Second, the yoke C, provided with a plate C¹ having hooks *f* fastened to it, to hold and support the arms *d' d''*, substantially as described.

Third, the plow beam A, provided with the projection *a*, and tapering at its end, substantially as and for the purpose set forth.

Fourth, the combination of the plow beam A, projection *a*, yoke C, plates C¹, hooks *f*, uprights D D¹ D², with their arms *d d'* *d''*, substantially as and for the purposes described.

62,224.—M. S. RAWSON, Winhall, Vt., and C. B. RAWSON, South Londonderry, Vt.—*Machine for Raking and Loading Hay.*—February 19, 1867.—The series of rakes is attached to endless chains, and used in connection with a guide box, a rake, and a grating or shield, whereby the hay may be raked up from the windrows and elevated upon the wagon to which the device is attached.

Claim.—First, the combination and arrangement of the pinions B, racks G, pawl I, and box D, in the manner as and for the purpose specified.

Second, the notched pulley J, fitted in the draft pole C, in combination with the rope M and pawl L, all arranged and applied substantially as and for the purpose specified.

Third, the rake heads Q, attached to the endless chains P P, and provided with the bars *k*, having pins *l* passing transversely through their ends, in combination with the guide tube R and box D, in which the teeth *j* of the rake heads Q work in the passage of the rakes upward, as shown and described.

Fourth, the spring *m m'* at the upper and lower ends of the guide tube R, in combination with the flap S, having the spring *n* bearing upon it, substantially as and for the purpose set forth.

Fifth, the combination and arrangement of box D, shield N, teeth *h*, in the manner as and for the purpose specified.

62,225.—R. RENIFF and WILLIAM W. BUTTOLPH, Bloomington, Ill.—*Railroad Car Ventilator.*—February 19, 1867.—A screen at the mouth of the hood excludes cinders. The air ascends an incline, passes through a perforated plate, and over the surface of the water contained in the tank, whose partitions prevent its washing over.

Claim.—The use of the vertical screens J covering the mouths of the receiving caps H, in combination with the inner perforated plate K and water tank R, having the partitions *s*, constructed substantially as and for the purpose set forth and described.

62,226.—J. ALSTON REYNOLDS, Savannah, Ga.—*Machine for Sowing Rice.*—February 19, 1867.—The seed is carried from the hopper to the discharge tube by an endless conveyor screw. The opener forms a shoe around the foot of the discharge tube, and is vertically adjustable by a lever.

Claim.—First, the screws *c*, fitted in grooves *b* in the bottom *a* of the seed box E, and operated from one of the wheels B by gearing arranged substantially in the manner as and for the purpose herein set forth.

Second, the sliding or adjustable furrow openers I, applied to the tubes H, and arranged substantially as and for the purpose specified.

62,227.—RICHARD H. RYNE, New York, N. Y., assignor to WILLIAM S. HICKS, same place.—*Pen and Pencil Holder.*—February 19, 1867.—The penholder is attached to a sliding collar, and is projected at the same end as the pencil. The latter is projected by the rotation of the extension handle.

Claim.—The combined pen and pencil holder, having pen and pencil both located at one end, and having the extension handle B arranged to operate as shown and described.

62,228.—TURNER SAUNDERS, Memphis, Tenn.—*Cotton Scraper.*—February 19, 1867.—The landside bar is extended backward farther than usual, and a scraper is attached to its rear end.

Claim.—The combination of the scraper and plow, the parts being constructed and arranged to operate in the manner substantially as and for the purpose herein set forth.

62,229.—WILLIAM K. SHORT, J. W. ALLEN, and JOHN CRAIG, Mount Pleasant, Iowa.—*Washing Machine.*—February 19, 1867.—A frame carrying octagonal rollers is reciprocated upon the clothes which lie upon a corrugated bottom.

Claim.—The horizontal rubber B, consisting of the frame b¹, octagonal rollers b², projections b³, and cross bar C, when constructed and arranged as herein set forth.

62,230.—J. H. SPRINGER and W. M. BARTRAM, Philadelphia, Pa., assignors to HENRY STELLWAGEN, trustee.—*Low-water Alarm for Steam Generators.*—February 19, 1867.—An improvement on their patent June 19, 1866, No. 55,732.—A bucket is suspended in the try cylinder by a rod, which connects to a valve in such a manner as to open it and to sound the steam whistle when the water sinks too low. An oscillatable weighted arm is connected to a valve stem to close communication between the lower end of the try cylinder and boiler, when the latter is longitudinally inclined by the position of the vessel, but to allow free communication when horizontal.

Claim.—First, the arrangement of the balance valve f with reference to the monitor and whistle, substantially as and for the purpose set forth.

Second, the combination and arrangement of the pendulum attachment with the stem of the water valve, substantially as and for the purpose set forth.

Third, the arrangement of the test cock d of the cylinder, the cup D, and the valve stem M, substantially as and for the purpose specified.

62,231.—JOHN S. STEELE, Rockingham, Vt.—*Sand Box for Carriage Axles.*—February 19, 1867.—The hub socket is extended over the butting-ring so far as to allow a chamber between the latter and a sand ring.

Claim.—The sand collar C and chamber E, in combination with the extended pipe box F, for the purpose set forth.

62,232.—CHARLES H. STOCKBRIDGE, Whately, Mass.—*Brace for Bits.*—February 19, 1867.—As the sleeve is screwed upon the socket, the dogs in the former are brought against the shoulder of the tool to fasten it in position.

Claim.—The combination of the nut B, secured on the exterior of the socket of a brace or bit stock, with the dogs C d C d and cams b b, all constructed, arranged and operating substantially as and for the purpose herein set forth.

62,233.—JAMES E. STRODE, Litchfield, Ill.—*Grain Dryer.*—February 19, 1867.—Air ducts for ventilation traverse the bin. Their sides consist of inclined overlapping slats, between which the air passes.

Claim.—The grain ventilator and dryer consisting of the inclined slats a, with spaces b between them, when constructed and arranged as herein set forth, and for the purpose specified.

62,234.—DANIEL B. TAYLOR, Avon, Mich.—*Ladder.*—February 19, 1867.—The ladder has a movable carriage with a step and seat, and is moved up and down by means of a crank, ratchet wheel and belt, and retained at its elevation by a pawl.

Claim.—The application to ladders of a movable frame B, having a step D and seat I, attached to-

gether with friction rollers I, band M, crank K, ratchet wheel F, and pawl G, constructed and operated substantially as above described.

62,235.—L. A. TRIPP, Middletown, N. Y., assignor to himself and C. H. HOITON, same place.—*Curtain Fixture.*—February 19, 1867.—The uncoiling of the spring winds the shade on the roller and conversely, and the desired position of the shade is maintained by the engagement of the shouldered catch with one of the radial arms on the axis of the roller.

Claim.—An improved window shade fixture, formed by the combination of the spring catch F f, one or more radial arms G, the coiled spring E, and the journal e' of the roller C, with each other, substantially as herein shown and described, and for the purpose set forth.

62,236.—R. SANDS TUCKER, Brooklyn, N. Y.—*Compound for Coating and Insulating Telegraphic Wires.*—February 19, 1867.—The yarn of hemp is saturated with a compound of pounded glass, oils and resins, and then closely wound around the conducting wire. The wire thus insulated is protected by wire or tarred hempen yarn.

Claim.—Application of glass, finely ground or pulverized, and mixed or incorporated with linseed oil, tar, or other oleaginous and resinous substances, to insulate metallic wires or conductors in telegraph cables.

62,237.—BURK VAN ALSTINE, Channahon township, Ill.—*Mop Wringer.*—February 19, 1867.—The fixed/squeezing jaw is secured to the side of a common pail, and the movable jaw is hinged thereto and operated by a lever.

Claim.—The hinged jaws a a, furnished with the prongs c c and lever b, when fastened to the side of a pail, all as and for the purpose herein set forth.

62,238.—SAMUEL B. WAIT, Mariner's Harbor, N. Y.—*Propeller.*—February 19, 1867.—A pair of submerged blades at the stem are attached to an oscillating, vertical shaft and brought broadside to the water and feathered, alternately, so as to make an effective and a return stroke. The horizontal shaft of the blades receives an oscillation in a vertical plane, while the sleeve to which its hub is secured is oscillated in a horizontal plane, so that it receives a double oscillation, once around its own axis and also around the axis of the vertical shaft.

Claim.—The arrangement herein shown and described for propelling vessels, consisting of the paddles h, shafts E and B, rod d, pin f, and sleeve g, substantially as set forth.

62,239.—SAMUEL WARD, Amsterdam, N. Y.—*Take-up Mechanism for Circular Knitting Machines.*—February 19, 1867.—In this rotating mechanism for circular knitting frames, when the tension of the knitted goods acting on the roller supported in the lever arms, exceeds that of springs, the latch is pulled downward so as to bear upon the projection on the rod and swing it so as to prevent its pawl from acting on as many teeth of the ratchet; thus decreasing the amount of take up.

Claim.—First, the rollers F, geared together at one end and hung in a revolving frame A, ratchet-wheel H, pawl I, lever arm J X, rocker-shaft M, with crank arms L and N, and stationary cam disk Q, when all arranged together so as to operate substantially as and for the purpose described.

Second, in combination with the above, the tension roller S, so arranged in the frame A and with regard to the lever-carrying pawl I, as to operate substantially in the manner and for the purpose specified.

62,240.—W. G. WARD, Scranton, N. Y.—*Clothes Pin.*—February 19, 1867.—Explained by the claim and illustration.

Claim.—The arms A pivoted to each other at their centers, having notches a at both ends on their inner faces, forming openings C, when the arms are closed, adapting either end of the pin to be used, substantially as described.

62,241.—JAMES W. WELLS, St. Joseph, Mo.—*Shingle Band.*—February 19, 1867.—The slat which

is to form a band is notched upon its inner side at the bending points, so 'ba' it can be bent around the pack; one end then being passed through a hole in the other, the band will clamp the pack of shingles.

Claim.—An improved binder, made of a single piece of wood, notched and formed at the points where the corners of the bundle will come, substantially as shown, and operating as described.

62,242.—CASSIUS M. WERNER, Rockford, Ill.—*Horseshoe.*—February 19, 1867.—The shoes are secured to the feet by edge clips, which extend upward against the walls of the hoof and are there fastened by clinching nails, which are tightened by nuts below the shoe on the screw shanks of the nails.

Claim.—First, the clip F, formed with a shoulder at its base, and a hole at its top, substantially as and for the purpose set forth.

Second, securing the shoe to the hoof by two nails clinched over or through side clips, substantially as and for the purpose set forth.

Third, grooving the top of the clip, or punching the clip, to clinch the nails and protect the hoof, substantially as set forth.

Fourth, the combination of the clip, whether grooved or punched, with the plate by a nail clinched over or through the clip, and tightened by a screw nut under the plate, substantially as and for the purpose set forth.

62,243.—R. J. WHEATLEY, St. Johns, Ill.—*Plow.*—February 19, 1867.—A sharp scraper, bow-shaped, is secured by a bar to the beam and follows in the wake of the plow to break up the subsoil.

Claim.—A subsoil attachment for plows, constructed, arranged and applied to admit of being adjusted at a greater or less degree of inclination, and also adjusted higher or lower to penetrate the earth at a greater or less depth, as may be required, substantially as herein shown and described.

62,244.—NORMAN L. ARCHER and CHARLES DEAVS, New York, N. Y., assignors by mesne assignments to ALEXANDER J. WALKER, same place.—*Lamp Burner.*—February 19, 1867.—Designed to be used without a chimney. The skirt below the deflector is in the form of a series of rings connected by alternating supports, to increase the distance traveled by the heat in passing through the deflector to the oil reservoir.

Claim.—A lamp burner, the cone or deflector of which is supported by a skirt or jacket in which are two or more ranges or slots alternating, substantially as and for the purposes specified.

62,245.—DANIEL BULL, Amboy, Ill., assignor to J. B. BOOKER and W. S. BEST.—*Table Leaf Supporter.*—February 19, 1867.—A curved spring-bar is placed beneath the leaf, and when the latter is extended engages a notch in the table frame. For lowering, it is vibrated out of the notch by pressure on the plate to condense the spring which maintains the engagement.

Claim.—The bar *c b*, in combination with the strip *d*, as constructed, and the plate *a*, when said plate is constructed so as to protect the end of bar *c*, over which it rests, and is provided with an opening through which the pad *y* is operated, substantially as and for the purpose specified.

62,246.—JOHN W. BARTLETT, Harmar, Ohio.—*Machine for Digging Potatoes.*—February 19, 1867; antedated February 9, 1867.—Improvement on his patent May 30, 1865. The roots are dug by the shovel, delivered onto the endless slatted apron, through which the dirt falls. The apron is driven by pulleys, and has slats to prevent the tubers running down. The roots fall onto the grated shaker, where they are cleaned of soil, sorted and delivered into separate receptacles.

Claim.—First, in combination with the shovel A the track clearer D, when formed and attached substantially as and for the purpose set forth.

Second, the revolving cylinder V, when used in combination with the endless apron M and shovel A, substantially in the manner and for the purpose set forth.

Third, the adjustable shield V', when used in combination with the cylinder V, substantially as and for the purpose set forth.

Fourth, the adjusting levers H and easter wheels G' and arms G, when used in combination with the shovel A, substantially as and for the purpose set forth.

Fifth, the combination and arrangement of the crank W and system of levers W' X X' and X'', for giving a vibratory motion to the grates Q and S, substantially as set forth.

Sixth, in combination with the vibrating grate Q the receptacle R and lever R', the latter being operated substantially in the manner set forth.

Seventh, in combination with the vibrating grate S the box T, door T' and rod T'', said parts being arranged substantially as set forth.

62,247.—JOHN BEAN, Hudson, Mich.—*Pump.*—February 19, 1867.—The hollow box of the plunger has a dividing diaphragm, and the chamber on each side of the latter forms a water way with a valved opening. Extending upward and downward from the chambers of the box are tubular stems, which work in the valved plates in the pump cylinder.

Claim.—First, the box C, constructed as described, and provided with the pipes E and D, substantially as and for the purpose specified.

Second, the box C with its pipes, when used in combination with the valve plates F and *d* substantially as and for the purpose specified.

62,248.—CHARLES E. BEST, Jordan, N. Y.—*Bed Bottom.*—February 19, 1867.—The slats rest upon spiral springs and are secured by transverse and diagonal straps; the ends of the former are attached to the under surface of the yielding pins, so as to maintain their tension when the plungers of the springs yield to pressure.

Claim.—Attaching the ends of the straps D D to the lower ends of the pins H of a bed bottom, when arranged in combination with the diagonal straps C C and slats B B, in the manner and for the purposes set forth.

62,249.—GEORGE C. BOVEY, Cincinnati, Ohio.—*Brick Machine.*—February 19, 1867.—The clay is crowded downward by corrugated rollers and received in the molds on the peripheries of two revolving cylinders. The latter have alternate mold and surfaces of intervening "land," which they each present in opposition to those on the opposite cylinder, the mold to the solid portion, and conversely, and parting at a middle dividing ridge on each cylinder; after which the brick is brought in opposition to one of the faces on an octagonal roller beneath. An eccentric on the shaft drives puncturers into the brick, and the latter are excluded by the followers, which are driven radially by a cam.

Claim.—First, the provision in a brick machine of the two feeding rollers J J', having longitudinal corrugations *j j'*, geared together to turn in the same direction as the respective mold wheels, and so as not to mesh into each other, and operating substantially as shown.

Second, the puncturating points *h h'*, operating within a hollow plunger, and operated by a grooved stationary cam, in combination with the pressing devices, as shown and described.

Third, the solid parts of the mold wheels, pressing the bricks as shown in the drawings; also the mold wheel, when arranged with stationary grooved cam, hollow plungers, grooved friction rollers, with puncturer operating or sliding through it, with shaft of mold wheel passing through the cam, all arranged and operating in the manner described.

Fourth, the dividing tongue L, when placed between the mold wheels B and C, and when used for the purpose described.

Fifth, in combination with the mold wheel B the hexagonal or other square-faced pressure roller, when made and used in the manner described and for the purposes set forth, or any other polygonal spring roller, for the purpose of squaring the faces of the brick without scraping or cutting the clay or the face of the brick.

Sixth, the combination of the mold wheels B C, feed rollers J J', dividing tongue L, pressure rollers M M', and aprons N N', when made and used substantially as shown and described.

62,250.—ELIJAH CASH, Brooklyn, N. Y.—*Pipe Tongs.*—February 19, 1867.—The pipe lies in the angle of the fixed jaw, and is nipped by the tooth of the movable jaw, which is pivoted to a link fixed by rack and cam to the serrated shank at the required adjustment.

Claim.—The pivoted biting jaw D and toothed adjustable slide B, in combination with each other and with the serrated shank of the fixed jaw A and the locking cam C, substantially as herein set forth for the purpose specified.

62,251.—SAMUEL A. CHAPMAN, Waterbury, Conn.—*Machine for Burnishing Plated Ware.*—February 19, 1867.—The two polishing rollers revolve in reverse directions on opposite sides of the ware; a reciprocating feed motion is given to the tool-holder by its pitman connection to a horizontally-revolving wheel.

Claim.—The rollers A and B, revolving to operate in reverse directions on opposite sides of the work, as described, in combination with a longitudinal reciprocating feed motion to the work, at a less velocity than the periphery of the rolls, substantially as and for the purpose herein set forth.

62,252.—JAMES COLLINS, Guelph, Canada.—*Harvester.*—February 19, 1867.—The endless discharging apron, behind the finger beam, moves parallel therewith, and discharges the gavel at one side of the platform; a swinging cut off is operated by the same shipping lever by which the apron is stopped and started, so as to be interposed to support the grain while the apron is in motion, and withdrawn while the apron is at rest to permit the grain to fall on the platform.

Claim.—First, the combination of the intermittently moving endless apron moving parallel to the finger beam, to effect a side delivery with the vibrating cut off.

Second, the combination substantially as described of the cut off and intermittently moving endless apron with the driving mechanism and shipping lever, for the purpose of enabling the driver simultaneously to stop the apron and withdraw the cut off, or to start the apron and interpose the cut off as set forth.

Third, the combination of the suspended endless apron, with the tension pulleys, driving bands, driving pulleys and shifting gear, as described.

62,253.—HIRAM CONDERMAN, Haskinville, N. Y.—*Coupling for Carriages.*—February 19, 1867.—The king bolt attaches the bolster to the axle or sand-board below, and the outer ends of the bolster rest upon branching plates attached to the lower piece.

Claim.—The bar C, provided with the sections F F and annular box E, when used in combination with the bed piece A, as and for the purpose specified.

62,254.—CHARLES C. CONVERSE, Brooklyn, N. Y.—*Apparatus for Heating Cars and other Vehicles.*—February 19, 1867.—The furnace and boiler are beneath the bed of the car, and impart heat through the grated floor. The steam condenses in a chamber beneath the seat and returns to the well of the boiler.

Claim.—First, heating cars and vehicles by heat derived from hot water, substantially as described.

Second, the boiler A, constructed substantially as described, with a well A', extending downward from its bottom into an inclosing furnace.

Third, the combination of boiler A, furnace G, steam condensing chamber B and pipe E, arranged substantially as shown for heating cars and vehicles by means of hot water.

Fourth, the use of a boiler or water receptacle in heating cars and vehicles, whose ends are flattened substantially as shown.

62,255.—JACOB COVERT, New York, N. Y.—*Propeller.*—February 19, 1867.—The vertical blades are bolted to a parallel bar and connected to cranks, by whose revolution they are alternately immersed to make the effective stroke and raised clear of the water on the return stroke.

Claim.—A series of vertical floats or blades b b, secured to parallel sides E, and so arranged as to form a series of water compartments, in combination with the crank C C, substantially as described and specified.

62,256.—J. C. CROSMAN, Boston, Mass.—*Coating Sheets of Paper and other Materials with Solutions.*—February 19, 1867.—The sheet of paper to be coated is first wetted by immersion in a liquid, and then placed on a hard slab or table, and pressed so as to remove any excess of moisture. The coating solution is then applied.

Claim.—The described process for coating sheets of material with fluid substances or compounds.

62,257.—COMMODORE DANIELS, Fremont, Ohio.—*Harness.*—February 19, 1867.—The straps pass over the back of the horse and are fastened to the thills and belly band; the neck yoke is arranged for attaching another horse; a pulley with a strap is attached to the fore-legs of the horse.

Claim.—The kicking straps q r, U and V, the strap P, the rod T, the neck yoke a and the bars Y, the whole arranged, constructed, and operated substantially as herein described.

62,258.—J. W. DOUGHTY and B. F. OLMSTED, Newburg, N. Y.—*Boiler Feeder.*—February 19, 1867.—When steam is admitted through the short leg of the siphon into the chamber above, the weight ceases to balance the float, and the latter sinking opens the water supply, which ceases as the water rises in the boiler above the opening of the said leg of the siphon. The water level in the boiler at which steam shall be so admitted is regulated by adjusting the said leg.

Claim.—First, the combination and arrangement of the float F with the leg of the siphon S¹, links U¹ U, lever U² U³, weight W, link U¹ U⁴, lever U², and valve v, with the chamber E and S², substantially upon the principle and in the manner as herein set forth.

Second, the arrangement of the short siphon leg T, whereby to lower or raise it, substantially in the manner as herein set forth.

62,259.—ANDREW R. EGGLESTON and CHARLES F. SWAIN, Ripon, Wis.—*Seeding Machine.*—February 19, 1867.—A revolving scatterer below the grain box distributes the seed broadcast. The scatterer receives the seed from an intervening series of boxes in which it is agitated, and two sides of which are formed by the axle. The size of the triangular openings in the floor of the hopper is regulated by a gauge. The drag bars are formed of sheet metal strips and are united nearly centrally in pairs, the right plate of one share and the left of its neighbor being fastened by one bolt to the axle, while the standards of the covers are secured to their outer ends.

Claim.—First, a scatterer placed below the axle, and arranged and operated substantially in the manner and for the purpose set forth.

Second, the arrangement of a series of seed boxes between the grain box and scatterer, substantially as and for the purpose set forth.

Third, the axle so constructed as to form the frame supporting the seed box and cultivators and the boxes between the seed box and scatterer.

Fourth, the combination of a gauge plate, triangular openings in the bottom of the seed box, and feeding pinions with the seed trough, substantially as and for the purpose set forth.

Fifth, the drag bars, when formed substantially as described and combined with the axle and cultivators, substantially as and for the purpose set forth.

62,260.—HENRY ELLIG, Bridgeport, Conn.—*Match Case.*—February 19, 1867.—The triangular block above the match tray is lapped with a strip of sand paper, and its edge being placed beneath the jaws is forced upward by springs and a set screw.

Claim.—The combination of the triangular block C with the block A and jaws d, when constructed and arranged substantially in the manner and for the purpose herein set forth.

62,261.—LEWIS ELLIOTT, JR., New Haven, Conn.—*India-rubber Whip Socket.*—February 19, 1867.—The ring of metal is enclosed in the material of which the socket is made and maintains the shape.

Claim.—The india-rubber whip socket, formed with the metallic ring or band around its mouth or open end enclosed within the india-rubber, in the manner and for the purposes set forth.

62,262.—P. H. FREYLINGHOUSE, Jonestown, Pa.—*Bedstead Fastening.*—February 19, 1867.—Plates project from the faces of the posts for the attachment of the side rails. These plates enter mortises at an angle of 90° with each other and are dovetailed together at their intersection. Tenons on the ends of the rails are mortised into the posts, and enlargements on the ends of the projecting plates are secured by keys behind cross-pieces on the rails.

Claim.—First, the plates *a a'*, dovetailed and recessed at the ends and adapted to each other and to the posts, substantially as specified.

Second, the combination of the post *A*, plates *a a'*, secured permanently to the post and the rail *B*, with its recess *h*, cross-piece *d*, and projections *i i*, as described.

62,263.—ALEXANDER N. GOW, Mt. Vernon, Ohio.—*Combined Corn Planter and Cultivator.*—February 19, 1867.—The cultivator or the planter devices are attachable to the carriage, and their special devices are explained by the claims and illustration.

Claim.—First, the frame *A*, axle *h*, windlass *D*, with cultivator frames *B* and *B'*, all constructed, arranged, and used as herein fully described.

Second, the hook *g*, when constructed as described, and used for connecting the shovel bars to the beams by means of the block *b'*, as herein set forth.

Third, the guard *M*, as constructed and used for the purposes set forth.

Fourth, the arrangement of the lever *n* with rod *s* and rod *q* for shifting the cultivators, when used in the manner and for the purposes specified.

Fifth, the arrangement of the bars *C* with their adjustable braces *J*, as constructed, in combination with the frames *B B'*, when used as and for the purposes set forth.

Sixth, the arrangement of the rails *G* with the board *E*, rollers *F F*, and seed boxes *H H*, in the manner and for the purposes set forth.

Seventh, the shafts *F*, arms *m m*, and rods *e e*, for operating the seeders when arranged as specified.

Eighth, the seed boxes *H H* with spouts *u u*, all constructed and operating as herein set forth.

Ninth, the arrangement of the furrow openers *R*, rollers *F*, and arms *t* with the seed boxes *H H* with their spouts *u u*, rubber blocks *y*, and screws *w*, when constructed as herein described and used as specified.

62,264.—LEWIS F. HAKE, Salem, Ohio.—*Land Conveyance.*—February 19, 1867.—Explained by the claims and illustration. The rear or main driving wheels have radial arms whose ends may be projected from the rim by toggle joints upon the hubs.

Claim.—First, in combination with the frame of a land conveyance which is mounted upon springs and adapted for sustaining the motive power and driving gear, the use of gimbal-jointed shafts for transmitting motion to the axles of the transporting wheels, substantially as described.

Second, the use of the gimbal-jointed and extensible shaft *G* for communicating motion to the forward axle of the guiding wheels, substantially as described.

Third, supporting the forward part of the frame *A* upon the guiding axle by means of springs, when said axle is sustained in part by a sliding segment, and operated by means substantially as described.

Fourth, the arrangement of the jointed driving shafts *G h h* beneath the spring frame *A*, substantially as described.

Fifth, the application of extensible rods *l l* to the transporting wheels of a land conveyance, said rods being so applied that they can be made to protrude beyond the circumference of the wheels or drawn within the same at pleasure, substantially as described.

Sixth, constructing the inner ends of the hubs of the transporting wheels with recesses which are adapted for receiving the clutch plates *s t*, substantially as described.

62,265.—LEWIS F. HAKE, Salem, Ohio.—*Grate for Stoves.*—February 19, 1867.—Explained by the claims and illustration.

Claim.—First, providing for contracting the exit passage for the products of combustion from an open fire box by means of a pyramidal or conical cap, substantially in the manner and for the purpose specified.

Second, the application of a door, or its equivalent, to the cap *G*, substantially as described.

Third, perforating the cap *G*, when applied to an open fire box, substantially as described.

62,266.—GUSTAVUS P. HARDING, Chiswick, England.—*Manufacture of Ordnance.*—February 19, 1867.—A cylinder receives a reinforce breech piece and trunnion piece and then a lining tube which is expanded by a traversing mandrel. A series of tubes are placed consecutively within the bore and similarly expanded.

Claim.—The combined arrangement of the parts *a b c. c' c'' c'''*, the interior parts *c c' c'' c'''* being formed as explained and expanded by a mandrel *f*, substantially as herein described.

62,267.—ANSON HATCH, New Haven, Conn.—*Apparatus for Tapering Measures.*—February 19, 1867.—For measuring tapers. The fixed arm is pivoted to the moving arm at one end and has connection to it by an adjustment screw at the other. This screw is moved by a disk upon its end, which has a scale and spaced gains with an indicating finger catch to show the parts of revolutions of the screw. A scale with finger plate upon the arms shows the whole revolutions of said screw. The straight-edge jaws are laterally adjustable on the arms to enable the measuring of inclination in a smaller or larger body.

Claim.—First, the combination of the two arms and jaws with the index wheel and screw, when they are constructed, arranged, and fitted for measuring tapers, substantially as herein described.

Second, the combination of the two jaws with the index wheel and screw, when they are constructed, arranged, and fitted for measuring the diameter or sides of prisms or articles whose opposite sides are parallel, substantially as herein described and set forth.

62,268.—WILLIAM G. HERMANCE, Albany, N. Y.—*Lifting Jack.*—February 19, 1867.—The hand lever has an end roller which engages a recess in the sliding part, and when at its full elevation a part of the roller enters a recess in the standard and prevents the descent of the slide.

Claim.—The lever *K*, constructed as described, in combination with the standard *B* and sliding piece *E* and their slots *g* and *h*, opening together in the manner and for the purposes set forth in this specification.

62,269.—FREDERIC HEWITT, Newark, N. J.—*Windmill.*—February 19, 1867.—The sails are pivoted to radial arms upon the hub and have a projection upon the face connected to a longitudinally sliding block, which is so connected to a weighted lever as to keep the sails at a working inclination to the wind. The weighted lever is connected to a hand lever upon the main post, by which it may be raised and throw the sails' edge to the wind to stop the mill.

Claim.—First, the sliding block *G*, collar *R*, rod or rods *s*, and spider *F*, arranged and operating in relation with each other and with the loaded lever *I* and sails *E*, substantially as herein set forth for the purpose specified.

Second, the annular sliding block *M* and rod *N*, arranged with reference to each other and with the loaded lever *I* and shaft or rod *J*, substantially as herein set forth for the purpose specified.

62,270.—MAURICE C. HULL, New York, N. Y.—*Cooking Range.*—February 19, 1867.—An improvement on his patent November 14, 1865. The range has an elevated oven and passages for the circulation of air around the fire pot and ash chamber for warming purposes.

Claim.—First, the descending flue or flues *i i* in combination with the air-heating spaces *c''* and *c'''* and flues *m*, passing to an elevated oven, substantially as specified.

Second, the arrangement of the flues *i i l* and *m* for the products of combustion in combination with the air-heating spaces *c''* and *c'''* and air flues *o o'*, as and for the purposes specified.

Third, the arrangement of the air flues *r s* and smoke flue *s' 4* and *5*, in combination with the elevated oven *q*, substantially as specified.

Fourth, the escape damper *t* and pipe *l* for the fumes from cooking in combination with the elevated oven *q*, as set forth.

Fifth, the water vessel *g*, fitted as specified, in com-

traversing box II with movable washboard Q and stationary washboards G G, constructed to operate in the box on vat as described.

portion rounded or convex and furnished with breaking cutters *b*, substantially as herein set forth for the purpose specified.

Second, the shovel plow, constructed with its rear portion rounded or convex and furnished with breaking cutters *b*, substantially as herein set forth for the purpose specified.

Third, the supplementary side shares F and curved rearwardly extending rods G, arranged with reference to each other and to the shovel plow, substantially as herein set forth for the purpose specified.

Fourth, the supporting braces C, constructed with curved portions *a'* and arranged in relation with the runners B, shovel plow A, and the raking blades E, substantially as herein set forth for the purpose specified.

62,272.—S. W. JACKSON, Baldville, Ohio.—*Shovel Plow*.—February 19, 1867.—The standards are laterally adjustable by set nuts in screw bars that connect them to the beam. The braces are pivoted in the beam and standards and the handles vertically adjustable at their forward ends.

62,273.—WILLIAM W. JOHNSON, Harrison, Me., assignor to N. FAUNCE, Hollis, and W. BOLSTER, Harrison, Me.—*Road Scraper*.—February 19, 1867.—The forked link instead of being attached to one place on the scraper board is made to slide up and down by means of the slotted pieces. A bolt passes through a slot in the end of the forked link and through a slot in the sides.

62,274.—JOHN M. D. KEATING, New York, N. Y., assignor to E. KEATING, same place.—*Envelope Machine*.—February 19, 1867.—Improvement on his patent June 30, 1863. The paper blanks are placed on the reciprocating feeder plate and carried forward under the plunger by small hooks or projections. The plunger descends, doubles the blanks by their contact with the creasing rollers, and leaves the blank on a flat hinged bed, where the flap folders are actuated to fold consecutively. The auxiliary presser operates upon the gummed portion, starting directly after the gum flap folder, which is cut away to allow its passage and rises a little in advance of it. The counting apparatus is a ratchet and pawl arrangement.

62,275.—JAMES W. INNIS, Newburg, N. Y.—*Potato Digger*.—February 19, 1867.—The side earth is removed from the rows by the two side shares; the vines pass up inclined bars and the potatoes and earth are separated by the rear projections.

62,276.—JOHN C. KLEIN, Birmingham, Pa.—*Flesh Fork*.—February 19, 1867.—The tang of the cast-fork is riveted to the wrought iron handle.

62,277.—JOHN E. LAUER, New York, N. Y.—*Acid Compound for use in Baking and Cooking*.—February 19, 1867.—7 lbs. of boneblack is dissolved in 10 lbs. muriatic acid diluted with 20 lbs. water. The precipitate is mixed with 5 lbs. sulphuric acid, and the product dried. It is used in place of cream of tartar.

62,278.—F. C. LOTHROP, Trenton, N. J.—*Truss Frame Bridge*.—February 19, 1867.—The casting constructed for the reception of the diagonals forms an intermediate piece between the upper and lower vertical columns. It has two plates strengthened by ribs, and enclosing webs separated from each other by an opening, through which pass the diagonal and center-diagonal pieces. The upper and lower terminals of the casting are plates, which are bolted to the flanges of the respective columns.

62,279.—G. B. MASSEY, New York, N. Y.—*Boat Detaching Tackle*.—February 19, 1867.—A longitudinal rod is supported by posts rising from the keel of the boat, and has right and left threads on its respective ends. These threads are engaged by the hook of the davit fall-block, and simultaneously cast off the hooks when the rod is rotated by the arm amidships.

62,280.—HENRY MAXELL, Canton, Ohio, assignor to himself and LEVI LONGBAUGH.—*Corn Planter*.—February 19, 1867.—For attachment to a hoe handle. The seed slide is framed on a metallic case containing torn, and connecting with a sack above. The slide is drawn up by a finger ring, and returned by a spiral spring.

62,281.—ENRIQUE A. MEJIA, Mexico.—*Many-Barreled Gun*.—February 19, 1867.—Explained by the claim and illustration.

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62,280.—HENRY MAXELL, Canton, Ohio, assignor to himself and LEVI LONGBAUGH.—*Corn Planter*.—February 19, 1867.—For attachment to a hoe handle. The seed slide is framed on a metallic case containing torn, and connecting with a sack above. The slide is drawn up by a finger ring, and returned by a spiral spring.

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62,281.—ENRIQUE A. MEJIA, Mexico.—*Many-Barreled Gun*.—February 19, 1867.—Explained by the claim and illustration.

or detachable magazines may be exploded and discharged in rapid succession by the backward and forward movement of said winch handle *x y z*, substantially as set forth and described.

62,282.—ABEL MESSEK, Waynesboro', Ga.—*Medicine*.—February 19, 1867.—For the cure of small-pox: composed of a decoction of galium trifidum, 1; holly root, 1; decoction chany-brier root, 1; and decoction of sassaparilla root, 8 parts.

Claim.—The composition, mixture, or medicine above described, for the cure of small-pox, which is made by following substantially the directions and descriptions above set forth.

62,283.—ISAAC M. MILBANK, Greenfield Hill, Conn.—*Priming Metallic Cartridges*.—February 19, 1867.—An annular anvil piece is soldered inside the cartridge base, and an axial cup and tube contain the fulminate. The hammer strikes the cap, the tube carries the fire forward into the charge; case, cap, and tube may be recharged.

Claim.—The bar *c*, soldered or brazed into the cartridge case *a*, and covered by the base *e*, in combination with the fulminate tube *t*, and head *o*, setting within a countersink in the base *c*, as and for the purposes set forth.

62,284.—GEORGE MURRAY, Cambridgeport, Mass.—*Stilts*.—February 19, 1867.—The ratchet projections on the stilt permit the adjustment of the step to the height required. The step block is pivoted in a sleeve which slips on the stilt, and a spring throws it into engagement with the ratchet teeth.

Claim.—The movable step, as described, in combination with the standard, for the object specified.

62,285.—LEWIN A. PECK, Newton Corner, Mass.—*Thimble with Guarded Cutter*.—February 19, 1867.—The sewing thimble has a grooved knife case on one side. Within is a lever knife whose handle projects beyond one end of the case and rests against a spring. It is thrown out as required by pressure on the handle.

Claim.—The combination as well as the arrangement of the lever knife and its operative spring with the thimble or finger clasp, as set forth.

Also, the combination as well as the arrangement of the knife and its case or guard, with the thimble or clasp, as explained.

62,286.—D. R. PRINDLE, East Bethany, N. Y.—*Seed Sower*.—February 19, 1867.—The seed bar has grooves on its faces which lead the seed to the discharge openings. It is reciprocated by a rod actuated by cams on the face of one of the driving wheels. The extent of reciprocation is adjusted by changing the point of attachment of the spring rod on the rocking arm of the agitator.

Claim.—First, The seed bar, constituted as described, and used in the manner and for the purposes set forth.

Second, the hopper *D* with rod *G*, and spring with index *H* and rest *b*, all constructed, arranged, and operating in the manner substantially as herein set forth.

62,287.—T. K. REED, East Bridgewater, Mass.—*Sewing Machine*.—February 19, 1867. An improvement on Reed's patent, No. 60,241. The wheel on the lever, in its normal position, is thrown outward by a spring, so as not to enter the aperture in the race, and so come in contact with the tension nut on the shuttle. When the tension needs altering, the operator, taking hold of the thumb piece, presses the wheel into contact with the nut in the shuttle, and by turning the wheel rotates the nut.

Claim.—In combination with a sewing-machine shuttle race, an aperture or provision for insertion of an instrument or device through one of the walls or plates thereof, so that when the shuttle is brought to rest at a fixed position connection can be made between such instrument or device and the tension mechanism of the shuttle, and the stress upon the shuttle thread may be regulated by such connection, substantially as described.

Also, combining with such provision a device fixed to or forming part of the machine, and so located that it may be thrown into and out of connection

with the tension mechanism of the shuttle, when the shuttle is at rest, and be made to operate such tension mechanism, substantially as set forth.

62,288.—T. K. REED, East Bridgewater, Mass.—*Tension Mechanism of Sewing-machine Shuttles*.—February 19, 1867.—The thread passes lengthwise between the pad and the inside of the shuttle. The pad can swing inward; its pressure is varied by turning the nut, which increases or diminishes the pressure of the spring upon the pad to which it is attached.

Claim.—Combining with the screw shaft the spur or toothed wheel or nut, or its equivalent, through rotation of which the movement of the shaft is effected, to regulate the stress of the tension spring, substantially as set forth.

Also, the combination of the hinged pad or plate *c* and the adjusting spring *h*, when constructed and arranged to operate substantially as set forth.

62,289.—SAMUEL ROOT, New Haven, Conn., assignor to himself and W. H. CLARK, same place.—*Peat Machine*.—February 19, 1867.—The peat from the hopper passes to the mashing cylinders, and is thence carried by an apron to cylinders which express the water. The scraper removes the peat from the carrier, and it drops upon the heated table, where it is dried ready for compressing.

Claim.—The combination of the two grinding cylinders *A* and *B* with the apron *F*, scraper *S*, and table *L*, constructed and arranged to operate together, substantially as and for the purpose set forth.

62,290.—DANIEL RUPPART, Nimisilla, Ohio.—*Corn Planter*.—February 19, 1867.—The opener throws a furrow both ways; the rakes remove weeds, &c., from the new furrows; the seed pockets in the axle take seed from the hopper and drop it into the furrow, and the scoop-shaped scrapers cover the seed with earth.

Claim.—First, the above-described construction and arrangement of axle *L*, provided with feed hole *M*, in combination with the lock lever *N* and arm *O*, substantially as set forth.

Second, the rakes *H*, in combination with the coverers, substantially as described.

62,291.—JULIUS B. SAVAGE, Southington, Conn.—*Wrench*.—February 19, 1867.—The collar in which the screw is stepped, and the barrel by which the screw is operated, both enter a recess in the handle. The collar is slipped on the handle, and the ferrule has a lunate projection which passes inside the collar and draws it into the recess in the handle.

Claim.—The collar *F*, and ferrule *I* provided with a tongue *f*, with the bar *A*, when constructed and combined to secure the collar to the bar, substantially as herein set forth.

62,292.—SHUBEL M. SHATTUCK, Cambridge, Ill.—*Sugar Evaporator*.—February 19, 1867.—Plates of cast-iron are interposed between the furnace and the evaporating pans. The front radiating plate is made in sections connected together by dovetailed transverse grooves in which a bar slides. Dampers near the center furnish means to set the caloric current either above or below the rear radiating plate.

Claim.—First, the radiator *B*, constructed substantially as described and for the purpose set forth.

Second, the dampers *D* and *d*, substantially as and for the purpose set forth.

Third, the plate *C*, in combination with the dampers *D* and *d* and radiator *B*, substantially as described.

62,293.—H. A. SHIFMAN and A. B. HENDRYX, Ansonia, Conn.—*Machine for Extending Tubing*.—February 19, 1867.—The pipe is intermittently fed through the dies, which act upon its exterior in alternation with the action of an axial punch forced down through the pipe. The action is to compress and then dilate, and the effect is to extend the pipe in length and diminish its thickness.

Claim.—Extending metallic tubing and reducing the thickness thereof by first applying external pressure to the tube, which shall reduce its diameter, and then internal pressure, which while restoring, or partially so, the previous internal diameter of the tube, shall attenuate and elongate the metal, in the manner and by means substantially as herein set forth.

62,294.—JOHN B. SICCARDI, New York, N. Y.—*Hair Crimper*.—February 19, 1867.—A series of round bars, of semicircular form, are pivoted at their ends to another series of similar form, but of different diameter. They are so connected that the bars of one series enter the spaces between those of the other.

Claim.—The arrangement of two series of round bars or rods A and B, of different diameters, in such a manner that one series of bars shall fit between and into the recess formed by the other series, said bars being hinged or fastened together at their ends, substantially in the manner and for the purpose as set forth and described.

62,295.—W. B. SMITH, Lafayette, Ill.—*Apparatus for Saturating Timber*.—February 19, 1867.—The water-tight sack is confined on the end of the timber by an encircling elastic band, and sustained by a ring and supporting dog bars, whose ends are driven into the timber. The saturating liquid is poured into the sack and percolates through the pores of the wood.

Claim.—The sack A, constructed and applied substantially in the manner and for the purpose set forth.

62,296.—S. W. STOCKTON, Philadelphia, Pa.—*Artificial Teeth*.—February 19, 1867.—The rectangular-projecting plates of the tooth, by which it is attached to the vulcanite, have cylindrical perforations in the directions of their lengths, which perforations connect with each other at their inner ends and are connected along their whole lengths by a slot of smaller diameter.

Claim.—The two holes *b* and *c*, in combination with the slot *d*, the same being constructed in the body A of a porcelain or artificial tooth or block of teeth, substantially as and for the purpose set forth and described.

62,297.—H. STONEBRAKER, Baltimore, Md.—*Pain Killer*.—February 19, 1867.—Compound of alcohol, 1½ gall.; balsam of Peru, 1½ lb.; Venice turpentine, 6½ oz.; olive oil, 1½ oz.; sulphuric ether, 4-1-5 lbs.; camphor, 8½ oz.; laudanum, 5½ oz.; tinct. cayenne, 8½ oz.; tinct. myrrh, 8½ oz.

Claim.—The above-described pain killer, when composed and used substantially as and for the purposes set forth.

62,298.—H. STONEBRAKER, Baltimore, Md.—*Liniment*.—February 19, 1867.—Composed of alcohol, 1½ gall.; turpentine, 4 gall.; oil origanum, ¼ lb.; cayenne pepper, 1 oz.; Barbadoes tar, 4 oz.; ammonia, 2½ lbs.; linseed oil, 10 oz.; oil succini, 5 oz.; oil juniper, 5 oz.; oil seneca, 1½ oz.; and castile soap, 1½ lb.

Claim.—The within-described liniment, when mixed and used substantially as and for the purposes set forth.

62,299.—BENJAMIN F. TAYLOR, Philadelphia, Pa., assignor to himself and GEORGE TAYLOR, Camden, N. J.—*Photographing Engravers' Blocks*.—February 19, 1867.—A right impression on a negative plate is produced by a reflector attached to the camera; the plates are subsequently brought into contact with the sensitized surface of a block of wood, stone, or metal, to give a reverse impression for engraving purposes.

Claim.—The use of a reflector, with a photographic camera, for obtaining a reverse photographic impression on blocks of wood, stone, or metal, for the use of engravers, the said blocks or plates being coated with the solution above specified, or its equivalent, to receive the impression from the negative plates, substantially in the manner hereinbefore described.

62,300.—GEORGE C. THOMAS, Brooklyn, N. Y.—*Baggage Check*.—February 19, 1867.—The check has a detachable piece to indicate destination, by direction or color, the said piece being temporarily attached to the check, preferably by the check strap.

Claim.—First, the combination with a railroad or express check, having the number of the check indicated thereon of a detachable piece, forming an addition to or supplementary part of said check, and attached directly to the check or to the check strap, which shall indicate the destination of the baggage.

Second, the combination with a railroad or express check, having the number of the check indicated thereon, of a detachable piece forming an addition to

or a supplementary part thereof, and attached directly to the check or the check strap, and so made as to be capable of indicating, by its color or shape, the direction in which the baggage is to be sent, or the road or branch road over which it is to go.

Third, the combination with a railroad or express check of a detachable piece forming an addition to or a supplementary part thereof, and indicating the direction or the destination of the baggage, when the said detachable piece is secured in position either in part or wholly by the check strap, substantially as herein set forth.

62,301.—JAMES CLIFFORD TREDWAY, Buffalo, N. Y.—*Horse Collar*.—February 19, 1867.—The collar staple has lugs, which divide it into sections, to which the tug is attached at the height required. For light work the tug may be attached to a headed projecting bolt. The sides of the collar are united below by a curved bar, to which one of them is hinged so as to allow the collar to be spread before putting it on over the head of the horse.

Claim.—First, the staples M, provided with lugs *n n*, draft iron O, having eyes *p p* and notches *q q*, in combination with the tug Q and collar A A, as constructed and arranged, substantially as set forth.

Second, the manner of attaching a light tug L to the collar or hames by means of the projecting standard J, provided with the head K, which is secured in the end of the tug, substantially as described.

Third, the curved bar B, rigidly attached to the collar frame on one side and jointed to the other, in combination with the padded frame of the collar, when the latter is so constructed as to preserve ample space for the windpipe, substantially as and for the purposes described.

62,302.—LEWIS G. TUTTLE, North Haven, Conn.—*Cultivator*.—February 19, 1867.—The plow beams are expandible laterally to vary the width of furrow; the shafts are adjustable vertically to vary the depth of furrow; the handles are adjustable vertically to suit the operator.

Claim.—The combination of the shafts G and H, when made vertically adjustable, with the beams C and D, when made horizontally adjustable, and the whole is constructed and arranged substantially as herein described.

62,303.—A. A. WILDER, Detroit, Mich.—*Railroad Car Starter*.—February 19, 1867.—A cam-shaped pawl acts upon a wheel fixed to the midlength of the car axle; the pawl is supported by arms which have the axle for their pivot, and is operated by the draw bar in such a manner that the force of the draft is applied directly to rotate the wheels.

Claim.—First, in a device for starting cars, the eccentric dog *h*, wheel G, arms *f* and *g*, spring *j*, links *c* and *d*, in combination with axle B, when constructed, arranged, and operating in the manner substantially as shown and described, and for the purpose set forth.

Second, in a device for starting cars the combination of the eccentric dog *h* and stop H, when operating in the manner substantially as shown and described, and for the purpose set forth.

62,304.—AUGUSTUS S. ARMSTRONG, St. Bernard Parish, La.—*Starting Street Cars*.—February 26, 1867.—Pressure on the treadle when the car is stopped drops the catch and releases the draft bar, which is thrust rearward by the coiled spring. The pawl catches on the ratchet attached to the axle, and the draft on the bar in starting acts directly upon the wheel until the catch again engages the bar and restores the normal condition.

Claim.—The combination of helical spring D, foot bar C, lever B and catch *b*, with draft bar A, provided with helical spring *c* and slot *a*, clutch E, movable standards G, and pinion F, when these several parts are constructed and arranged for conjoint operation, substantially as described for the purpose set forth.

62,305.—HENRY O. BAKER, New York, N. Y.—*Ladder*.—February 26, 1867.—The ladder and its support are pivoted together at a point between their ends, so that a platform may rest upon and between the upper ends. The elevated structure is braced laterally by struts.

Claim.—The combination of the supporting frame,

the ladder, the platform, and the braces, the whole to be arranged as and for the purpose set forth.

62,306.—ISAAC BANISTER, Newark, N. J.—*Shoe Clasp.*—February 26, 1867.—The tongue is hinged to the stock and is passed first through the lacing holes on the edges of the leather; the tongue is then bent over and engaged with the lip on the stock, fastening like the tongue of a diaper pin.

Claim.—A clasp, when formed substantially in the manner and for the purposes set forth.

62,307.—JOHN S. BARDEN, Providence, R. I., assignor to A. J. PERRY & Co., Boston, Mass.—*Steam Generator.*—February 26, 1867.—The generator is composed of sections so formed that when the sections are united diving flues are formed next the fire-box and ascending flues communicating therewith outside the generating surface.

Claim.—The improved construction, substantially as described, of each of the sections or generators A A, so as to cause them to form with the internal and casings G D the triangular sectional diving flues F and ascending flues E, arranged in manner and so as to open into each other as explained.

Also, the combination as well as the arrangement of the casings D D and G G with the generators, made as described, the same being so as to form triangular sectional diving and ascending flues E F, as specified.

Also, the arrangement, as described, of the smoke recess *f* in the external side or surface of each generator, the same being as and for the purpose specified.

62,308.—JOHN S. BARDEN, Providence, R. I., assignor to A. J. PERRY & Co., Boston, Mass.—*Steam Generator.*—February 26, 1867.—Two sets of vertical flues surround the fire-box, the connection between such flues being in the lower portion of the boiler. An air escape pipe passes up through the steam dome of the boiler. The water occupies the space between the series of flues.

Claim.—The arrangement as well as the combination of the series of flues *a*, the series of flues *b*, the connections *c*, the water-holding spaces *c*, the furnace A, and the water and steam chamber C.

Also, the arrangement as well as the combination of the escape pipe D and damper G, the series of flues *a*, the series of flues *b*, the connections *c*, the water-holding spaces *c*, the furnace A, and the water and steam chamber C.

Also, the arrangement as well as the combination of the conduits *d*, the series of water spaces *c*, the series of flues *a*, the series of flues *b*, the furnace A, and the water and steam chamber C, the whole being substantially as specified.

62,309.—ASA M. BEARD, Hillsboro', N. H.—*Saw-mill Dog.*—February 26, 1867.—The dog has a swivel joint to permit the point to be turned in any direction.

Claim.—The improved saw-mill dog, consisting of the shank *c*, provided with the spur *a*, attached to the hook *b* by a swivel joint, substantially as herein shown and described.

62,310.—GEORGE D. BLOCHER, Indianapolis, Ind.—*Corpse Preserver.*—February 26, 1867.—The inner case has double walls and a circulation through perforations in its floor. The outer chamber is tight, and furnished with a refrigerant. The water of condensation from vapors arising from the body is withdrawn from the coffin.

Claim.—The double ventilated case B, constructed and operating substantially as and for the purpose set forth, in combination with the external case or ice box A.

62,311.—STEPHEN B. BOWLES, Brooklyn, N. Y., assignor to W. G. CREAMER.—*Car Seat Lock.*—February 26, 1867.—A pivoted lever is in the side piece which supports the brace; the end of the lever has a stop which is forced by a spring into a corresponding hole in the arm, locking the same. The bolt is withdrawn by a key which draws inward one end of the lever, and throws outward that which bears the stop.

Claim.—The combination of a railroad car seat lock and stop, all constructed substantially as described and for the purposes mentioned.

62,312.—J. WARREN BROWN, Washington, D. C., assignor to NORTON P. CHIPMAN, A. A. HOSMER, C. D. GILMORE, and J. C. SMITH.—*Manufacture of Pearl Ashes.*—February 26, 1867.—Carbonaceous matters are mixed with the potashes or common house ashes of commerce, and are burnt out to carbonate the potash; or the carbonic acid from the fire used to evaporate the solution of potash may be passed into or over the solution to carbonate it.

Claim.—First, the manufacture of pearl ashes from potash or house ashes by means of charcoal, coke, coal peat, saw dust, and other substances rich in carbon, excepting black muck, in the manner herein set forth, substantially as described.

Second, passing carbonic acid over or into the solution of potassa or the lye of house ashes from the fire, by which the same is being evaporated, substantially as herein specified.

62,313.—CLARK W. BRYAN, Springfield, Mass., assignor to himself, S. BOWLES, B. F. BOWLES, and J. F. TAPLEY.—*Calendar.*—February 26, 1867; antedated December 11, 1866.—A number of calendars are held by clasp, and are removed as soon as they become useless, exposing the next in order.

Claim.—First, as a new article of manufacture, a calendar constructed of several sheets, united together in the manner described, and having the piece B arranged for the purpose of readily tearing off the sheets, substantially as set forth.

Second, in combination with the above, the attachment of the counting-house calendar upon the back of the last leaf, substantially as described.

62,314.—MELZER BURT, Norton, Mass.—*Ladder.*—February 26, 1867.—The platform is supported by brackets which hook over two adjacent rounds of the ladder.

Claim.—The ladder addition as composed of the board B, and furcated and hooked brackets C C, constructed, arranged, and applied together, substantially as set forth.

Also, the combination of above described ladder addition, made as described, with a ladder.

62,315.—J. B. CAMPBELL, Cincinnati, Ohio.—*Bed Bottom.*—February 26, 1867.—The slats have end pins similarly headed on both sides; the pins are engaged by rubber loops that take over the headed pins on the rails.

Claim.—The two-sided slat, and the wooden pins running through it, equally on both sides, and the elastic rubber ring ready to be attached to the bedstead, as above described.

62,316.—JAMES C. COCHRANE, Rochester, N. Y.—*Grate.*—February 26, 1867.—The grate is somewhat sunk toward the center and the two central bars are turned down to form a coffer and to give support to the pivot pin.

Claim.—First, the coffer, constructed in the center of the grate, and extending below it, substantially as and for the purposes described.

Second, the combination of the coffer with the grate, substantially as described.

Third, the combination of the coffer, grate, and depressed yoke, substantially as described.

62,317.—M. D. CONE and A. N. DOUGLASS, Port Gibson, N. Y.—*Garden or Hand Cultivator.*—February 26, 1867.—Explained by the claims and illustration.

Claim.—First, suspending the cultivator frame from a wheeled truck or barrow, by which it is drawn, substantially in the manner and for the purposes herein shown and described.

Second, the jointed or hinged draft rods, or their equivalents, and the cultivator frame, either with or without the guide bars B, in combination with wheeled truck, substantially as and for the purposes set forth.

Third, providing the pivoted arm of the wheel stock S with a slot *a*, as shown and for the purposes set forth.

Fourth, the arrangement of the revolving colter wheels and their vertically adjustable hangers upon the pivoted or adjustable stock S.

62,318.—JAMES B. CRANE, Dalton, Mass.—*Covering for Bottles, Steam Pipes, &c.*—February 26, 1867.—

Vegetable fibers are beaten and saturated with water until a pulp is formed, which is spread over the article and allowed to harden in place.

Claim.—The use of paper pulp for the purpose of obtaining an air-tight, non-conducting, and protective covering, substantially in the manner set forth.

62,319.—PETER CROWL, Brownsville, Pa., assignor to himself and H. H. FINLEY, same place.—*Visc.*—February 26, 1867.—The outer jaw is carried on a sliding ratchet bar which is engaged by a pawl upon a pivoted lever to hold the jaws closed.

Claim.—The combination of the stationary jaw C, adjustable jaw D, and stock D', pawl F, and lever E, and springs F' and E', all of said parts being respectively constructed and arranged for use substantially in the manner and for the purpose set forth.

62,320.—HENRY DECKER, Lebanon, Ohio.—*Churn.*—February 26, 1867.—Explained by the claim and illustration.

Claim.—The dash consisting of the vanes J made in a tapering and slightly twisted or spiral form and attached to a central hub in combination with the gathering board K located immediately over the dasher and cream box I when the several parts are constructed and arranged to operate in the manner and for the purpose set forth.

62,321.—JOSEPH DE LA MAR, Brooklyn, N. Y., assignor to GRISWOLD and SHELDON.—*Hat Blocking Machine.*—February 26, 1867.—The jointed frame is supported on a vertical arbor in a frustal form with an inverted conical depression at the apex. The frame assumes the flanged cylindrical form of a hat by the depression of a compound treadle.

Claim.—The combination of the expansible bars *e*, ring *l*, and clamp *h*, constructed substantially as and for the purpose specified.

62,322.—LUCIUS H. DWELLEY, Dorchester, Mass.—*Machine for Making Horseshoe Nails.*—February 26, 1867.—The nail is gradually drawn out by rollers upon a revolving disk in combination with a former plate. Between the action of the separate rollers the rod is subjected to the side blows of two converging hammers.

Claim.—First, the combination of the rolls upon the disk E with the former F and hammers G, when so combined and arranged that the blows of the hammers are given between the action of the separate rolls upon the article being wrought, substantially as described.

Second, cutting off a portion of the blank previous to the nail being finished, by means of the cutters described, and for the purpose set forth.

Third, the combination of the cams M, hammers G, and cutters *k' l'*, when such cams are so formed as to hold the hammers apart and out of action when the cutters sever the nail from the rod.

Fourth, vibrating the conductor O by means of the arm *a'* with its spring *b'* operated by the projections *a' d'* on the wheel L, substantially as described.

62,323.—GEO. F. FESSENDEN, West Cambridge, Mass.—*Apparatus for Rolling and Spreading Dough.*—February 26, 1867.—The dredge box scatters flour upon the roller as the latter passes over the dough.

Claim.—The combination and arrangement of the dredge box and roller or rolling pin.

Also, the combination as well as the arrangement of the dredge box, the brackets, the handles and the roller or rolling pin, as described.

62,324.—EDWARD FITZHENRY, Boston, Mass.—*Machine for Dressing Leather.*—February 26, 1867.—An improvement on his patent January 15, 1867, No. 61,182. In this case the tablet for receiving the skin is supported on anti-friction rollers which are within recesses of its sustaining frame.

Claim.—The employment of the anti-friction balls or their equivalents, substantially in the manner and for the purpose as hereinbefore described.

62,325.—CHARLES L. FLEISCHMANN, New York, N. Y.—*Plow.*—February 26, 1867; antedated February 14, 1867.—The angular cutters and the mold board make a trench and are stocked on a frame furnished with runners.

Claim.—The use of runners herein described, in combination with angular or curved cutters and a mold board, substantially as above described.

62,326.—CHARLES S. GWINNUP, Milroy, Ind.—*Cultivator.*—February 26, 1867.—The handles are pivoted at their forward ends to the frame and are regulated as to height by adjustment on their supporting post. The standards are adjustable laterally to vary the width of tilth by means of slotted bars, segment bars, and adjustable draw rods.

Claim.—First, the stanchion *d*, constructed and operating as and for the purpose herein set forth.

Second, the standards E in combination with plate G, rods I, plates *m* and *n*, and curved plate T, the whole constructed, arranged, and operating in the manner and for the purpose herein specified.

62,327.—SAMUEL HALL, New York, N. Y.—*Machine for Bending Metals.*—February 26, 1867.—Upon a strong bed is arranged an overhanging box frame, in the projecting portion of which is suspended a roller which is adjustable vertically by means of screws; on the bed below this roller is a pair of rollers which are adjustable to or from the suspended upper rolls. Between these two lower rollers are two slides having vertical rollers between which the bars is guided when it is to be rolled or bent edgewise.

Claim.—First, the box frame B B, constructed substantially as shown for the purpose set forth.

Second, in combination with the bending roller held and adjusted substantially as described, the rollers X, when the same shall be combined, constructed and operated substantially as shown for the purposes set forth.

Third, in combination with the same, the use of the sliding boxes constructed as shown for the purposes specified.

62,328.—WM. H. HARRIS, Corry, Pa.—*Hair Restorative.*—February 26, 1867.—Composed of water, 1 qt.; tincture of capsicum, $\frac{1}{2}$ oz.; grape wine juice, 4 oz.; sulphur, 1 dr.; sulphate cadmium, 30 gr.; bay rum, 1 gill; tincture of cantharids, $\frac{1}{2}$ oz.; burnt sugar $\frac{1}{2}$ oz.; alcohol, 1 gill; glycerine, $\frac{1}{2}$ oz.; oil of egg, 10 drops.

Claim.—The compound within described when the same is compounded in the proportions described for the purposes set forth.

62,329.—JAIRUS HASKEL, Lisbon Me.—*Cultivator.*—February 26, 1867.—The frame traverses on three wheels, whose holders are vertically adjustable so as to regulate the depth of the furrow cut by the plows, which are adjustable laterally as to relative distance.

Claim.—First, the combination of the three wheels *h j k*, having their gauges *i*, pivots *m*, and clamps *n*, with the elongated teeth M N P, when the same are arranged in positions relative to each other on a cultivator frame of the described form, in the manner and for the purposes set forth.

Second, the combination of the splice beams H I with the two rear wheels *j* and *k*, attached and adjustable as set forth, when the two beams H I are connected with the beams B C, in the manner and for the purposes set forth.

62,330.—GEO. HENINGER, Lena, Ill.—*Suspending Pendulums of Clocks.*—February 26, 1867.—Suspended concentrically with the verge of the escapement of a pendulum clock is a balance lever having the pendulum attached to one end and a counterbalancing weight to the other, to allow the clock to be set out of plumb without disturbing the regular movement of the pendulum.

Claim.—First, rendering pendulum clocks capable of keeping accurate time when out of plumb by the method described, suspending a balance lever concentrically with the escapement wheel, to operate the pendulum as set forth.

Second, balancing the pendulum by a weight, substantially as and for the purpose set forth.

Third, the combination of the lever D with the weight and pendulum, substantially as and for the purpose set forth.

62,331.—DAVID HESS, Pittsburg, Pa.—*Washing Fluid.*—February 26, 1867.—Composed of soft water,

3 galls.; soda ash, 24 lbs.; lime, $\frac{1}{2}$ lb.; ammonia, 1 oz., alcohol, 1 gill; and borax, 1 oz.

Claim.—The combination of ingredients in the proportions as herein described and for the purposes set forth.

62,332.—A. V. HEYDEN, Milwaukee, Wis.—*Bag Holder.*—February 26, 1867.—As the bag is filled its weight operates upon the platform and raises the expanding and sliding ring hooks that hold the mouth of the bag in position for filling.

Claim.—A bag-holder when made with platform D connected to standard C, in combination with arm E, expanding jaws F, and ring H, substantially as and for the purpose described.

62,333.—HENRY HOLL, Philadelphia, Pa.—*Bottle Stopper.*—February 26, 1867.—It can be manufactured of metal or other suitable material; the strainer is removable when the sections are detached, and the globe valve gravitates open or shut, according to the position of the bottle.

Claim.—The sieve straining the liquid as it passes through, supplied with or without a handle, so that it is easily taken out and the whole stopper cleaned without trouble, the air-tight spherical hinge stop, which opens and closes with its own weight according to the manner in which the vessel is held, the mode of connecting the upper and lower parts by means of a screw and a combination of these several inventions in a compact, secure, neat, and convenient stopper.

62,334.—ARTHUR HOLMES, Cortland, N. Y.—*Preserving Wood from Decay.*—February 26, 1867.—To the wood is applied a composition which fills the pores and hardening upon its surface forms a coating which excludes air and moisture. The composition may consist of 1 part each of boiled tar, slacked lime, water lime, and mineral paint, and 10 parts of ground stone or fine sand.

Claim.—The mode of preparing and preserving wood and timber from decay by the application of a composition, and the composition itself, or any other, substantially the same as hereinbefore substantially set forth.

62,335.—GEORGE HOMFRAY, Halesowen, England.—*Machine for Preparing Rods for Chain Links.*—February 26, 1867.—The rod passes through the head and its end is dogged to the mandrel; the latter is then revolved while the carriage passes down the bed, and the rod is thus coiled upon the mandrel. The rod being all wound on, the stripping collar is moved along the mandrel, shoving off the coil, which is cut into sections, with a proper scarf or lap for welding.

Claim.—The rotating mandrel H, in combination with the carriages M and J, or any construction substantially the same, arranged and operated substantially as described, for the purpose of laying and stripping the coil of rod or bar.

62,336.—O. L. HOPSON, Waterbury, Conn., and H. P. BROOKS, Walcottville, Conn.—*Machinery for Pointing and Reducing Wire.*—February 26, 1867; antedated Feb. 15, 1867.—Improvement on their patent August 9, 1864; reissued December 12, 1865. The dies are arranged in the end of the shaft which rotates them, and are regulated by the points of conical screws which pass through them and into cavities in the bottom of the dovetail cross groove. The tappets are arranged in a stationary frame.

Claim.—First, the dies *b b* and die holders *c c*, introduced in an undercut groove at the end of the shaft *a*, in combination with two or more pairs of tappets, or equivalent mechanism, for closing said dies two or more times each revolution, substantially as set forth.

Second, the tapering pointed screws *d d* and set nuts *e e*, in combination with the dies and the tapering screw sockets in the shaft at the back of the dies, the parts being arranged substantially as and for the purposes set forth.

62,337.—WILLIS HUMSTON, Meriden, Conn., assignor to himself and L. H. HALL, same place.—*Blind Fastening.*—February 26, 1867.—For opening, closing, and fastening a blind in position from the inside of the window. The blind is opened by raising the rod from the hook and pressing on the lever, and closed by raising the rod and drawing upon the lever.

Claim.—The combination of the rod D, hinged to the blind with the hook *a*, upon the blind and the guide F and inclined stop *d* on the sill, constructed and arranged so as to operate substantially in the manner described.

62,338.—WILLIAM E. JERVEY, New Orleans, La.—*Burner for Petroleum Stoves.*—February 26, 1867.—The petroleum flows from an upper tank into the fluid chamber, from which the gas escapes through the central perforation of a cap which is of a metal more expansible by heat than that of the chamber. This chamber is connected by metal rods to a retort above, which has a central perforation below to receive the gas and a series of holes near the periphery for its discharge during inflammation. The central perforation has radial extensions to receive the heat-conducting support arms, which are intermediate between the upper plate and the fluid chamber.

Claim.—The combination of the upper retort or furnace E, the supporting arms and conductors D, and the fluid chamber A, when the parts are constructed and arranged and co-operate in the manner shown and described, and for the purpose set forth.

62,339.—WILLIAM E. JERVEY, New Orleans, La.—*Burner for Petroleum Stoves.*—February 26, 1867.—Similar to the foregoing except that the lower retort or fluid chamber is cast in one piece, and a wire gauze surrounding the current of gas protects it from wind.

Claim.—First, the lower retort or fluid chamber A, when constructed substantially as described, for the purpose set forth.

Second, the combination of heater caps B, wire protecting gauze F, and lower retort A, constructed and arranged in the manner substantially as shown and described and for the purpose set forth.

62,340.—EVAN F. JOHNS, Philadelphia, Pa.—*Apparatus for Applying Springs to Cushions.*—February 26, 1867.—The mattress frame is placed in the operating frame and the springs depressed by the levers while being tied in place.

Claim.—A frame A, with lever B and hooks *c*, or their equivalents, constructed and adapted for the reception of the frame X of a cushion, and for the compression of springs on the same, substantially as described.

62,341.—MOSES W. KIDDER, Lowell, Mass., assignor to himself and H. R. BARKER, same place.—*Damper.*—February 26, 1867.—The steam chamber has within it a vertical series of concavo-convex disks alternately connected together at their outer and inner edges. The ends of the series are connected respectively to the cylinder bottom and to a rod which has free play through both ends of the cylinder. The pressure of steam operates on the disk to move the rod which is connected to the fire damper.

Claim.—The employment of one or more metallic disks or plates, corrugated or plain, in the manner and for the purpose specified.

62,342.—SUSAN M. KIRK, Camden, N. J., and E. J. HOWLETT, Philadelphia, Pa., assignors to E. J. HOWLETT, Philadelphia, Pa.—*Tool for the Manufacture of Paper Bags.*—February 26, 1867.—The bag tubes are placed beneath the metallic blade with their tops against the adjustable slide. Their bottoms are then folded back upon the blade and then raised and the edges brought together longitudinally, and the part projecting from under the blade flattened down. The free corners of this part are then pasted and folded down and the upper side laid over on the other. The bag is then withdrawn.

Claim.—First, the construction of the board or blade B and adjustable strip D, the whole being arranged substantially in the manner described.

Second, the combination of the board A, the permanent strip *a*, and adjustable blade B.

Third, the combination of the board A, the guide plate E, and adjustable strip D.

62,343.—WILLIAM A. L. KIRK, Hamilton, Ohio, assignor to OWENS, LANE, DYER & CO., same place.—*Governor.*—February 26, 1867.—The raising or falling of the governor stem brings the lugs on the driver in contact with the lugs on one of two inclined bevel

wheels, which are connected to the screw gear shaft, whose rotation serves to partially open or close the governor valve. While working evenly at a given speed the lugs on the driver revolve without contact with those on the bevel wheels, but by acceleration or retardation of speed the engagement is brought about to open or close the valve, as the case may be.

Claim.—The arrangement of two wheels A A, or their equivalents, on any angle varying from a right angle from the pinion B, in which they work, the same being provided each with a lug K K, working in connection with similar lugs I I I, on the intermediate driver E, substantially in the manner and for the purpose specified.

62,344.—W. B. LANE and W. COULTOR, Organ Spring, Ind.—*Cultivator.*—February 26, 1867.—The plows are laterally adjustable on their frame, which has a vertical movement by a lever upon the wheel frame, to which it is hinged in front.

Claim.—First, combining with a two wheel carriage a shovel carrying frame which is adapted for carrying five shovels a a b b and d, and which is composed of vertically-vibrating beams H H I I, connected together by transverse braces J, so as to be laterally adjustable, substantially as described.

Second, arranging a vertically and laterally adjustable shovel frame, which is constructed as described, upon a two wheel carriage, in such manner that the shovels will be located beneath, and in a vertical line, or nearly so, with the axle A, substantially as described.

62,345.—WILLIAM LEIB and GREEN B. HORNBEEK, Winchester, Ill.—*Car Coupling.*—February 26, 1867.—The link in coupling is projected by a slide on one draw-head, and is engaged by a spring pin in the other head. The slide and pin are operated from the top of the cars by levers.

Claim.—The levers A and H and the link or slide B, when arranged and operated as herein described and for the purpose set forth.

62,346.—HIRAM LEMM, Leonidas, Mich.—*Stump Extractor.*—February 26, 1867.—The chains extend from the stump to a windlass worked by pull and push pawls on a rocking lever. The additional chain furnishes means to remove the stump after extraction.

Claim.—The ratchet wheels C, separated by a flange F of a common windlass shaft B, pawls G, hung to a common rocking cross bar operated through lever J and chains M, in combination with each other, substantially as and for the purpose described.

Also, the combination with the above of the chain N, passing over beam P of the framework A, substantially as and for the purpose specified.

62,347.—W. B. LINK, Taberg, N. Y.—*Mop Cloth.*—February 26, 1867; antedated February 14, 1867.—The strings forming the mop are woven together at their mid-length.

Claim.—As a new article of manufacture, a mop constructed as herein shown and described.

62,348.—FREEMAN LITTLE, St. Louis, Mo.—*Slat for Window Blinds.*—February 26, 1867.—The upper slat is pivoted in the frame, and the other slats have edge flanges which combine to shut out all light when required.

Claim.—The application of flanged slats with the above described upper slat to Venetian window blinds, which will produce the intended effects, substantially as described.

62,349.—SAMUEL LLOYD, Washington, D. C., assignor to himself and ROBERT C. STEVENS.—*Reversible Lounge.*—February 26, 1867.—The arm is changeable from one end to the other, and the back and seat have the necessary movements to form either a right or left hand lounge.

Claim.—First, the metal plates F F with the angular slots h h, wrist pins i i, in combination with the supporting plates g g, as described and set forth.

Second, the mode of securing the seat frame B to the frame A by means of the metal ribs e e, and hooks f f, so that the seat frame B can be moved longitudinally, and when in proper position be taken out and reversed, so that the back of the sliding frame B can

be brought to the front, as and for the purposes herein set forth.

Third, constructing lounges so that the movable arm may be placed at either end of the frame, in combination with the sliding seat and back shifting to conform to the head, so that the appearance is the same whether right or left.

62,350.—HIRAM W. MAPES, Jr., Ripon, Wis.—*Spring Seat for Vehicles.*—February 26, 1867.—The inclined boards rest on the sides of the wagon box, and their upper ends between their side joints are supported by rubber bands connected to the seat at its mid-length. The eyes of the side joints are slotted to allow the necessary play.

Claim.—First, supporting a seat upon two inclined boards B B', which are jointed together at their inner ends, and connected to the seat by means of springs e e, substantially as described.

Second, connecting the inner ends of the inclined supports B B' by means of interlocking tongues, and sliding joints g g', in combination with spring connections e e and pivot connections e e, substantially as described.

62,351.—CHELTON MATHENY, Greensburg, Ind.—*Hand-Spinning Machine.*—February 26, 1867.—The object of the obliquity and stated adjustability is to give a more convenient relative position of the spindle carriage track and the driving wheel, so that the operator may bring the path of the spindle point in a line with his left hand. The machine is convertible into a wool or flax spinning machine.

Claim.—First, the spindle carriage track, arranged obliquely to the plane of the drive wheel, as and for the purpose set forth.

Second, in combination with the elements of the clause immediately preceding, making said track adjustable about a vertical axis, and securable at any desired obliquity, as set forth.

Third, the combination and arrangement of the frame A B, wheel E e e', crank E, treadle Y, pitman Z, and spindle X, to adapt the machine for spinning flax, as explained.

62,352.—MCCULLOUGH, Richmond, Ind.—*Cut-off of Electro-Magnetic Engines.*—February 26, 1867.—Four pairs of spool magnets are supported in a frame, and a vertical oscillating shaft has armatures upon it, which are alternately brought in connection with the magnets by the completion and breaking of the galvanic circuit automatically, accomplished by the lower end of the oscillating shaft. The upper end of the latter is connected to the wrist pin of the rotating wheel.

Claim.—The compound rods T T, cross-head R, and posts 1 2 3 4, constructed and operated substantially as herein set forth and described.

62,353.—CHARLES H. MILLER, Frederick, Pa., assignor to himself and ISAAC S. DENGLER, Perkiomen, Pa.—*Padlock.*—February 26, 1867.—The locking plate has two curved arms turning toward each other, and the perforated end of the locking arm passes between their ends. In unlocking, the key is twice rotated. The turning of a pivoted spring plate on the back of the lock frees the locking arm from a catch within. An additional keyhole, with a spring to engage the key, acts as a blind. The true keyhole is exposed by turning a guard plate.

Claim.—First, the case A and arm B, with its opening x, in combination with the lever D, plate C, its arms i v, projections n n' n'', and recess S, the whole being constructed and operating substantially as and for the purpose described.

Second, the combination of the above and the plate E, and its arm r, for the purpose specified.

Third, the plates I and H, with their openings z z' and cover plate J, in combination with the case A and its keyholes q q', substantially as and for the purpose set forth.

62,354.—E. L. MOESCHLER, Rochester, N. Y.—*Machine for Gauging the Size of Loaves of Bread.*—February 26, 1867.—The dough is carried forward on an endless belt through a throat, which is adjustable in size by side blocks. A guillotine knife descends at intervals to sever loaves from the mass.

Claim.—The employment of one or more gauging

or graduating slides N, either with or without a graduated throat piece or plate, in combination with a revolving belt and reciprocating knife, for the purpose set forth.

62,355.—J. A. MONTGOMERY, Columbus, Ohio.—*Machine for Sharpening Fence Pickets.*—February 26, 1867.—An oscillating plate, carried on the frame on which the pickets are placed, has a cutter attached to either the upper or under part of its face, according as a convex or concave cut is to be made. Concentric scores on the face of the cutter block indicate the place of attachment of the cutter to cut a certain curve.

Claim.—First, a machine for producing curved points on the ends of fence pickets, constructed and operating substantially as described.

Second, a machine which will both point and score the ends of fence pickets, constructed and operating substantially as described.

62,356.—FRANCIS E. MORAN, Millburn, Ill.—*Cotton Planter.*—February 26, 1867.—The seed is separated and conveyed to the dropping spouts by series of radial teeth in transverse rows on a feed wheel. The seed spouts are enlarged below the hoppers to prevent clogging. The markers and coverers are carried by a hinged frame, with which they are swung clear of the ground.

Claim.—First, the arrangement and combination of the diagonal shovels D, marking shovels C, rods L L I, slotted bars J J K, and pipes E E', substantially as set forth.

Second, the hoppers P with enlargements X, in combination with the separators Q and pipes E E', substantially as set forth.

62,357.—E. A. MORE, St. Louis, Mo.—*Cover for Oil Cans.*—February 26, 1867; antedated February 15, 1867.—The oil can is encased in a wooden box having one corner of the top cut away for the mouth of the can. A pivoted plate swings round to close this opening.

Claim.—The lever C, when constructed and employed substantially as herein described.

62,358.—GABRIEL NEUDECKER, St. Louis, Mo.—*Removing Tobacco Plugs from Molds.*—February 26, 1867.—The tobacco molds are fitted into a box whose cover is studded with plungers which fit the cells and remove the tobacco therefrom when the cover is depressed.

Claim.—First, the cover A', when armed with the plunger a', which are so fitted and arranged that they may be employed for the purpose of simultaneously forcing the plugs of tobacco from the molds B.

Second, the combination and arrangement of the box A, the mold B, and the cover A', substantially as described and set forth.

62,359.—S. H. PERKINS and THOMAS S. GILBERT, New Haven, Conn.—*Machine for Making Hoop Skirts.*—February 26, 1867.—The covered wire, preparatory to being formed into hoops, is automatically fed, measured, printed at the points for securing the tapes, and cut off at the required length. The regulation for length is made by adjusting the gauge and clamp relatively to the cutter.

Claim.—First, the combination of a feeding cylinder A, a printer or indicator F, with a gauge and clamp to secure the ends of the wire to the cylinder, substantially as herein set forth.

Second, the combination of the feeding cylinder A, provided with a clamp for securing the ends of the wire to the cylinder, in combination with the cutters I and P, substantially as herein set forth.

Third, the combination of the feeding cylinder A, provided with a clamp for securing the ends of the wire to the cylinder, the printer or indicator F, and the cutters P and I, substantially as herein set forth.

62,360.—JOSEPH B. POTTMAYER, Pittsburg, Pa., assignor to himself and NICHOLAS WINTER, same place.—*Steam Pump.*—February 26, 1867.—The knocker arm on the piston rod actuates the rod of a valve which admits steam to the main valve, governing the admission of steam to the cylinder. Steam is admitted to the ends, alternately, of the plug valve, and the circumferential grooves in the latter are

brought into communication with the induction ports of the cylinder. The central depression in the valve connects alternate ends of the cylinder with the exhaust.

Claim.—First, the arrangement of the plug valve F, with its steam passages c c' and its exhaust channel d, substantially as described and for the purpose as set forth.

Second, the arrangement of the valve V and auxiliary valve F, as described and for the purpose set forth.

Third, the arrangement of the throttle m with reference to the steam chest E and valve F, in the manner and for the purpose as set forth.

62,361.—DANIEL R. PRATT, Worcester, Mass.—*Pin.*—February 26, 1867.—Explained by the claim and illustration.

Claim.—A common pin for clothing or wearing apparel, turned from a straight line by corrugations or flexures, as herein shown and described.

62,362.—ALONZO C. RAND, Union Mills, Pa.—*Still.*—February 26, 1867.—The object is to cool the still rapidly after the charge has been "run off," in order that it may be entered and cleaned.

Claim.—Surrounding and enveloping a still with an adjustable double covering or jacket filled with a non-conducting substance, substantially as described and for the purposes herein set forth.

62,363.—ALONZO C. RAND, Union Mills, Pa.—*Manufacture of Illuminating Gas.*—February 26, 1867.—Air is driven by a pump into a vessel which is divided into four compartments, containing liquid hydrocarbon and communicates with an upper chamber by means of pipes, the said chamber discharging by pipes into a gas holder. The chamber above the carburetter has a burner by which the gas is tested during the process of manufacture.

Claim.—First, so arranging the gas generator or carburetting apparatus with a series of compartments or generators with stop-cocks that the air may be driven through the liquid contained in one or more compartments, for the purpose and in the manner herein described.

Second, the combination of the test light G and its connection with the series of compartments or generators a¹ a² a³ a⁴, substantially as and for the purpose herein described.

Third, the employment of the cock or cocks I, arranged on the lower part of the generators to connect or disconnect the same, substantially as and for the purpose described herein.

62,364.—ALONZO C. RAND, Union Mills, Pa.—*Apparatus for Carburetting Air.*—February 26, 1867.—Explained by the claim and illustration.

Claim.—Placing the tank B, surrounded by water within the gasometer A A in the earth below the frost point, so that the vapors shall be generated at a low temperature, thereby preventing their condensation in the pipes leading to the burners, as herein set forth.

62,365.—JACOB REESE, Pittsburg, Pa.—*Cotton Bale Tie.*—February 26, 1867.—One end of the hoop has a slot, and the other has a jointed section, with a button; the latter is capable of entering said slot when the said section is bent at right angles to the hoop, and is crosswise to the slot when the hoop is in continuous line.

Claim.—The combination of the T-head c and slots a a in a hoop or tie for cotton bales, with a movable arm b or strap b', to which the button is attached or constructed and arranged, as that when the tie is fastened the head of the button shall tie across the slot, substantially as and for the purposes described.

62,366.—WILLIAM OSCAR REIM, Springfield, Ohio.—*Apparatus for Ascertaining Tonnage, &c.*—February 26, 1867.—The duplex scales are placed on opposite sides and ends of the vessel for the measurement of the displacement and the determination of the result by the average of all. It is an improvement on Amory Amsden's patent, in which a single scale was placed at the dead point. The stems rise through the deck, and terminate at bottom in floats,

which rise in the chambers when water is admitted thereto.

Claim.—First, the use of a duplex system of hydrostatic scales for the admeasurement of the displacement of vessels when said scales are respectively placed in relation to the vessel and one another, substantially as set forth.

Second, the combination of the cylinder C, pipe B and plunger valve, actuated by the rod B', when arranged to operate substantially as and for the purpose set forth.

Third, in combination with the cylinder C, float B and graduated stem E, the revolving head E' and balanced indicator H, substantially as and for the purpose set forth.

62,367.—M. L. ROBERTS, Smithfield, Canada.—*Plow.*—February 26, 1867.—The mold board has a gang of anti-friction rollers to turn over the furrow slice. Instead of a prolonged landside or sole is an inclined wheel, with a double miter face, whose angle runs in the corner of the furrow just made.

Claim.—The friction wheel G, having its axis inclined at an angle of 90° or thereabouts, one bearing being attached to the beam, and the other to the heel of the mold board, so that the two faces of said wheel bear against the side and bottom of the furrow, with nearly equal force, in combination with the other parts of a plow, arranged and operating substantially as and for the purposes set forth.

Also, constructing a plow without the land plate or side, when the same is provided with a friction roller or rollers, which track in the furrow angle, which is cut by the share, substantially as set forth.

Also, the combination of the inclined wheel G, with the anti-friction mold board, composed of the series of rollers e e, or their equivalent, arranged and operating substantially as set forth.

62,368.—IRA A. SALMON, Boston, Mass.—*Dentists' Tool Rack.*—February 26, 1867.—The tray has a series of projections between or upon which the tools belonging to the dental mallet are placed so as to be readily detached from the stock of the mallet, and be retained in a convenient position for being again attached.

Claim.—A tool rack or instrument rack, made of steel pins, beveled on one side, in the manner and for the purpose hereinbefore described.

Also, as an improvement on the United States patent No. 54,883, or any such rack, the construction of the teeth beveled wedge, or chisel-shaped, substantially as and for the purposes and objects as hereinbefore specified.

62,369.—BENJAMIN SAUNDERS, Nashua, N. H., assignor to himself and ALBERT H. SAUNDERS, same place.—*Friction Apparatus for Yarn Beams of Warp Dressers.*—February 26, 1867.—The claims and illustration indicate the details of this invention; the object is to let-off uniformly as the amount of yarn on the beam diminishes.

Claim.—The combination as well as the arrangement of the friction wheel a, or its equivalent, the brake b, the slide rod c, the spring g, and the lever h, the whole being applied together, and to the yarn beam A, substantially in the manner and for the purpose set forth.

Also, the combination of screw e and nut f with the slider c, the brake b, the friction wheel a, and the lever h, the whole being applied together and to the yarn beam, substantially and for the purposes as described.

62,370.—BENJAMIN SAUNDERS, Nashua, N. H., assignor to himself and A. H. SAUNDERS, same place.—*Device for Imparting a Lateral Reciprocation to the Raddle of Warp Dressing Machines.*—February 26, 1867.—A slow reciprocating lateral motion is given to the raddle, so as to prevent the wear of the cloth covering of the sizing rollers by the warps, and prevent the sizing from accumulating and drying on the portions of the surface of the roller which are between the warps.

Claim.—The combination as well as the arrangement of the grooved cam H, the arm c, the two shafts G G and the cranks F' E', the whole being applied to the raddle and the dresser frame and its shaft, sub-

stantially in the manner and so as to operate as specified.

62,371.—RICHARD SAVAGE, San José, California.—*Thermo-Alarm Gauge.*—February 26, 1867.—The air in the two hollow bulbs is expanded by heat, and presses upon the mercury in the pipes, which unite with a single outside pipe, whose column of mercury is raised thereby. A float on the mercury moves a band upon a dial plate, and causes an alarm to be sounded when the pressure becomes extreme.

Claim.—The above described thermo-alarm gauge, in combination with a steam generator.

62,372.—HENRY A. SEYMOUR, Bristol, Conn.—*Roof.*—February 26, 1867.—The joint between the adjacent roof boards is spanned by a plate, bent into an angular shape, the edges being inserted into the boards.

Claim.—The employment of the Δ -shaped metal piece d, when inserted into grooves formed in the upper side, and near the edge of the board a, when said grooves are formed about an angle of 45°, substantially as and for the purpose described.

62,373.—JUDSON W. SHAW, Concord, N. H.—*Mop Head.*—February 26, 1867.—The stirrup clamps the mop against the head, and is itself secured by the engagement of the shank hooks with a rack in the handle. A collar holds the hooks in the rack.

Claim.—The rack bar d, in combination with the mop constructed with the bearer yoke and collar, as and for the purpose described and set forth.

62,374.—WILLIAM SIEFERT, New York, N. Y.—*Pinch Bar for Removing Heavy Weights.*—February 26, 1867.—The point has a roller to prevent the friction of the end of the bar upon the object lifted.

Claim.—The application of a roller to the end of the short arm of a pinch bar.

62,375.—JAMES SMITH, Richmond, Ind.—*School Desk.*—February 26, 1867.—Two wooden bars are placed parallel, and at a short distance apart, and run centrally along the series of desks, where they are secured so as to be detachable. The space between them becomes a receptacle, and has lids. The shelf below each desk has a closing door to exclude dust.

Claim.—First, the combination of the connecting bars D D' with a series of desks and seats A A' and the receptacles a a', so constructed that the bars and desks may be easily separated at pleasure.

Second, the combination of the book box K and doors P, when the latter are arranged substantially in the manner described.

62,376.—HENRY SOGGS, Columbus, Pa.—*Combined Corn Planter and Hoe.*—February 26, 1867.—At the upper end of the hollow handle is a seed hopper; a spring plunger actuates the feeding device at the hopper, and uncloses the valve at the lower end of the handle simultaneously.

Claim.—The arrangement of the seeding devices E J K and M in the hollow handle of the hoe, with the hopper and seeder at the end of the handle, when arranged and combined as herein described and for the purposes set forth.

62,377.—JOHN STEVENS, New York, N. Y., and JOHN JOHNSON, Saco, Me.—*Preparing Mica for Tablets and other Purposes.*—February 26, 1867.—The surface of the lamina of mica is roughened by grinding with emery, the edges are bound or varnished, and the sheets framed or bound.

Claim.—The use of mica for the purposes herein specified, viz: for tablets, books, and for record.

62,378.—J. L. and G. W. STEVENS, San Francisco, Cal.—*Case for Transporting Eggs.*—February 26, 1867.—The box has tin divisions, in which the eggs are separately packed for safety in transportation.

Claim.—A case for packing and transporting eggs, constructed with compartments substantially as and for the purpose herein described.

62,379.—HENRY C. STOLL, Mokena, Ill.—*Revolving Harrow.*—February 26, 1867.—One side of the triangular frame is used as a draft bar, and sup-

ports an inner friction roller, traveling on a track above the harrow frame. The angle of the other two sides supports a weighted box resting upon a friction roller, traveling upon an outer track, and by depressing the teeth beneath it causes the harrow to revolve when it is drawn forward.

Claim.—The frame A, in combination with the tracks C B, friction rollers E and D, and the triangular frame G G', when constructed substantially as and for the purpose set forth and described.

62,380.—JOHN P. VAN VLECK, Rock county, Wis.—*Hand Corn Planter.*—February 26, 1867.—The jaws are hinged just above the openers. The act of closing the handles drives the curved seed-slide into the hopper and makes the hole in the ground by spreading the openers. The return move drops the seed.

Claim.—First, curved seed cup bar H, in combination with the hopper E, when both are constructed and operated substantially as and for the purposes described.

Second, a general arrangement of the parts A B E F C D H and G, when the whole are constructed, combined, and operated substantially as and for the purposes described.

62,381.—E. C. WALKER, Newark, N. J.—*Hoop Skirt.*—February 26, 1867.—Two pieces of flat spring steel are centrally attached to the lowest hoop in front and diverge as they ascend to the hoop next to the bustle hoop; from these points coiled wire springs descend and are attached to the bottom hoop. The object is to prevent the skirt tilting when a person sits down.

Claim.—Bracing the front of a skirt by affixing thereto the springs a and b, when combined with and arranged upon the skirt in the manner and for the purpose specified.

Also, the use of the spirals c and d, in combination with the braces a and b, for the purposes set forth.

62,382.—C. P. S. WARDWELL, Lake Village, N. H.—*Knitting Machine Needle.*—February 26, 1867.—The claim and illustration explain the invention. Its object is to equalize the strain at the bend and give greater durability by diminishing the liability of the barb to break at that point.

Claim.—A needle for knitting machines, flattened on the outside of its barb, substantially as and for the purpose herein specified.

62,383.—HENRY WATERMAN, Hudson, N. Y.—*Weather Strip.*—February 26, 1867.—A wire forcibly driven into the kerf along with the strip of rubber holds it in position.

Claim.—The arrangement and mode of fastening a strip of india-rubber or cloth in a groove in the edge of a door or window sash, by means of a wire forced down into the groove by the side of or within the folds of the rubber strip, so as to hold it firmly in its place, substantially in the manner and for the purpose hereinbefore set forth.

62,384.—ALBERT E. WING, Battle Creek, Mich.—*Machine for Shrinking Tires.*—February 26, 1867.—Depressing the treadle drives the two biting levers against the two upper jaws and thus clamps the tire in two pieces. One pair of jaws remains stationary and the other is driven toward it by an eccentric, shortening and upsetting the tire.

Claim.—First, the jaws H I, biting levers G' G', levers G G, foot levers E, constructed and operating as described, and for the purposes set forth.

Second, the stationary block D, sliding block D', hand lever F, constructed and operating as described, and for the purposes set forth.

Third, the frame C and blocks D and D', in combination with the jaws H I, levers G' G', foot lever E, and hand lever F, the whole constructed and operating as set forth, and for the purposes described.

62,385.—DANIEL R. ALLEN, Cumberland, Me.—*Cultivator.*—February 26, 1867.—Explained by the claims and illustration.

Claim.—First, the relative arrangement and position of the teeth c and d, viz., upon their respective cross bars a and b, in the manner and for the purposes described.

Second, the combination and arrangement of the

slots and holes in the cross bars, the shoulder, flange, and lip on the teeth, with the bolt and nut, for the purpose of securing the teeth.

Third, in combination with the shoulder, lip, and flange on the teeth, the additional slots and holes in the third cross bar, for the purpose of rendering the teeth e and f adjustable, as described.

Fourth, the combination of the slots p and t, bolts r and u, and nuts, with the slides secured to the mold boards s s, for the purpose of rendering the mold boards adjustable, as described.

Fifth, in combination with the diverging upper ends of the teeth c and d, the scooped parts m m of the beam A, in the manner and for the purposes set forth.

Sixth, the combination and arrangement of the scorer w, constructed as described, with the hooks v and pin z.

Seventh, in combination with the subject of the first and fifth claims, the rounded top l of the teeth projecting above the frame of the cultivator, as and for the purposes specified.

Eighth, the concave shape to the upper part of the forward edge of the tooth 3, when the said tooth is attached as described, for the purposes specified.

62,386.—WILLIAM J. ANDREWS, Columbia, Tenn.—*Cultivator.*—February 26, 1867.—The broad-edged shares are attached to the frame at the desired obliquity to the line of draft, and are succeeded by harrow teeth attached to the same frame.

Claim.—The combined plows and harrows G H applied to the standards F F, substantially as and for the purpose specified.

62,387.—OMAR J. ARNOLD, Mount Ida, Wis.—*Cultivator.*—February 26, 1867.—The plow frame is hinged to the tongue hounds and is vertically adjusted by a pivoted lever, which is connected to the plow frame by a bent lever passing through a slot in the tongue.

Claim.—First, the axle C, inclined downward from its center outward in both directions, in connection with the extended draft pole A and brace rods b b, substantially as and for the purpose set forth.

Second, the beams D' D', extending in front of the joints d and connected by a cross bar F, substantially as and for the purpose set forth.

Third, the lever G, provided with the pin or rod f, in combination with the beams D' D' and cross bar F, all arranged substantially as and for the purpose specified.

62,388.—EDWIN A. BARROWS, Willimantic, Conn.—*Permutation Lock.*—February 26, 1867.—The lock has a combination mechanism operated by finger pieces in a prescribed order. The sliding bar has a number of holes to receive an equal number of stops and corresponding finger pieces. By manipulating the finger pieces in the proper order the bar is freed, but a variation in the order causes detent dogs to fly up. A key restores the former position of the bar.

Claim.—First, the sliding bar B, provided with a series of holes d d' d² d³ and pins e e' e² e³, more or less, in combination with the spring arms f f' f² f³, finger pieces h h' h² h³, latch C and bolt D, constructed and operating substantially as and for the purpose set forth.

Second, the safety dogs i i' i² i³, in combination with the sliding bar B, pins e, e arms f, and finger pieces h, constructed and operating substantially as and for the purpose described.

Third, the rod s and lever t, in combination with the sliding bar B and with a suitable key, constructed and operating substantially as and for the purpose set forth.

62,389.—JACOB BATES, Salineville, Ohio.—*Medical Compound.*—February 26, 1867.—For bronchial and pulmonary affections, influenza, &c. Composed of elecampane, 8 lbs.; comfrey, 3 lbs.; spikenard, 3 lbs.; horehound, 1 lb.; lady's slipper, ½ lb.; sugar, 4 lbs.; honey, 1 lb.; and essence of winter green, 1 oz.

Claim.—The medical compound composed of the ingredients herein described, for the purpose specified.

62,390.—LEANDER BURNS, Port Chester, N. Y.—*Tool for Turning Bolts.*—February 26, 1867.—The dies act upon opposite sides of the bolt and are each

composed of three pieces secured together by screw bolts. The thickness of the central piece regulates the distance between the inner edges of the outer plates according to the diameter of the bolt under treatment; one edge being sharpened to shave the bolt and the other adapted to hold it.

Claim.—The cutter or dies B, formed in three parts or sections C D and E, secured together and constructed substantially as and for the purpose described.

62,391.—JOHN H. BUSH, Bone Creek, W. Va.—*Folding Table.*—February 26, 1867.—The legs are hinged to an oblique brace, which crosses the diagonal girder. The usual side pieces of the frame are dispensed with. The notched leg shuts within a rabbet of the end piece and the legs are secured by a catch when open.

Claim.—First, the frame constructed with diagonal girder E and oblique piece F, to which the legs are hinged, substantially as described.

Second, the combination of the spring catch K and movable leg H, arranged and operating substantially as described.

Third, constructing the leg H with a notch at its upper end, in combination with the notched end piece D of the frame, substantially as described.

62,392.—JOHN W. CAMPBELL, New York, N. Y.—*Ice Box or Cooler.*—February 26, 1867.—The ice chamber is within a larger chamber and has a pipe for the passage of drinking water laid in a horizontal worm at its bottom to support the ice. A drain pipe from the ice chamber has an S-bend in a vertical plane which forms an air trap.

Claim.—The arrangement of an ice box and cooler for fluids, consisting of an external case A, internal case B, pipe C, for conducting fluids through the same, and a discharge pipe E, said parts being respectively constructed, combined, and arranged in the manner and for the purpose set forth.

62,393.—G. W. CATON, Canandaigua, N. Y.—*Water-proof Cement.*—February 26, 1867.—Composed of white fish glue, 1 lb. 10 oz.; white lead, 12 oz.; rain water, 34 pts.; alcohol, 1 pt.; gum camphor, 1/2 oz.; linseed oil, 1/2 oz.; and gum shellac, 1/2 oz.

Claim.—A water-proof glue or cement composed of the articles above named and in about the proportion described.

62,394.—JOHN G. CLIFTON, Middletown, Ohio.—*Mortising Machine.*—February 26, 1867.—The lower guides of the chisels are pivoted so as to admit side oscillation and are adjustable in distance from each other. The upper guides have similar adjustment, but simultaneous movement by a cog wheel which engages their slide racks. The chisels may be used in conjunction or singly.

Claim.—First, the hinged guides *c c* of the chisel bars *b b*, rack frames *d d*, and adjusting frames *e e*, in combination with their actuating mechanism, arranged and operating substantially in the manner and for the purpose herein described.

Second, the arrangement of the forked lever *m* upon the stud *l*, on treadle *k*, operated in the manner described, for connecting with either or both the treadle blocks *j*, for actuating the chisels, substantially as and for the purpose set forth.

62,395.—H. A. COATES, Wellsville, N. Y.—*Bed Bottom.*—February 26, 1867.—The slats have a guide pin at each end, and a supporting spiral spring separate therefrom.

Claim.—The combination of the slats D, having notched ends fitting on guide rods C, retained by the cross bars E, with elastic blocks F between them, and resting on springs B, independent from the rods, in the manner described for the purpose specified.

62,396.—RODOLPHUS CONWAY, Volga, Ind.—*Gate.*—February 26, 1867.—The gate is double, and balanced on a central post on which it turns. The latches are moved simultaneously by transverse wires from the top of the rear end of each latch to the bottom of the other. One end is hinged to form a gate, which has a rubber band to close it.

Claim.—First, an improved gate B, formed in two parts *b¹* and *b²*, hinged to each other, and which is

hinged at its center to a central post A, substantially as herein shown and described.

Second, the combination and arrangement of the wires G H, with the latches E F, substantially as herein shown and described, and for the purpose set forth.

Third, the combination of the spring J with the parts *b¹* and *b²* of the gate B, substantially as herein shown and described, and for the purpose set forth.

62,397.—GEORGE M. COPELAND, Brooklyn, N. Y.—*Combination of Air and Steam Jets to Promote Combustion.*—February 26, 1867.—The air pipe discharges upwardly within the chimney, and has a central steam pipe which discharges within the air pipe.

Claim.—First, the combination of an air and steam jet or jets with each other, and their introduction into a chimney, smoke flue, or other passage way, substantially as herein described and for the purpose set forth.

Second, the combination of an air pipe D, single or branched, and the steam pipe or pipes F with each other, and with the smoke flue chimney or other passage way in which they are placed, substantially as herein described, and for the purpose set forth.

62,398.—CHARLES COUSE, Belleville, N. J.—*Indicator for Rope and other Machines.*—February 26, 1867.—The half nut of the indicator is set upon a screw shaft, which receives rotation from a shaft whose revolutions are to be determined. The finger traverses a scale bar and indicates the number. The set screw admits a precise adjustment of the pointer opposite any given figure of the scale.

Claim.—First, the combination of the screw shaft E with the half nut C, weight D, and pointer *b* and scale E, substantially as and for the purpose herein shown and described.

Second, the combination of the half nut C with the hand *b*, set screw *c*, and scale E, substantially as and for the purpose herein shown and described.

62,399.—HENRY DALE, Boston, Mass.—*Device for Regulating the Revolution of Propellers of Steam Vessels.*—February 26, 1867.—A cylinder with an open end is placed in the ship's bottom, near the propeller, so that the pressure of water on a piston in said cylinder shall raise a brake operating on the propeller shaft when the stern is thrown out of water; the descent of the piston puts the brake in operation to check speed.

Claim.—The automatic regulation of the motion of the propeller shaft of a steam vessel by means of devices operated by the resistance or varying pressure of the water.

62,400.—ROBERT DILLON, New York, N. Y.—*Bale Hoop Fastening.*—February 26, 1867.—A quadrangular plate with an opening of the same form is bent in the direction of its length. One end of the hoop is passed around the two sides which lap together, and the other end is passed around a pin which is held by the two loops of the plate.

Claim.—The construction of the plate B, with cross pieces *d* and wings *e e*, in combination with the pin *b*, substantially as and for the purpose described.

62,401.—WILLIAM EADES and WILLIAM THOMAS EADES, Birmingham, England.—*Apparatus for Raising Weights.*—February 26, 1867.—The hoisting chain pulley has end recesses, and the inner gears of the rims engage differential gear wheels within the recesses which have a revolving movement by rotating eccentrics, but are prevented from rotating by projections which engage vertically and horizontally sliding frames. The number of teeth upon the inner gear wheels is one or more smaller than that of the inner gears of the chain pulley, so that a revolution of the gear wheels will rotate the pulley one or more cogs.

Motion is communicated to the eccentric from an outer wheel by an endless rope or chain.

Claim.—The within-described improved apparatus for raising weights, such apparatus consisting of a pulley block, constructed as herein described, or any mere modification of the same construction, whereby a single chain having two loose ends is carried to work over a pulley driven by self-sustaining gearing, in manner herein more fully set forth and specified.

62,402.—CHARLES F. ELLIOTT, Great Falls, N. H., assignor to himself and O. O. BENNETT.—*Wheel*

for Vehicles.—February 26, 1867.—Explained by the claim and illustration.

Claim.—Securing the fellos C to each other by means of the curved plates D, inserted and pivoted in channels formed in the face or rim of said fellos, as herein set forth for the purpose specified.

62,403.—JOB GIFFORD, Smithport, Pa.—*Liniment.*—February 26, 1867.—Composed of spirit of camphor, 1 part; saltpeper, 2; alum, 2; salts, 3; vinegar, 32; boil, filter, bottle and cork.

Claim.—The liniment composed of the ingredients mixed together in or about the proportions described for the purpose specified.

62,404.—T. M. GILE and W. COCHRAN, Mansfield, Pa.—*Apparatus for Drawing Well Tubes from Wells.*—February 26, 1867.—The stand is supported upon jack screws, and lifts upon a device for drawing tubes from wells. The lifter consists of a rod with a spear head and a hinged dog which engages the tube when raised.

Claim.—The stand B supported upon jack screws C, and having dogs I, rod E, in combination with the dog G, on the end F of the rod, so as to operate substantially in the manner and for the purpose described.

62,405.—JOHN GILPATRICK, Biddeford, Me.—*Cultivator.*—February 26, 1867.—The triangular frame has transverse bars having pointed projections at their ends, to which the shares are attached.

Claim.—The iron cross-bars B, provided with tongues a a, and the cast-iron teeth C, when constructed and arranged as herein set forth and for the purpose specified.

62,406.—JOHN W. GOSLING.—Cincinnati, Ohio.—*Combined Step Cover and Wheel Fender for Carriages.*—February 26, 1867.—In the open position the plate fends from the wheel the dress of a person stepping into or alighting from a carriage, and in its closed position forms a cap over the step.

Claim.—A combined step cover and wheel fender for carriages, consisting of the flexible plate E, whose upper end is attached to the carriage door, and whose lower end is connected d h to the step or other fixed object, the whole being arranged to operate substantially as herein described and for the purpose set forth.

62,407.—ALFRED J. GRAINGER, Wilmington, Ill.—*Forging Apparatus.*—February 26, 1867.—The rod connects the power end of the hammer helve with the crank of the driving shaft, which has a weight to counterbalance that of the hammer. The hinge in the helve permits the hammer to adjust the length of its stroke to the thickness of the metal under treatment.

Claim.—First, the connecting rod g, crank shaft F f, and counterbalance I, in combination with the hammer A B, substantially in the manner and for the purpose set forth.

Second, the hammer A, spring-jointed helve B' B, connecting rod g and crank shaft F f, substantially as and for the purpose described.

62,408.—NOBLE W. GRAVES, Winnebago, Ill.—*Machine for Sawing Wagon Fellos.*—February 26, 1867.—In this machine for sawing wagon fellos a cylindrical saw is employed, and the described contrivances are for holding and feeding the block to be sawed, and delivering the fellow after it is sawed.

Claim.—First, so arranging the adjustable saw table E and slotted dogs e' and e'', in relation to the concentric saws a and b, that the piece to be cut shall project beyond the table and be supported by the dogs alone after being separated, and fall when the dogs are retracted, substantially as set forth.

Second, the arrangement of the adjustable table E, vertical guides h, supporting rods l l, and plate thereto attached, sliding upon the depending guide h and lever Q, substantially as set forth.

62,409.—DAVID GREEN, Brookfield township, Ohio.—*Composition for Roofing.*—February 26, 1867.—The bituminous coal is ground fine and mixed with coal tar to the consistency of mortar. It is applied to roofing boards, felt or paper.

Claim.—Reducing bituminous coal to flour, and mixing it with coal tar, and using it for roofing and

other purposes for which the composition may be useful.

62,410.—WILLIAM B. GUERNSEY, Norwich, N. Y.—*Butter Box.*—February 26, 1867.—The two end portions are boxes having outer closed ends. The middle portion is a double cover into which the others slip half way, their contents (if full) coming against the diaphragm in the middle portion. The edges of each portion meet and those of the boxes are united by an inner longitudinal strip, and those of the outer one by an outer strip. The boxes have a double shell over one half their length and an outer strip to secure it.

Claim.—The combination of three cylindrical parts or sections A B C made of thin strips of wood or pasteboard united flush at the edges and fitted together to form a butter box having two compartments, substantially as herein described.

62,411.—WILLIAM B. GUERNSEY, Norwich, N. Y.—*Packing and Preserving Butter.*—February 26, 1867.—The fatty and oily matters of the butter are excluded from the fibers and pores of the wood. The packing cases are made by saturating the wood with paraffine instead of merely coating it.

Claim.—First, a wooden box or containing vessel saturated with paraffine, substantially as described.

Second, the use of paraffine to protect the glued or cemented joints of wooden boxes or packages from the effects of moisture from the atmosphere or from contained substances.

62,412.—DAVID HAGUE, Balville Township, Ohio.—*Gate.*—February 26, 1867.—The gate is unlatched and slipped so as to clear the post and then raised by depressing the lever of the cam. It may then be pushed half open and rotated, or it may be rotated at right angles without raising.

Claim.—First, a sliding, rotating, and raising gate constructed and operated in the manner substantially as shown and described and for the purpose set forth.

Second, the combination of lever cam j, sliding bar i, guide pieces or slats h h, and the gate or its bars a a, constructed, arranged and operating in the manner substantially as shown and described and for the purpose set forth.

62,413.—C. P. HALE, Calhoun, Ky.—*Cane and Sorghum Stripper.*—February 26, 1867.—Each jaw has a concave-edged knife, the movable one being closed against the other by a spring to decrease the opening through which the stalk is pushed and drawn. A knife on the stock is used for topping.

Claim.—First, an improved cane stripper formed by the combination of the hollow or concave knives B and D and the jaws A and C with each other when said jaws and knives are constructed and arranged substantially as herein shown and described.

Second, the combination of the spring G with the movable jaw C, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the knife H with the stationary jaw A, substantially as herein shown and described.

62,414.—THOMAS S. HALL, Stamford, Conn.—*Railroad Switch Alarm.*—February 26, 1867.—A continuous alarm is sounded at the station as long as the switch is not in continuity with the main rail; this indicates its temporary connection with a side track and suggests its readjustment.

Claim.—First, the combination of a railroad switch with an electric signal or alarm apparatus, substantially as described, so that the switch in its movement to either side of the line rail shall close the electric circuit and sound the alarm, and when in its proper line shall break and leave the circuit broken, using therefor the mechanical devices set forth, or any suitable mechanical equivalent.

Second, in combination with the switch the slotted lever F, the swivel head C, the plate g, and the metallic connections h h', for operating an electric signal apparatus.

62,415.—HENRY HAMMOND, Hartford, Conn.—*Cartridge Pouch.*—February 26, 1867.—Several branch tubes connect with a common discharge tube; the lower cartridge in the latter is sustained by pawls

beneath its flange. The mouth piece is pulled down and released, which double motion drops one cartridge and catches the next in series. When one pocket is empty the case is partially rotated to bring its inlet aperture in correspondence with another magazine tube.

Claim.—First, the arrangement of the valve tube with one or more openings *ff'*, which can be turned to admit the cartridges from one cartridge tube at a time, having also a ratchet or catch fastening capable of being turned through the proper angle and of being held in the proper position by a spring, substantially as herein described.

Second, the valve *p* for preventing the cartridges from passing the proper tube and clogging the discharge pipe.

Third, the peculiar manner of securing the pawls *g g'* and *h h'* in the tube *c* by placing them in properly formed sockets and then slipping over the whole the shell *d*, substantially as herein described.

Fourth, the peculiar mode of attaching the cartridge tubes to the branches of the discharge pipe by means of a screw thread and ferrule, substantially as herein described.

62,416.—D. JONES HAPPERSETT, Coatesville, Pa.—*Heating Stove.*—February 26, 1867.—The calorific current passes in a spiral course around the central chamber which communicates with the exterior atmosphere by pipes.

Claim.—The combination with the central air chamber *C* and winding flue *D* of one or more pipes *B* for conducting the air into the air chamber at a point above the fire chamber, substantially as and for the purpose set forth.

62,417.—GEORGE HASECOSTER, Richmond, Ind.—*Window Shade.*—February 26, 1867.—The slats are formed of paste-board or card-board and are united by a warp of colored threads.

Claim.—A window shade composed of slats or strips of paper and woven in the manner described.

62,418.—ISAAC HENDERSON, Philadelphia, Pa.—*Fire Escape Ladder.*—February 26, 1867.—The frame is suspended from the window and has a rope ladder whose steps are secured steadily in place by cords which tie them to the strands of the rope.

Claim.—The cords *D* passing through the side holes of the steps *B* and between the strands of the rope *A* above and below the steps, securing the steps to the ropes and preventing them from turning beneath the feet, substantially as described.

62,419.—ROBERT HENEAGE, Buffalo, N. Y.—*Propelling Car Brake.*—February 26, 1867.—A friction wheel is fixed on the axle with an arm on each side, these arms being bent at the rear ends and pivoted to a rod which is pressed forward by a spring coiled upon it. The arms are capable of alternate or united application to the wheels and are pressed into connection by levers operated by treadles which have rollers at their points of contact with their arms. The power of the momentum is stored in this spring and used to overcome the inertia of the car in starting, or both arms can be applied at once to stop the car suddenly.

Claim.—First, the combination of the friction wheel *D*, curved brake bars *E E'*, pivoted to the spring rod *F*, sliding rollers *e e'*, with their actuating rods and foot levers *h r*, arranged and operating as and for the purposes set forth.

Second, the double-acting brake consisting of the two pivoted brake bars *E E'* capable of alternate and conjoint application to a friction wheel *D*, substantially in the manner and for the purpose set forth.

Third, the rollers *e e'* provided with movable boxes *j* when used in operating the brake bars *E E'*, for the purpose and in the manner specified.

62,420.—A. E. HOVEY, West Waterford, Vt.—*Truck.*—February 26, 1867.—The devices are particularly adapted to what is known as the "California crane-neck trucks," and are explained by the claims and illustration.

Claim.—First, the annular plate *B* provided with a pendant flange *g* and connected to the front ends of the crane-necks *A* in combination with the annular plate *F* provided with the bars *b b* and the pin *G*, the

joke *E*, with the axle *D* fitted within it, all constructed and arranged substantially as and for the purpose herein set forth.

Second, the india-rubber springs *I* when combined and arranged with the parts above specified, substantially as and for the purpose set forth.

62,421.—ORADIAH HOPKINS, Hackensack, N. J.—*Road Scraper.*—February 26, 1867.—The angle of presentation of the shod foot of the scraper is regulated by the draft chains. The driver stands on the platform, holds on by one handle and dumps by the other when desired.

Claim.—A road scraper made in manner and for the purpose substantially as described.

62,422.—WILLIAM R. IDLE, Urbana, Ohio.—*Quilting Frame.*—February 26, 1867.—The rollers on which the quilt is wound are journaled in the side pieces and have metallic collars whose flanges are perforated to engage a hook to prevent rotation. The sides of the quilt are extended by sliding hooks on inner side bars which carry an adjustable guide bar to direct the course of the needle. The frame is supported on rollers.

Claim.—The cross slides *C*, the ratchet and pawl *k i*, the gauge *D*, the thumb screw *m*, the rods *A*, and the head pieces *B*, constructed, arranged, and operating substantially as described for the purposes specified.

62,423.—LEMUEL P. JENKS, Boston, Mass., assignor to EDWIN A. EATON, same place.—*Water Meter.*—February 26, 1867.—Cannot be briefly described other than substantially in the words of the claims. The motions of the piston are governed by valves and recorded by an indicator.

Claim.—First, the arrangement of a meter or a motor of two valves, each one being both for induction and ejection, the said valves being connected together and acting alternately, in separate chambers or valve tubes, when the same are used in reciprocal action with a piston, and actuated by percussion, all substantially as and for the purpose described.

Second, actuating the valves of a meter or of a motor by the alternate percussion of two hammers upon inclined planes connected with the valves, the hammer being operated by the motion of a piston, all substantially as and for the purpose described.

Third, the arrangement in combination with the hammers of the pawls or latches with their respective springs to retain the hammers at their highest elevation when the same are actuated by the piston discharging said pawls, all substantially as and for the purpose described.

Fourth, with a meter or motor, the device of the horns or projecting inclined planes attached to the piston for the purpose of raising the hammers when the same operate substantially as and for the purpose described.

Fifth, the arrangement in a meter or in a motor of a piston containing cylinder and a valve containing cylinder when the valves are operated by percussion, all substantially as and for the purpose described.

Sixth, the general arrangement and construction of the machine represented, all substantially as and for the purpose described.

62,424.—ALVA F. JENNINGS, Sherman, N. Y.—*Refrigerator for Milk.*—February 26, 1867.—The sheet metal pan is supported in a wooded trough and has a longitudinal supporting slat which is gained transversely for the passage of the air or water which the trough contains. An end leg is pivoted to the trough which furnishes means for lowering that end to discharge the contents of that and the pan through the bottom, the trough being balanced on legs at mid-length.

Claim.—First, the combination with the sheet metal pan *E* and its enclosing wooden case *A* of the bar *I I* attached to the bottom of the said pan and removable therewith, constructed and arranged substantially as and for the purposes set forth.

Second, in combination with the pan *E* and refrigerating case *A*, the cover *O*, provided with a transparent center *m* of double thickness, in the manner and for the purposes described.

Third, the combination of the adjustable leg *D* with the milk-pan receptacle *A* and stationary legs *D C*, the

arranged and operating as and for the purpose specified.

Fourth, in combination with the pan E and its receptacle A, the removable slide k and plug orifices *j j* of the cover H for forming a passage for the circulation of air under and around the pan after the milk is sufficiently cooled with ice or water, substantially as set forth.

62,425.—HOWARD C. KEITH, Ancona, Ill.—*Beehive*.—February 26, 1867.—The hive is adjusted in height by eccentric cams on which it rests, and is fixed by a screw pin on the hive which enters the slot of a plate on the stand.

Claim.—The body A provided with eccentrics D and screws *d* in combination with the bottom C and slotted plates F for the purpose described, substantially as specified.

62,426.—JARED KELSEY and JOHN McLAIN, St. Mary's, Ohio.—*Farm Gate*.—February 26, 1867.—The drop bar has holes by which the gate may be held shut or open to a slight extent for the passage of an animal. A vertical series of slide bars in the frame furnish means to limit the opening to suit the size of stock to pass through. The drop bar has a rope attached for convenience of equestrians.

Claim.—The drop guide bar K, stock divide and hog lock O P Q, horseman's arrangement N, gate guide D, the washers E and F, and the mode and manner in which the different parts are combined, as herein described for the use set forth.

62,427.—GEORGE H. KIRK, Philadelphia, Pa.—*Ice Sled*.—February 26, 1867.—A "dog" is reciprocated by means of its connection to a wrist on a pulley which is rotated by the rider to propel the sled.

Claim.—The combination and arrangement of the toothed arm L, crank wheels J, and pulleys G I, and band K, or equivalent, with each other and with the frame of the sled, substantially as herein shown and described and for the purpose set forth.

62,428.—BERNHARD KOECHLING, New York, N. Y.—*Folding Chair*.—February 26, 1867.—The seat is pivoted in the metallic side pieces and the gudgeon of the pivot pin has catches which are so shaped as to stop the seat in its vertical or horizontal position against an abutment on each side of the pivot. Sufficient play is allowed to fit the device for seats in a curved line.

Claim.—First, the arrangement of the stop pins *c c* which fit into the mortise *d*, as seen, and by which the seat C is supported both in rear and in front of the pin *b* on which the seat is hung, substantially as herein shown and described.

Second, the straps *f* fitted in oblong slots in the side pieces A in combination with the backs D, substantially as and for the purpose herein shown and described.

62,429.—LEWIS A. LIPP, Coatsville, Pa.—*Ice Cream Freezer*.—February 26, 1867.—The dasher has vertical reciprocation by the play of a crank pin in a horizontal slot of its cross-head. The vertical and pivoted scrapers have rotary and reciprocating motions respectively to clear the can sides. The paddles throw the cream outward. The can may be rotated or the dasher reciprocated singly if desired.

Claim.—First, an improved dasher or stirrer formed by the combination of the vertical scraper S, pivoted scraper T, and pivoted paddles V, with the dasher handle, substantially as herein shown and described.

Second, an ice-cream freezer in which a vertical motion is imparted to the dasher and a rotary motion to the receiver to be operated either simultaneously or separately, substantially as described.

Third, the combination and arrangement of the gear wheels D E K and shafts F J with each other and with the receiver B, crank L, and frame G, substantially as herein shown and described for the purpose of enabling the receiver B to be revolved and the dasher operated at the same time or separately as set forth.

62,430.—C. H. LITTLEFIELD, Turner, Me.—*Sulky Plow*.—February 26, 1867.—The plow beam is so connected to the upper beam as to allow transverse vibration by a handle at its rear and is adjustable

vertically. The fore end of this beam may be raised by a hand lever.

Claim.—The slotted iron guide *g*, made fast to the cross-bar D, and the vibrating iron guide *g'*, connected with the axle B, in combination with the rod *h* and plow beam G, arranged and operating substantially as and for the purposes herein described.

62,431.—JOHN A. W. LUNDBERG, San Francisco, Cal.—*Automatic Fan*.—February 26, 1867.—The device is suspended from the ceiling and the fan rotated by the clock work attached.

Claim.—The frame B, bearing the shaft R, to which is attached the fan C, having metallic frame *c'*, when constructed and arranged to operate with the clock work, as herein set forth.

62,432.—JESSE K. MARSH, Terre Haute, Ind.—*Preserving Eggs*.—February 26, 1867.—The eggs are placed in a tight cask and any effective preservative solution poured in. The cask is then rolled to coat the eggs, and occasionally reversed afterward to prevent the heavier parts of the eggs from settling.

Claim.—Applying a composition or solution for the preservation of eggs, substantially as herein described, and agitating the same, as and for the purposes set forth.

62,433.—HENRY MATTHEWS, Brooklyn, N. Y.—*Life-Preserving Seat*.—February 26, 1867.—The watertight case is fixed to the floor as a seat, and may be removed to act as a life preserver. Loops on the waist of the support afford means for the attachment of straps for securing it to the person.

Claim.—The ring *e*, in combination with the hollow chamber *b*, having seat *a* and loops *g*, substantially as described, for the purpose specified.

62,434.—H. MORRISON, Steubenville, Ohio.—*Foot Rest and Kneeling Board*.—February 26, 1867.—The foot board is pivoted to the ends of the pew and is cushioned below. It is reversed to serve as a kneeling board. In the latter service a rubber spring is brought into operation.

Claim.—The combination of the rubber springs F and bearings *e' e'*, with foot rest and kneeling board D, and with the end boards C of the pew, substantially as herein shown and described, and for the purpose set forth.

62,435.—J. H. NONAMAKER, Middletown, Pa.—*Reversible Dumping Sled*.—February 26, 1867.—The sled projects above and below the floor and the runners are rounded at each end. It is drawn by a chain looped on to a hook, which is disengaged to bring the dumping chain into action.

Claim.—First, the draft hook D, constructed substantially as herein shown and described, and for the purpose set forth.

Second, making the sled reversible by forming runners B upon both sides of its bottom or floor A, substantially as herein shown and described.

Third, rounding off both ends of the runner, so that the sled may be drawn with either end forward, substantially as herein shown and described.

Fourth, the combination and arrangement of the chains E and C with the ends of the sled and with the draft hook D, substantially as herein shown and described.

62,436.—WALTER B. NOYES, Dorchester, N. H.—*Saw Mill*.—February 26, 1867.—Traveling ahead of the circular saw is a revolving cutter hung upon an adjustable frame, and operating to ross and clean the log in advance of the saw. The roser is journaled in a frame and is adjusted vertically by a wheel whose points rest upon the bark.

Claim.—The cutter wheel *f*, cutters *g*, guide wheel *k*, provided with points, when constructed and arranged to operate as and for the purpose specified.

62,437.—JAMES T. PAGE, Rochester, N. Y.—*Gridiron*.—February 26, 1867.—Explained by the claim and illustration.

Claim.—As a new article of manufacture, an open bottom sheet metal utensil having its lower edge turned up to form the annular groove or channel *d*, provided with the wire grating *a* and cover *b*, com-

bined and arranged substantially as and for the purposes set forth.

62,438.—ALEXANDER PARSONS, Portland, Me.—*Lamp Burner.*—February 26, 1867.—A spring loop is hinged to the burner and rests upon the flanged foot of the chimney. By it the glass is held when tilted back to expose the wick. A clutch holds the ends of the loop together. A similar loop may hinge the burner to the collar on the reservoir.

Claim.—First, the helix C, in combination with the ring E, loop F, and shoulders D, as and for the purposes specified.

Second, the ring L, when employed as and for the purposes set forth.

62,439.—WILLIAM PERRY, North Bridgewater, Mass.—*Steam Digester for Treating Bones.*—February 26, 1867.—For the treatment of animal bones with steam to soften and prepare them for grinding into a fine powder for use as a fertilizer. The bones are exposed to the direct action of steam for eight or ten hours. The contents of the retort are constantly drained and the water of condensation is blown off with the fatty and gelatinous matter in the bones which are dissolved by the steam; the bones themselves remaining in the retort till rendered friable.

Claim.—First, the combination of the suspended retort or digester A and the hinged steam-tight caps *d d'* on the charging and discharging openings, substantially arranged and employed as and for the purposes herein described.

Second, the stopper *m* and the diaphragm *n*, in combination with the discharging cap *d'* and the ejection pipe *p*, arranged and operating substantially as and for the purposes specified.

Third, the steam-tight couplings *c* and *c'* on the pipes *b* and *p*, respectively in combination with the suspended retort A, for disconnection therewith, as and for the purposes herein described.

62,440.—EDWARD PORTER, Clinton, Ill.—*Apparatus for the Manufacture of Sugar and Sirup.*—February 26, 1867.—The saccharine juice is purified by passing it through a series of boxes, with filters attached connected by tubes, to pass the juice to the evaporator without agitation. The granulating boxes are placed in tiers and connected by perpendicular tubes.

Claim.—First, the adjustable tubes F F, filter E, and vats C C, substantially as and for the purpose set forth.

Second, the granulating boxes *e e e* and tubes *c*, when arranged substantially as shown and for the purpose set forth.

62,441.—MOSES POWE, Mount Bethel, Pa.—*Tuyere.*—February 26, 1867.—The tuyere has a dome-shaped top, a cruciform blast opening through the grate piece, an air chamber with a spherical bottom and conical top and a tapered channel for the admission of air.

Claim.—The box A, having a spherically-formed top, hemispherical chamber *a*¹, tapering channel *a*², and grate B, formed with a cross-shaped slot *b*¹ and cone-shaped cavity *b*², constructed and operating as herein shown and described.

62,442.—GEORGE RACE, Norwich, N. Y.—*Lifting Jack.*—February 26, 1867.—The frame is run beneath the axle; the movable block adjusted upon the tapering block and the latter vibrated upward by an eccentric.

Claim.—First, the eccentric operated by a hand lever in combination with the inclined tapering lever and adjustable leveling block, substantially as and for the purposes herein set forth.

Second, the arrangement of the movable block D as secured to the taper lever C, for regulating the height of the jack to operate in the manner herein described.

62,443.—CHARLES B. ROGERS, Plainfield, N. J.—*Clothes Dryer.*—February 26, 1867.—Attached to the central stem are collars with sockets at their corners for the arms which connect at their outer ends with the posts. The latter are drawn outward from the central stem to bring the arms into effective position, or thrust in to bring the dryer into smaller compass.

Claim.—A clothes horse having its arms D attached to or connected with the standard A by means of the notched metal plate C, provided at each corner with an inclined projection *a*, horizontal pins *b*, and grooves *d*, substantially as herein set forth, for the purpose specified.

62,444.—CHARLES H. SANBORN, Roxbury, Mass.—*Coffer Dam.*—February 26, 1867.—The coffer dam is sunk by removing the soil and sand from beneath it by a current of water carried through and ejected below it.

Claim.—A coffer dam or cylinder or box so constructed that a stream of water may be directed through it, or so arranged that an artificial current of water may be directed under it, as and for the purposes described.

62,445.—JAMES SARGENT, Rochester, N. Y.—*Securing Lock Spindles in the Doors of Safes, &c.*—February 26, 1867.—Explained by the claim and illustration.

Claim.—The spindle B, provided with the enlargement or swell *c* and bearings *f f*, when imbedded directly in the safe without intermediate parts, so as to form a fixture of the door, substantially as herein set forth.

62,446.—JAMES SARGENT, Rochester, N. Y.—*Spindle of Safe Locks.*—February 26, 1867.—When struck by the sledge, the shoulders cut into the metal and oppose a more effective resistance than a conical spindle without shoulders.

Claim.—The combination of the series of steps or offsets *g g* with the conical spindle B, when applied in safes substantially as and for the purpose herein set forth.

62,447.—JAMES P. SELSOR, Shelbyville, Mo.—*Cotton Planter.*—February 26, 1867.—The grooved rims of the wheels gather and press the earth upon the seed. The carriage is tilted by changing longitudinally the position of the seat, which thus raises or depresses the forward frame, which contains the seed hoppers, droppers, markers, and covers, and suspends or starts the motion work. The frame is hinged at its rear to the carriage, and supported by the team forward.

Claim.—First, the combination with the frames A and H, which are hinged together as described, of the grooved transporting wheels B B, turning shaft C, spur wheels D D' E' j, removable shaft *h*², screw-distributing shaft *h k*, seed hoppers L, markers J, and covers *c e*, all arranged and operating substantially as described.

Second, in combination with the hinged frames A and H, the arrangement of the spur wheels upon said frames in such manner that the two wheels *j* and *E'* will be disengaged by the upward movement of the front end of frame A, substantially as described.

Third, the application of independently-adjustable covers *e e* to a frame H, which is hinged to a frame A, in combination with the grooved pressing wheels B and the adjustable clearers or scrapers *b b*, all arranged and operating substantially as described.

Fourth, the combination of the socketed distributing screw shafts *h k* with the intermediate removable driving shaft *h*² and spur wheel *j*, applied to the hinged frame H, substantially as described and for the purpose specified.

62,448.—WINFIELD S. SIMS, Newark, N. J.—*Tobacco Pouch.*—February 26, 1867.—The plug being removed, the nozzle is inserted in the pipe bowl, and the tobacco struck into the latter by the plunger, whose end is secured in the bottom of the flexible bag.

Claim.—A tobacco pouch provided with a rod E, or its equivalent, substantially as and for the purpose described.

62,449.—DANIEL E. SOMES, Washington, D. C.—*Processes and Apparatus for Curing and Packing Meat, and for other purposes.*—February 26, 1867.—Curing, packing, and other operations are carried on in houses artificially cooled, dried, and purified, and provided with non-conducting walls and devices for controlling the circulation of air.

Claim.—First, the process for preserving animal

and vegetable substances, substantially as herein described.

Second, construction of buildings, fixtures, and apparatus, substantially as and for the purpose set forth.

Third, compressing air, gas, and liquids, substantially as described and for the purposes specified.

Fourth, the combination of the buildings, apparatus, and devices, substantially as set forth.

Fifth, the buildings and apparatus, in combination with process, substantially as described and for the purposes set forth.

Sixth, as forming part of an establishment for curing and packing meat, the following three classes of devices and processes in combination, viz: means and devices for cooling, for drying, and for purifying, substantially as described.

Seventh, means for excluding warm air, dust, insects, &c., in combination with means for cooling the air admitted, substantially as described.

Eighth, means for excluding warm air, dust, and insects, &c., in combination with means for purifying the air admitted.

Ninth, means for excluding warm air, dust, insects, &c., in combination with the means for drying the air admitted, substantially as described.

Tenth, salting and packing meat in buildings constructed for the exclusion of warm air, substantially as described.

Eleventh, the use of deutoxide of nitrogen, sulphurous acid, alkaline sulphites, or other equivalent deoxidizing substances in salting and curing meat, substantially as described.

Twelfth, curing meat by means of gases under pressure, substantially as described.

Thirteenth, curing meat by means of materials in fine powder by pressure, substantially as described.

Fourteenth, utilizing the offal and other waste products from slaughter and packing houses by means of cooling, drying, and preservative agents, substantially as described.

Fifteenth, the use of pressure and agitation in salting meat, substantially as described.

Sixteenth, apparatus for carrying the cattle to the slaughter house, substantially as described.

Seventeenth, the construction of a sugar house, with means herein specified for excluding heat, dust, and insects.

Eighteenth, cooling cane juice by the employment of the means substantially as herein described.

Nineteenth, lowering the temperature of air in sugar houses, substantially as set forth.

Twentieth, purifying the air admitted to sugar houses, substantially as described.

Twenty-first, constructing sugar houses with walls, roofs, floors, windows, screens, and ventilators, substantially as described.

Twenty-second, preventing fermentation, by means substantially as herein described.

62,450.—WILLIAM SPILLMAN, Columbus, Miss.—*Apparatus for Making Lead Pipe.*—February 26, 1867.—In connection with a common apparatus for making lead pipe is a funnel and stop-cock, for the purpose of admitting within the cylinders anything that will generate gas or steam, to assist in the expansion of lead from the cylinder.

Claim.—The funnel D and stop-cock E, arranged as described, in combination with the cylinder A, tube C, and water tank G, substantially as and for the purposes set forth.

62,451.—JOHN H. STONE, Philadelphia Pa.—*Manufacture of Pepper Boxes.*—February 26, 1867.—The catch pieces projecting from the bottom of the cylindrical portion are passed within the slits in the molding of the base.

Claim.—A sheet metal pepper or dredging box, having its bottom B detachably secured to its body A by means of the projections $a^2 a^2$ left on the body, and the angular catches $b^2 b^2$ formed on the bottom, the same being arranged to operate together, substantially as and for the purpose described.

62,452.—J. M. SWAIN, Howard, Ind.—*Harvester.*—February 26, 1867.—The grain may be dropped in gavels from the platform of the machine by the movement of a lever by the driver; or the attachment may be moved into a horizontal position, and the grain

raked from it by a person occupying a seat in rear of the driver.

Claim.—The grain platform Q, provided with journals $e e'$, adapted to be fitted in bearings in bars f or plates f' , in combination with the seats G and H, all constructed and operated substantially as described.

62,453.—LEONHARDT UTTING, Philadelphia, Pa., assignor to CONRAD LIEBRICH, same place.—*Hasp for Trunk Locks.*—February 26, 1867.—The upper portion is secured to the front of the trunk lid. The lower portion has a staple for entering the lock and receiving the bolt, and passes through a slot in the upper, in which it is journaled without a pinle.

Claim.—A trunk hasp, composed of the two portions A and B hinged together, substantially as and for the purpose herein set forth.

62,454.—JOSIAH V. WALDRON, New York, N. Y., assignor to himself and GEORGE OBERLANDER, same place.—*Rosette.*—February 26, 1867.—A central screw enters the cup, which secures the covering of the rosette and affords a point of attachment for the streamers.

Claim.—The combination with the rosette frame of the inner cup-shaped plate H and screw J, or its equivalent, substantially as and for the purpose described.

62,455.—JAMES T. WALKER, Palmyra, N. Y.—*Wrestling Toy.*—February 26, 1867. The figures are connected by their arms, at whose mid-length the suspending rod is pivoted.

Claim.—Each pair of arms constructed of one piece, which is pivoted at both ends to the bodies of the figures, operating in the manner described and for the purpose specified.

62,456.—HERVEY WATERS, Boston, Mass.—*Blank for Hoes.*—February 26, 1867.—This blank is a bar of iron with a shank, integral therewith, projecting from each end. The bar has such proportion that, when rolled out, two hoe blades, each with its proper shank, shall be formed thereof. The two blades are connected by those portions which when separated will constitute the cutting edges.

Claim.—A blank, made substantially as described, and as shown in fig. 1.

62,457.—J. V. WEITZ, Cleveland, Ohio.—*Steam-Engine Governor.*—February 26, 1867.—The hollow cylindrical steam valve is moved by a rock shaft, and the steam port at its lower side is brought into connection with the two steam induction ports alternately. The stirrup of the governor adjusts the anti-friction rollers in the slot of the lever, so as to give a greater or less degree of vibration to the valve. In case of the falling of the balls by the slipping of the belt, the steam is shut off by devices not describable in brief.

Claim.—First, the tubular shaft H' , stem or rod a' , in combination with the screw sleeve F' , links J' , cross-head I' , arranged in the manner and for the purpose as described.

Second, the steam-balance valve F' , ports J H, and K, as arranged in combination with the chamber A and auxiliary chamber A' , for the purpose and in the manner set forth.

Third, the levers $M M'$, rollers $d e f$, and stirrup E, as arranged in combination with the shaft G and valve F, for the purpose and in the manner as herein described.

Fourth, the shaft H' , screw sleeve F' , levers M and M' , and rollers $d e f$, as arranged for the purpose and in the manner specified.

Fifth, the screw sleeve F' , wheel G' , and rod a' , as arranged in combination with the stirrup E, levers $M M'$, for the purpose and in the manner as set forth.

62,458.—JOSEPH E. WEST, Georgetown, Ky.—*Corn Planter.*—February 26, 1867.—The draft frame has a single wheel, and is connected by hounds to the tongue. It is arranged to plant three rows at once, having a marker, seeder, and coverer to each. The bar which actuates the seed slide in each box is vibrated by a hand lever in the rear.

Claim.—The combination of the sliding valve bar H, operating levers K, and handle M, with each other and with the seed boxes F, substantially as herein shown and described.

Second, the combination of the blocks I and springs J with the seed boxes F, and with the sliding-valve bar H, substantially as herein shown and described and for the purposes set forth.

Third, an improved corn planter, formed by the combination and arrangement of the roller or wheel D, draft bars B, frame C, seed boxes F, springs J, blocks I, sliding-valve bar H, levers K, handle M, beams G, uprights O, shovel plows N, and bull tongues or coverers P with each other, substantially as herein shown and described.

Fourth, forming the bull tongues B with long, bent iron shanks and adjustably securing them to the beams G by the keys R, substantially as herein shown and described.

62,459.—CASSIUS A. WHITE, Fairfield, Vt.—*Washing and Wringing Machine.*—February 26, 1867.—The heater is made in two parts, one sliding upon the other, receiving a vertical and lateral motion by means of cranks. Combined with this device are feeding aprons and wringers.

Claim.—First, the washer, formed by the combination of the frames E and F with each other and with the shafts G and I, substantially as herein shown and described.

Second, the roller R fitted in stationary bearings, and the roller S mounted on adjustable bearings on the cross-bar T, operated by the eccentric *w*' on the cam shaft U, in the manner described, for the purpose specified.

Third, the combination of the washer E F and conveyor L M N O, with each other and with the wringer R S, substantially as herein shown and described.

62,460.—M. P. WILKINS and C. D. ROGERS, Jersey City, N. J.—*Manufacture of Brushes.*—February 26, 1867.—Each bunch of bristles is secured to the holder by means of a star-shaped plate whose prongs are driven into the socket.

Claim.—In the manufacture of brushes the pronged cap D, made of metal or other suitable material, substantially as and for the purpose described.

62,461.—ROBERT B. WRIGHT, Vermillion, Ill.—*Planting Machine.*—February 26, 1867.—The front plows open the furrow into which the seeds falls from the spouts. The seed slides are actuated by pins on a wheel which is rotated by a band from a drum on the revolving axle. The seed is covered by the rear plows, which work one on each side of each furrow.

Claim.—First, the two shafts D D', connected by the rod E, and provided with standards F G, having plows *b b'* respectively attached whereby the plows of both standards may be simultaneously raised by the operator or driver, substantially as set forth.

Second, the rotating of the shaft Q from the axle by means of a belt R, arranged in connection with a friction roller S, substantially as and for the purpose specified.

Third, the seed slides M M, in combination with the springs N N, and the wheels P P, provided with the pins *ff*, all arranged to operate in the manner substantially as and for the purpose set forth.

62,462.—S. W. WRIGHT, Ellsworth, N. Y., assignor to himself and S. J. WRIGHT, same place.—*Bolt-cutting Shears.*—February 26, 1867.—The levers have blades between the respective pivoted points at which they are connected to the cross-bar.

Claim.—The cutting levers A A and the cross-piece B, constructed, arranged and combined substantially as herein shown and described, and for the purposes set forth.

62,463.—ALBERT M. ZABRISKIE, Bergen Point, N. J.—*Joint Groover for Brickwork.*—February 26, 1867.—The plate has a handle on its back, a rounded front end and a dovetailed projecting rib beneath, whose purpose is to make receding grooves in brickwork to enable stucco to form a bond therein.

Claim.—The said new tool or implement made substantially as described, viz., of the tapering and dovetailed blade C, the plate A, and the handle B, arranged substantially as specified, and to be used in manner and for the purpose as hereinbefore explained.

62,464.—DAVID ALTER, Freeport, Pa.—*Apparatus for the Manufacture of Bromine and Iodine.*—

February 26, 1867.—The retort for the distillation of iodine and bromine is made of solid stone, with a leaden flue passing through it from side to side, and heated by a furnace supported on wheels for convenience of removal.

Claim.—The stone box and lid with the leaden flue, as above described, to be employed as a retort for the manufacture of bromine and iodine.

62,465.—ALEXANDER J. BERGEN, Brooklyn, N. Y.—*Breech-loading Fire-arms.*—February 26, 1867.—The barrel is thrown forward and back to allow it to tilt or secure it against the breech by an eccentric actuated by a lever. The bearing block intervenes between the eccentric on the forward side and a hook block at the rear which projects from the under side of the barrel and engages a recess in the breech block.

Claim.—The block *l*, in combination with the eccentric *k*, and hooked block *g*, substantially as and for the purposes specified.

62,466.—ALEXANDER J. BERGEN, Brooklyn, N. Y.—*Metallic Cartridge.*—February 26, 1867.—Explained by the claims and illustration.

Claim.—First, the cartridge case *a*, formed of sheet metal, with a dome-shaped end *b* and a central teat *c* for the fulminate, in combination with the flange *e*, surrounding the case, as and for the purposes set forth.

Second, the movable flanged teat *i*, in combination with the said flanged, dome-shaped sheet metal cartridge case, as and for the purpose set forth.

62,467.—ALEXANDER J. BERGEN, Brooklyn, N. Y.—*Priming Metallic Cartridges.*—February 26, 1867.—A depression in the dome-shaped rear plate receives the open end of the fulminate nipple.

Claim.—A movable fulminate nipple, projecting from the rear end of, and in combination with, a cartridge case, formed with a cavity in the rear end for the reception of said nipple, substantially as set forth.

62,468.—LEANDER W. BOYNTON, Hartford, Conn.—*Apparatus for Drying Wool.*—February 26, 1867.—The wool is placed in a rotary cylinder having closed ends and a wire cloth periphery and a hollow axis, through which steam is admitted. The steam passes from the cylinder to the annular chamber within the case, and is ejected by the fan.

Claim.—The combination of the internal cylindrical vessel D, and its induction part *a* with the cylindrical case A, &c., fan *c*, eduction port *d*, when the whole is constructed and arranged and made to operate and produce the result, substantially as herein described and set forth.

62,469.—LEANDER W. BOYNTON, Hartford, Conn.—*Apparatus for Preparing Peat for Fuel.*—February 26, 1867.—The cast-iron frame has at one end a hopper containing tearing rollers, and below the hopper two pressing rollers, between which the peat is compelled to pass to the traveling band, which delivers it to a hopper placed directly against the molding cylinder. The blocks of peat are expelled from the molds and fall upon an endless band which travels in a drying chamber heated by steam pipes.

Claim.—First, the combination of the grinding cylinder *c* and *b* with the spurred rollers, or roller and spurred apron and hopper B, and when they are constructed, arranged, and fitted for use, substantially as herein described and set forth.

Second, the combination of the perforated pipe *j* for the high steam with the apron *d d*, and the exhaust fan C, when they are constructed, arranged, and fitted for carrying and drying the peat, substantially as herein described and set forth.

Third, the molding and pressing cylinder D, as described in my patent issued December 27, 1864, in combination with the apron F and zig-zag pipe *p*, when they are constructed, arranged, and fitted for molding and drying peat, substantially as herein described and set forth.

62,470.—T. I. BURHYTE, Fond du Lac, Wis.—*Churn.*—February 26, 1867.—The churn is placed in a box which contains water to temper the cream. The box oscillates on bearings, and has a pendulum weight.

Claim.—First, the churn A, provided with the water chamber B at its bottom, and the removable

grate *b*, and having the tubes *a c* and *n*, arranged as shown and described.

Second, in combination with the platform *L*, pivoted to the supports *E*, the pendulum rods *C* and the adjustable box *D*, or its equivalent, arranged to operate as set forth.

62,471.—*J. T. CARPENTER, Harrisburg, Pa.*—*Broom Head.*—February 26, 1867.—The serrated clamping jaws have eyes on their inner sides to receive the taper end of the handle, by which they are drawn and held together.

Claim.—The jaws *B B*, constructed as described, with their loops *a a'*, when used in combination with the case or head *A* and tapering handle *D*, the whole constructed and used as and for the purposes specified.

62,472.—*MATTHEW T. CHAPMAN, Galcsburg, Ill.*—*Knife and Scissors Sharpener.*—February 26, 1867.—The central cutter plate has variously inclined edges, which in combination with the cutter jaws forms the proper angles for sharpening different articles.

Claim.—The sharpener plate *B*, having a V-shaped end terminating with parallel edges, and thence angularly and inwardly with parallel edges again, and operating in combination with the angular open metallic box *a*, constructed in the block *A*, substantially in the manner and for the purpose as herein described.

62,473.—*ROCKWELL CHAPMAN, Buchanan, Mich.*—*Water Wheel.*—February 26, 1867.—The wheel revolves in a vertical plane on a horizontal shaft. It receives water at the periphery, which after impinging against the radial buckets, has side escape. The hinged water gates are opened by chains connected to a roller. The central core has wedge-formed blocks whose thin projections are toward the upper side of the buckets when receiving water.

Claim.—First, a water wheel having the radial buckets *c* extending in a straight line across the face of the wheel, with the solid triangular projection *d*, in rear of said buckets, and the curved passages *b*, formed by the overlapping plates, the whole constructed and arranged as herein shown and described. Second, the combination of the hinged gates *n*, chains *l*, and roller *H*, arranged and operating as set forth.

62,474.—*GEO. E. CHENOWETH, Baltimore, Md.*—*Feed-water Regulator.*—February 26, 1867.—A close vessel, preferably transparent, is counterpoised by a weight and suspended at the altitude of water surface in the boiler. It communicates by pipes with the steam and water within. The weight of the vessel is varied by the change of water level in the boiler, and it is so connected to a cock in the supply pipe as to regulate the amount of water supply.

Claim.—The high and low water indicator for steam boilers furnished with a hollow ball at one end, which communicates with both the steam and water spaces in the boiler, and the counter or overpoise at the other end, and attached to the stop-cock on the supply pipe, so that the rising or falling of the water in the boiler, and the consequent increased or diminished quantity of water in the globe or ball shall close or open the supply cock, substantially as and for the purpose described.

62,475.—*WILLIAM COOK, Belvidere, Ill.*—*Car Coupling.*—February 26, 1867.—The entrance of the link into the draw head raises a sector-shaped pivoted spring catch by which it is held. The catch may be raised by a lever connected to it.

Claim.—First, the combination of the center enlarged link, with the segment catch and bumper, arranged and operating substantially as and for the purpose set forth.

Second, the combination of the segment catch, with a coiled spring placed in a recess in the catch, and acting between the bumper and catch, with a horizontal pressure to hold the catch in the link, substantially as set forth.

62,476.—*DANIEL G. COPPIN and GILBERT H. CLEMENS, Cincinnati, Ohio.*—*Lock up Safety Valve.*—February 26, 1867.—The operating parts of the valve are inclosed in two cases, from the lower

one of which the steam issues from the non-coinciding holes of two annular inclosing plates. The weight is an annular block, and loosely surrounds the valve stem. The two weight levers are attached to the weight at one end, and are pivoted to the main case at the other. They act on the valve through pins on which they rest, and are adjustable in the longitudinal slots of a cross-head of the valve stem. The valve may be raised by a cam on a hand-crank shaft, which traverses the encircling plates of the steam chamber.

Claim.—First, the body of case *A* and cap *B* to inclose the mechanism of the steam safety valve, in combination with the steam chambers *A'* and *A''*, with openings *a'*, bottom flange and guard below, with openings *a*, in the manner and for the purposes set forth.

Second, the arrangement of levers *C*, graduating arms *D*, steel points *d*, standards *E*, weight *F*, screw lugs *G* and saddle *I*, when constructed to operate with each other in the manner and for the purposes set forth.

Third, the arrangement of the steam chambers *A'* and *A''*, and openings *a'* and *a''*, as shown in the manner and for the purposes set forth.

Fourth, the ring projecting from the bottom face of flange, provided with openings *a*, as shown in Fig. 5, as set forth.

Fifth, the arrangement of the horizontal eccentric spindle, with reference to the fixed collar *h* on valve stem, as set forth.

62,477.—*DANIEL G. COPPIN and GILBERT H. CLEMENS, Cincinnati, Ohio.*—*Lock-up Safety Valve.*—February 26, 1867.—The weight levers are pivoted to an arched bar, which forms a guide to the upper end of the valve stem. The levers have graduated connection to the weight by links, having clamps to embrace and traverse slide lugs on said weight. The levers are connected to the cross head of the valve stem by pins near their pivoted ends. A ring bolt at its upper end enables the raising of the valve stem, but is not available for loading the same.

Claim.—First, the arrangement of the body *A* and cap *B* of the inclosing case for the mechanism of the safety valve, with the tube *A'*, valve *D*, ports *A' A'*, series of V-rings, hook lug *J*, lug *l*, guard *M*, and escape ports *A' A'*, in the manner and for the purposes set forth.

Second, the arrangement of the notched levers *C C*, valve and stem *D D*, graduating arms *D' D'*, with slots *d d*, steel points *I*, guide *E*, weight *F* with T-lugs *f f*, saddles *H H*, clamps *G G*, slotted pin and eye bolt *N*, in the manner and for the purposes set forth.

Third, the arrangement of the V-shaped rings with reference to openings *a* and chamber *A''*.

Fourth, the arrangement of the weight *F* with reference to the vertical tubular chamber *A''* and levers *C*, as herein set forth.

Fifth, the construction of the arch guide *E*, whereby to guide the valve stem, in the manner and for the purposes set forth.

62,478.—*GEORGE R. CRAMER, Cincinnati, Ohio.*—*Dumping Wagon.*—February 26, 1867.—The rear end of the box when raised rests upon rollers attached to the rear bolster. The body is tilted by a roller on a crank, the shaft of which is operated by a lever.

Claim.—The combination of the crank shaft *D*, roller *E*, lever *d*, and body *F*, or their equivalents, when the same are arranged and operating substantially as above described.

62,479.—*JOHN J. CROOKE, New York, N. Y.*—*Machine for Finishing Butt Hinges.*—February 26, 1867.—The hinges are fed between two files, so secured to a sliding bed piece that they may be adjusted to suit different widths or lengths of hinges. The file teeth are so inclined, that if extended downward they would meet in a center to the rear of the line dropped from the mid-length of the files.

Claim.—First, the files *C C*, constructed substantially as described.

Second, the combination with the files *C C* of the sliding bed piece or carriage *D* and stop *L*, substantially as and for the purpose set forth.

62,480.—*C. O. CROSBY, New Haven, Conn.*—*Leather Sole.*—February 26, 1867.—The insole has its

edge beveled, and a ridge raised upon it near the rim to enable the attachment to it of the "upper" and welt by means of a straight needle.

Claim.—The herein described sole as a new article of manufacture.

62,481.—CHARLES C. CROSSMAN, Portland, Me.—*Fishing Net Gear.*—February 26, 1867.—The net attached to the vessel's side has a flanged edge, which is raised when the net is "drawn" to prevent the escape of fish. The net is drawn up on pivoted booms by lines running through blocks on the masts.

Claim.—The flange D, in combination with and when attached to the net or bag C, suspended and operated in the manner herein described, as and for the purposes set forth.

62,482.—GEORGE P. GANSTER, New York, N. Y.—*Steam Engine.*—February 26, 1867; antedated February 22, 1867.—The steam cylinder has two piston heads, one on each side of a crank shaft passing transversely through the cylinder. The valve is moved by an arm. The guides hold the boxes in place in the pistons.

Claim.—First, the combination of D D', crank shaft E, arm G' and valve I.

Second, the combination of D D', guides G G', box F F', crank shaft E, arm G', and valve I, arranged and operating substantially as described and for the purpose set forth.

62,483.—JAMES H. GRIDLEY, Washington, D. C.—*Locking Washer for Nuts.*—February 26, 1867.—The washer is made of two parts, connected by a hinge joint. After the nut is screwed down upon one part of the washer, the hinged portion is turned down against one or more sides of the nut, securely fixing it in its position.

Claim.—A hinged or pivoted plate, which folds or falls against one or more edges of a nut to prevent its rotation.

62,484.—ROBERT HAMILTON, Franklin, Ind.—*Head Rest for Railway Cars.*—February 26, 1867.—The sack is suspended from a hook above; its lower edge is buckled around the waist, and forms a support for the arms, while the head rests against a cushion inside the sack.

Claim.—The suspended sack A, when constructed and used as a support for the arms and head, substantially as set forth.

62,485.—STEPHEN E. BOOTH, New Haven, Conn., administrator of the estate of SHELDON S. HARTSHORN, deceased, West Haven, Conn.—*Buckle.*—February 26, 1867.—One end of the strap is sewed to one bar of the buckle; the loose end is passed under the other bar, through the slot of the sliding tongue, and is then again passed below the same bar, being jammed against the latter by the sliding tongue.

Claim.—A buckle made with a wire frame, and a sheet metal sliding bar, when the two parts are constructed, locked together, and the whole fitted for use substantially as herein described and set forth.

62,486.—JONATHAN HATCH, South Windham, Conn.—*Paper Trimmer.*—February 26, 1867.—The steel blades of the rotary cutters are of a dish form, their outer edges being in a plane at right angles to the axis of revolution of each, in which position they sharpen each other. They are secured in their respective stocks by beveled washers and screws parallel to their axles.

Claim.—First, the self-sharpening dish-shaped cutters A A', with their sides and front edges a A' constructed as described, and arranged for operation relatively to each, substantially as and for the purpose or purposes herein set forth.

Second, the combination with the dish-shaped cutters A A', constructed as described, and their recessed stocks B B' of the wedge-shaped or beveled edged rings D D' for holding the cutters to their stocks, all arranged essentially as specified.

62,487.—JOHN H. HEPPELY, Elmira, Ill.—*Combined Hedge Trimmer and Mower.*—February 26, 1867.—The adjustable carriage frame is adapted for sustaining an elevated cutting apparatus for trimming hedges, or the same apparatus in a lower posi-

tion for mowing; the same gearing operating the sickle in either case.

Claim.—First, the combination with a carriage having a hinged frame C C', and rear adjusting device H I, of a cutting apparatus and means for sustaining the same in an elevated position for trimming hedges, and also in a position for mowing, substantially as described.

Second, the elevated frame C', in combination with the depressed hangers E E', adjustable frame C C', and means by which the cutting apparatus can be operated, whether in an elevated or depressed position, substantially as described.

Third, the arrangement of the lever I, support J, standards H K, the latter having a wheel j attached to it, in combination with the combined hedge trimmer and mower shown, all substantially as and for the purpose set forth.

62,488.—GEORGE HOMFRAY, Halesowen, Eng.—*Machine for Cutting Coiled Bars for Chain Links.*—February 26, 1867.—The coiled bar (see patent No. 62,335, of even date herewith,) is cut into sections by a pair of shears, of which the lower one is so constructed as to allow the several links to drop from the machine. The coil is fed obliquely in a trough, so as to receive a scarfed cut suitable for welding. The feeding pawls are actuated by a system of slides, links, rocker arms and shafts.

Claim.—Guiding, directing, and feeding up the bent coil in a line oblique to the cutting edges of the cutters, so that the links or sections may be cut off with scarfed edges, when said grinding, feeding, and cutting off are accomplished by an arrangement of devices, substantially as described.

Also, in combination with the trough and mandrel, a pawl or pawls for feeding the bent rod to the cutters, and holding it in proper position against the action of the cutters, substantially as described.

Also, the grooving or sloping of the under cutter and its stock or part to which it is attached, so that the cut off blank link or section will drop, or be free to be removed from the place where it is cut off, substantially as represented and described.

62,489.—THOMAS HOPKINS, Cincinnati, Ohio.—*Cant Hook.*—February 26, 1867.—This grappler is especially adapted for raising and assisting in emptying barrels. The chain has a central ring and of its branches one has one end hook and the other a ring and a running hook. A supplementary chain has hooks at its ends and is used as an elongating section.

Claim.—First, the combination of the rings A C, chain B, rod D, hook F, and sliding hook G, when arranged and adapted for use in either of the positions represented in figures 1 and 2, as and for the purposes described.

Second, in combination with the elements of the preceding clause, the use of the auxiliary chain I, and its appurtenances, for the purpose stated.

62,490.—WILLIAM C. HURD, New York, N. Y.—*Manufacture of Paints.*—February 26, 1867.—Pulverized quartz is treated with a mixture of acid, salt, and potash to remove its impurities. The quartz so prepared is mixed with ordinary paint.

Claim.—The process of manufacturing paint by mingling with oil, lead, zinc, and other materials ordinarily employed in the manufacture, pulverized quartz, which has first been subjected to the action of an acid, saline or alkaline solution, or all or any of them, substantially as and for the purpose set forth.

62,491.—JOSEPH ISENBERG, McConnelstown, Pa.—*Boring Machine.*—February 26, 1867.—The bars containing guide holes for the auger are adjustable on the frame, which is clamped upon the timber.

Claim.—The arrangement of the jaws C C, two or more, the clamps E E F, lever H, catch I, and adjustable bar G, constructed and operating substantially as described and represented.

62,492.—G. E. KING, New York, N. Y.—*Fluting Machine.*—February 26, 1867.—The machine is for the manufacture of the fluting patented to him September 26, 1866, and consists of two rollers meshing together in certain portions of their periphery, and having guides to present the material in proper manner, and

pressing arms which fit depressions in the rollers. The upper roller is depressed by a spring.

Claim.—The guide E, constructed with one or more curved or arched portions *a'*, in combination with suitable fluting rollers, substantially as herein set forth, for the purpose specified.

62,493.—CARL LEHNERT, Boston, Mass.—*Window Shutter Fastening.*—February 26, 1867.—The hing^e pintle has a crown rack upon it which meshes with a spur rack of a wheel upon a spindle which traverses the frame and has a knob within. Radial projections at the ends of the said racks engage each other when the shutter is at its extreme points of movement. A cam on the spindle wheel holds the shutter when in the said positions.

Claim.—The hinge C D, constructed as described, and used with the wheels E and F, with their arms and cam operated by the knob G and shaft *m*, the whole constructed, arranged, and operating in the manner and for the purposes herein fully set forth.

62,494.—JOSEPH A. MILLER, New York, N. Y.—*Steam Generator.*—February 26, 1867.—The sides of each furnace consist of series of vertical pipes connected to each other at top and bottom by longitudinal pipes, which are connected to the steam and water spaces of the boiler. Vertical diaphragms in the pipes insure circulation of the water.

Claim.—The boilers A A, one or more of them, their fire chambers D and the boxes or pipes I, with their diaphragms forming steam generating spaces *d* and return water passages *e*, and pipes or boxes J K, when arranged in relation to each other and to the fire grate, also to the steam and water spaces of the boiler or boilers, and in communication with the latter, substantially as specified.

62,495.—G. LIVINGSTON MORSE, Harrison, N. J.—*Croquetrie.*—February 26, 1867.—Numbered clips are attached to the crown of each arch. The handle of the mallet is furnished with a tally scale and a flexible sliding ring by which the score of the player is recorded.

Claim.—First, the pins or clips B, or their equivalents, marked as specified, in combination with the wickets or arches of croquet, substantially as set forth.

Second, the combination with such pins or clips, marked as specified, of a registering tally for recording the game, substantially as described.

62,496.—W. A. MORSE and J. G. POWELL, Philadelphia, Pa.—*Eraser and Pen Handle Combined.*—February 26, 1867.—The concavo-convex or spoon-shaped plate is contracted at its point of attachment to the handle; the edges are sharpened by flat grinding upon the concave side.

Claim.—First, the eraser and burnisher B, with its parallel face edges *e e*, for sharpening its concave surface *s* and convex surface *m*, extending its whole length, in combination substantially as described and shown, and for the purpose set forth.

Second, constructing the craser B of such form that it can be inserted at either the top or the tip of the pen handle A, substantially as specified, and for the purpose set forth.

62,497.—JOHN PARKER, Milroy, Ind.—*Plow.*—February 26, 1867.—The iron clamp is bolted to the handles and has a socket to receive the hind end of the beam.

Claim.—The clamp D, with its attachments, constructed as described, and used with a plow operating as and for the purposes herein specified.

62,498.—HENRY T. POTTER, Norwichtown, Conn., assignor to himself, EDWIN ALLEN and ELISHA H. HOLMES.—*Drawing and Twisting Heads for Spinning Machinery.*—February 26, 1867.—In addition to the revolving drawing rollers within the revolving twisted tube, the tube gearing, with the worm on the shaft, (which may be driven or not in either direction as desired,) affords a means for increasing or diminishing the draft relatively to the twist to adapt the same to different conditions, or kinds of fiber.

Claim.—The combination with the twisting tube D and drawing rollers *e e* of the socketed screw head C and revolving screw E, in gear therewith, for operation together, the whole being constructed and ar-

anged substantially as and for the purpose or purposes herein set forth.

62,499.—D. J. POWERS, Madison, Wis., assignor to BUFFALO AGRICULTURAL MACHINE WORKS, Buffalo, N. Y.—*Sugar-Cane Mill.*—February 26, 1867.—The strap bolts pass over the grooved bearings of the upper roller and through the timbers of the bed, where they are secured by nuts; elastic washers confer elasticity. The turn plate keeps the canes in their course, preventing their passing down between the lower rollers, and is adjusted by nuts on the outside. The widened aperture in the journals of the upper roller gives them a certain degree of play when unequal amounts of cane pass over the two rollers with which it is allied.

Claim.—First, the combination of trap bolts M M and india-rubber blocks or springs, when applied to the journals of the pressure rollers, substantially as and for the purpose herein specified.

Second, the laterally widened journal apertures *d d* of the bearings L L, in combination with strap bolts M M and india-rubber springs, for the purpose of allowing a side play to the top roller G, substantially as herein specified.

Third, the adjustments of the turn plate Q by the means substantially as specified.

62,500.—CHESTER PURDY, Bedford, Ohio.—*Self-lubricating Journal Box and Bearing.*—February 26, 1867.—The circumferential projections on the axle are embraced by the soft metal boxes of corresponding shape which are enclosed by the sections of pipe which are bolted together within the outer casing. Oil is led by a wick from a reservoir to the axle.

Claim.—First, a plain or corrugated journal box fitted with soft metal lining and provided with a chamber around its sides and ends, as and for the purpose specified.

Second, the employment of wicks or other equivalent for conveying oil from the chamber beneath the axle to the journal box, as and for the purpose set forth.

Third, the combination of the cap and lower part of the box, provided with grooves and chambers as set forth, with the pipe D, suspended and connected by lugs *a a*, or equivalents, as and for the purpose specified.

62,501.—JOSEPH ROBISON, Johnson's Creek, N. Y.—*Tire Shrinker.*—February 26, 1867.—Improvement on his patent September 23, 1862. To the outside of the segmental base plate is a disk connected to two sliding clasps whose eccentrics bite the tire. By revolving the disk the clasps are approached and the section of tire upset.

Claim.—The clasps C and C' and the eccentrics E and E', when made as specified, and used in combination with the other parts, as herein set forth.

62,502.—ALBERT A. ROSE, Binghamton, N. Y.—*Churn.*—February 26, 1867.—The churn is suspended from pivots and oscillated by treadles and connecting rod. The vertical dasher rod is held by a button in its opening in the frame.

Claim.—The manner of operating the pendulum or vibrating churn with the feet, by means of the treadles G G, and the mode of inserting, securing, and removing the dasher from the churn, substantially as described and for the purpose set forth.

62,503.—CHARLES SAFFRAY, New York, N. Y.—*Manufacture of Artificial Leather.*—February 26, 1867.—Any vegetable or animal fiber is cleaned, reduced to fine particles, carded and formed into sheets, which are pressed, dried, and placed between wire gauze. The sheet thus formed is saturated with a solution of gum galbanum or gum ammonia and gutta percha, to which, for a common article, Canada balsam and other resins may be added, as also pigments or mineral powders. The sheet is then pressed and dried and finished by calendaring with hot rolls.

Claim.—In the manufacture of artificial leather, with vegetable or animal fibers, prepared substantially as aforesaid, and united by means of the agglutinating solution herein described, the use of wire cloth protectors to keep immovable the fabric during some of the processes to which it is submitted, and also the

mode of saving the solvents used in the preparation of the solution.

62,504.—IRA A. SALMON, Boston, Mass.—*Dental Instrument.*—February 26, 1867; antedated February 7, 1867.—The plunger has a pushing tool at one end and a hook-shaped pulling tool at the other, each operated upon by a hammer subject to the action of a spiral spring and other mechanism enclosed within the case.

Claim.—First, a combination composed of the hook, or its equivalent, the spindle, the hammer, and mechanism substantially as described, or its equivalent, for operating such hammer as and for the purpose aforesaid.

Second, the combination as well as the arrangement of the direct pressure and back action plungers with the hammers, its case and mechanism for operating such hammer, substantially as and for the purpose specified.

62,505.—THOMAS SIMMONS, Chicago, Ill.—*Vacuum Filter.*—February 26, 1867; antedated February 15, 1867.—Attached to the exit pipe of the filter is a closed reservoir into which steam may be admitted from a generator connected with it below. Upon the entrance of liquid from the filter the steam is condensed and the vacuum thus formed hastens the operation of the filter by atmospheric pressure.

Claim.—First, the combination and arrangement of the filtering vessel A, receiver B, and removable generator E when connected by tubes C D, provided with stop cocks a b c, and operating substantially as herein specified and for the purposes set forth.

Second, the combination of the press P, vessel A, receiver B, generator E, tubes C D, provided with stop cocks as shown, arranged and operating as and for the purposes shown and set forth.

62,506.—JOSEPH STEGER, New York, N. Y., assignor to himself and W. HAUFF, same place.—*Whip Socket.*—February 26, 1867.—An annular groove near the head of the whip stock is engaged by a spring catch to prevent the withdrawal of the whip till released by a cord.

Claim.—The arrangement of a spring catch in the interior of a whip socket in combination with a suitable recess in the whip handle, substantially as and for the purpose described.

62,507.—CHARLES STICHT, Paris, France.—*Imitation of Pearl on Solid Substances.*—February 26, 1867.—Solutions of salts, by preference acetates or sulphates, are combined with gelatinous or resinous substances and applied to the object. The compound may be applied on a colored ground, or its color changed by the application of gases capable of acting upon the metallic salts.

Claim.—First, the process herein described for producing surfaces in imitation of mother of pearl on paper and other material.

Second, paper or analogous material coated in imitation of mother of pearl, substantially as herein specified.

62,508.—ESAU D. TAYLOR and WILLIAM H. BALLOU, Hornellsville, N. Y.—*Tube Driving or Boring Wells.*—February 26, 1867.—The lower well tube has apertures for the admission of water and a set of jointed plugs for the purpose of closing the apertures when desired.

Claim.—The combination of the head or cap C, chain B, wire rope or cord with a series of jointed plugs a, and barrel A, substantially in the manner as herein described for the purposes set forth.

62,509.—O. C. TAYLOR, Rome, Penn.—*Wagon Brake.*—February 26, 1867.—The blocks are secured to springs which are attached to pivoted levers actuated by the back thrust of a bar which is operated by the neck yoke in descending a hill.

Claim.—The arrangement of the blocks and springs upon the outer ends of the separate levers F F when used in combination with the bar E, rods d d, and rod e, substantially in the manner and for the purpose specified.

62,510.—WILLIAM TRACY, Chicago, Ill.—*Railway Switch.*—February 26, 1867; antedated January

6, 1867.—The switch bar is connected by an intermediate link to the angle of the bent portion of the lever, so as when thrust laterally by the passing train, to give the shifting lever a determination upward.

Claim.—First, the construction of the intermediate link C in combination, the arrangement of the pivot e, on the support d, and the pivot c, on the lever D, whereby a thrust or a pull upon the switch when the lever is adjusted to the positions shown in figs. 1 and 2 of the drawings, tends to cause the lever D to retain its position, substantially as described.

Second, the combination of the locking pin g with the lever D and links C, all constructed and arranged substantially as described.

62,511.—J. W. TYSON, Lower Providence, Pa.—*Cultivator.*—February 26, 1867.—Improvement on his patent August 14, 1866. The plows are suspended by chains from rollers on a shaft and braced laterally by chains attaching them to the frame.

Claim.—In combination with the adjustable cultivator frame, the use of the chains n and o when arranged to operate as and for the purpose set forth.

62,512.—SAMUEL C. UPHAM, Philadelphia, Pa.—*Nutritive and Curative Preparation.*—February 26, 1837.—Improvement on his patent January 26, 1867. To one gallon of hot water, add four ounces hypophosphite of soda, three ounces hypophosphite of lime, fourteen pounds of sugar, two pounds Tourtelot's extract of beef, and two drachms of "phenol sodique." Intended especially for diseases of the throat and lungs.

Claim.—First, a nutritive and curative preparation, consisting of extract of meat, sugar, water, and "phenol sodique," combined in the manner and proportions substantially as described.

Second, the combination of the above and the hypophosphites of soda or lime, or either of them.

62,513.—SETH WARD, Princeton, Ind.—*Back-Band Hook.*—February 26, 1867.—The back band near its ends has hooks from which the traces or side straps are suspended.

Claim.—The within described hook, formed and used with the harness, substantially in the manner herein set forth, whereby the harness acts as a keeper as described.

62,514.—J. E. WIGGIN, Stoneham, Mass.—*Boarding Machine.*—February 26, 1867.—The leather is drawn in between two endless aprons, the upper one of which is in a reciprocating frame, whose pressure and the length of whose stroke is adjustable; the revolving motions of the aprons are intermittent, and the action is to draw in "board," and discharge the leather automatically.

Claim.—First, the endless apron S, actuated by the ratchet R and gears R' R', or their mechanical equivalents, made substantially as described and for the purpose set forth.

Second, the endless apron T', in combination with the device of the pawl lever Y, the ratchet V, and the gears U W, or their mechanical equivalents, for the purpose set forth.

Third, the device of the movable pivot box H upon the lever G, for the purpose of regulating to amount of vibrating motion given to the apron T'.

Fourth, the combination as well as the arrangement of the two endless aprons S and T', with actuating devices, substantially as described and for the purpose set forth.

Fifth, so arranging the frame 2 3 4 5, that a vibrating motion as well as a revolving motion may be given to the endless apron T'.

Sixth, the general combination as well as the arrangement of the several parts of my machine, made substantially as described and for the purpose set forth.

62,515.—CHARLES WRIGHT, New York, N. Y.—*Store House.*—February 26, 1867.—The claims and illustration indicate the arrangement. Each floor of the iron building connects by a tube with the office to give notice of the fire by an alarm blast of air, and can be flooded with water from a tank, and the water carried off.

Claim.—First, the flooding means, arranged as herein represented relatively to the several compartments; that is to say, the tank F, the conducting pipes

V I, &c., the valve *i* and distributing pipes J¹ J², &c., substantially as specified.

Second, the within described provisions for discharging the water from the compartments; that is to say, the gratings K¹, gutters L, leaders N and and valve *n*, substantially as herein specified.

Third, the concrete bed L, arranged under the gratings K¹ and gutters L, and having its upper surface inclined, all substantially as and for the purpose herein set forth.

Fourth, the means for indicating the existence of fire in each compartment at the office M, the same consisting of tubes O¹ O², &c., arranged as specified with or without the uptake flue *m*.

Fifth, the valves S¹ or their equivalents, in combination with the flues H H¹, &c., for admitting and controlling the circulation of cold air through each compartment of a fire proof-warehouse, substantially as and for the purpose herein specified.

62.516.—H. ZOEGER, New York, N. Y.—*Medical Compound*.—February 26, 1867.—Medicine for piles, composed of alcohol, 68 parts; rhubarb, $\frac{1}{2}$; gentian, $\frac{1}{4}$; blessed thistle, 2; centaury, 2; aloes, $\frac{1}{2}$; ginger, $\frac{1}{2}$; angelica, 1; elecampane, 1; licorice, 2; sugar, $\frac{1}{2}$; digested in the alcohol, and diluted with water to make 5 quarts.

Claim.—The within described compound made of the ingredients herein specified and mixed together, substantially as and about in the proportion herein set forth.

62.517.—WILLIAM ADAMSON, Philadelphia, Pa.—*Apparatus for Washing Fibrous Substances*.—March 5, 1867.—The trough is divided into two compartments, which communicate with each other at opposite ends of the trough. A paddle wheel placed in one of the compartments keeps the water moving around the trough. In the other compartment is an agitator, and a revolving belt armed with spikes, which seize the fibers, and drop them into another trough, where they receive a final washing.

Claim.—First, the use for washing fibrous material of two troughs and one supply of water, which first passes into and through the trough where the last washing is conducted, and thence into the trough where the first washing takes place, all substantially as set forth for the purpose specified.

Second, the adjustable pipe *j*, arranged for the withdrawal of the dirty water from the trough beneath the perforated shield F, substantially as described.

Third, the trough B, with its rollers P.

Fourth, the combination of the said rollers P, with the endless band T of slats.

Fifth, the endless band T, in combination with the rollers *y y*.

62.518.—WILLIAM ADAMSON, Philadelphia, Pa.—*Sand, Emery and other like Paper*.—March 5, 1867.—The back of sand paper is saturated with a solution to render it tough, flexible, and water-proof.

Claim.—Sand or emery paper, saturated with a solution of gum elastic or gutta percha and naphtha, or other equivalent solvent, as and for the purpose described.

62.519.—EDWARD ATKINSON, Brookline, Mass.—*Peat Machine*.—March 5, 1867.—The cylinder revolves in the box, and has a series of propelling blades and cutting blades. A screw drives the peat to the delivery aperture, which is made of elastic material.

Claim.—First, the combination of plowshares *a*, cutting blades *c* and conical screw, constructed and arranged to operate substantially as and for the purpose set forth.

Second, the yielding or expanding outlet or delivery tube, arranged to operate substantially as and for the purpose set forth.

62.520.—W. B. BARTRAM, Norwalk, Conn.—*Button Hole Sewing Machine*.—March 5, 1867.—The invention adapts the Willcox and Gibbs class of machines to the stitching of button holes. The cloth plate has an adjustable lateral movement, which may be by the pressure downward of a spring and its wedge, be doubled to stitch across the end of the button hole. The feed-dog is pivoted upon its reciprocating bar, so that when the latter moves forward and back, the

dog may move on its pivot in obedience to the transverse movements of the table and its actuating jog bar.

Claim.—First, reciprocating the plate E on a straight line at right angles to the line of movement of the forward feed by means of the switch cam A, switch B and jog bar D, constructed, arranged, and operating as and for the purpose set forth.

Second, in combination with the sewing mechanism of a "Willcox and Gibbs" sewing machine, the switch cam A, switch B, arm C, jog bar D, or their equivalents, and the plate E for the purpose set forth.

Third, the combination of the switch cam A, switch B, switch bar C and jog bar D, substantially as and for the purpose set forth.

Fourth, the combination of switch B, jog bar D, shoulder I and set stop screw H, or its equivalent for the purpose set forth.

Fifth, the combination of the switch B and jog bar D, with the set screw H and stud L, or their equivalents, for the purpose set forth.

Sixth, the feeding dog O, pivoted to the feed bar, as described, in combination with the reciprocating plate E, substantially as and for the purpose set forth.

Seventh, the guide plate U, in combination with the straining slide W and the serrated plates V V', substantially as and for the purpose set forth.

62.521.—SYLVESTER BISSELL, Hartford, Conn.—*Composition for Building Material*.—March 5, 1867.—Composed of hydraulic cement or quick-lime, iron shavings or filings, and gravel or sand, in proportions of about one-third each, mixed with water and molded.

Claim.—A composition for building material as and in the proportions as described.

62.522.—JOHN W. BLANCHARD, Rutland, Wis.—*Feed Raek*.—March 5, 1867.—The shutters which form the roof open for the admission of feed, and the inwardly inclined boards beneath the eaves direct the feed into the manger.

Claim.—The arrangement of the board *n* for covering the feed and the roof boards *a* and *p*, opening in the manner described, in connection with the racks *e* and *f*, and trough *g*, for the purposes described.

62.523.—N. W. BONNEY, Lewiston, Me., assignor to himself and O. DAVIS, same place.—*Barber's Chair*.—March 5, 1867.—The extension leg-support is attached to one arm of a bell crank, whose other rests beneath the seat, when the leg piece is turned down, but catches in a notched spring, and retains the leg piece when in its horizontal position.

Claim.—The frame *b c* having the arm *a*, projections *e*, and pivots upon which the same is made to swing, as described, in combination with the spring *g*, constructed as set forth, all arranged and applied in the manner and for the purpose specified.

62.524.—WILLIAM L. BOSTWICK, Ithaca, N. Y.—*Horse Raek*.—March 5, 1867.—The teeth are lifted to dump the load by means of staples secured to the pressure bar, which is attached by a bell crank and connecting rod to the hand lever on the carriage.

Claim.—First, the combination of the three-forked lever I, connecting rod H, and hand lever G, substantially as and for the purposes set forth.

Second, the pressure bar F, provided with the hanging staples P, three-forked lever I, connecting rod H, and hand lever G, all arranged and operating substantially as and for the purpose set forth.

62.525.—J. HAMILTON BROWN, Watertown, Mass.—*Hand-pecking Machine*.—March 5, 1867.—The portable pecking machine is operated by hand, and fed around the shoe, the operator holding the machine in a vertical position, and turning a crank which sets all its working parts in motion.

Claim.—Operating all the moving parts of the machine, as well as the machine itself, when periodically fed along or over the shoe, from a single cam shaft, by which said movements are timed and regulated, substantially in the manner and for the purpose set forth.

Also, so combining and arranging an awl and peg driver as that both shall operate in a vertical line without lateral motion, and through separate holes in a nose piece at the base of the machine, and at separ-

rate times, by means of cams and springs so arranged that the greatest resistance or force of the separate springs shall not be exerted at the same time, substantially as and for the purpose herein set forth.

Also, feeding the machine over the shoe, and cutting off the peg from the strip or bolt of peg wood by one and the same vibrating instrument, so that these two operations may be perfectly timed and regulated, as and for the purpose set forth.

Also, the feeding mechanism for moving the machine over, on, or around the shoe or boot, composed of foot, through which a nose piece furnished with separate holes for the awl and peg driver passes, in combination with a pivoted lever and point, working through the awl hole to draw the machine along, substantially as described.

Also, moving back or setting the feeding device preparatory to its feeding the machine along, and whilst the awl is in the sole, and allowing the feed to take place after the awl is withdrawn from the sole and is still rising, so that the force exerted in withdrawing or raising the awl shall aid in bringing the feeding foot close to the sole, and thus, by impact, make the feed more certain and accurate, substantially as described.

Also, the arrangement by which the feeding of the machine along the sole takes place after the awl hole is made, and before the peg driver descends, substantially as and for the purpose described.

Also, the arrangement by which the driving of the peg takes place whilst the awl is ascending, and the machine close down upon the sole, so that the peg shall be driven entirely down, and not project above the surface of the sole, substantially as and for the purpose set forth.

Also, combining with a portable hand-pegging machine, that moves around the boot or shoe that is being pegged by it, a cup or box for carrying around with the machine a bolt or coil of peg wood that is fed into the machine by drawing upon the end of the strip or ribbon, and without the use of any pushing device, substantially as described.

62,526.—ROBERT H. BROWN, Detroit, Mich.—*Toilet Glass.*—March 5, 1867; antedated February 20, 1867.—The glasses are hinged in a folding frame so as to be used single or as a double-reflecting glass, showing the front face, the back of the head, and both sides of the face and person.

Claim.—The combination and arrangement of glass 3, the folding frame 2, and the folding glass 1, operating as and for the purpose specified.

62,527.—JOSEPH F. CHUSE, Litchfield, Ill.—*Metallic Stuffing Box Packing.*—March 5, 1867.—In a lower series of rings the packing to the piston rod is effected by steam admitted behind them from the cylinder. Two outer rings have their outer contiguous corners beveled off to leave an annular space to contain hemp packing.

Claim.—First, the packing *b* and its enclosing casing *b*², when constructed substantially as and for the purpose set forth.

Second, the combination and arrangement of the packing rings *b* and *b*², and the spring *c*, substantially as set forth.

Third, the packing rings *b* *b*² in combination with enclosed perforated casing *B*, substantially as set forth.

Fourth, the packing rings *D* *D*¹, when constructed and arranged substantially as set forth.

62,528.—JAMES MADISON CLARK, Chester, Conn.—*Twine Cutter.*—March 5, 1867.—The head for attachment to a twine receptacle has a fixed knife and a spring tongue, between which the twine is passed for severing.

Claim.—The knife *K*, in combination with the tongue *I* and spring *S*, for the purpose herein set forth.

62,529.—H. C. COVERT, Fayette, N. Y.—*Washing Machine.*—March 5, 1867; antedated February 23, 1867.—A lower roller frame and an upper frame, with an opposing grooved board, reciprocate upon the cloth between. The further ends of the frames are pivoted to the contrary ends of the arms of a rock bar.

Claim.—In combination with the rubbers *BC* having opposite reciprocating motions, and having plain

rubbing surfaces, the arrangement of the jointed arms *a* *h* and levers *k*, made to be inserted or removed from the box *a* at pleasure by means of the bearings *n* and buttons *o*, the whole arranged and operating as herein set forth.

62,530.—CYRUS CROPPER, Cincinnati, Ohio.—*Paper Cutter.*—March 5, 1867.—The eccentric by which the draw movement is given to the knife works in a rectangular yoke, having a simple reciprocating motion. The rods connecting the knife frame to its actuating racks are adjustable in length by swivel nuts.

Claim.—First, the knife, operated laterally to and fro at the same time it is descending, by means of a cam or eccentric working in a slot in one end of the knife bar, substantially and for the purpose herein set forth.

Second, the rack and pinion for the purpose of drawing down and raising the knife, substantially as herein set forth.

Third, the adjustable joint *a* in the rod *O*, for the purpose of regulating the position of the knife *C*, substantially as herein set forth.

62,531.—JOHN DECKER, Sparta, N. J., assignor to himself and CHARLES W. WARDWELL, Brooklyn, N. Y.—*Clock Alarm.*—March 5, 1867; antedated March 1, 1867.—The spring is attached to the arbor of the minute hand, and the end loop of the cord is passed over a pin upon the cylinder attached and wound round once for each hour between the times of setting and waking. The latter is accomplished by the freed weight striking a pan placed beneath.

Claim.—The spring with the cylinder attached, in connection with the cord and weight, all arranged so as to be capable of being applied to a clock, to operate substantially in the manner and for the purpose specified.

62,532.—JOHN DECKER, Sparta, N. J., assignor to himself and CHARLES W. WARDWELL, Brooklyn, N. Y.—*Door Fastening.*—March 5, 1867; antedated February 20, 1867.—The shank is inserted with its points in the line of the crack between the door and frame, and is turned till its further point engages the frame, and its nearer one the door.

Claim.—The door fastener herein described, the same consisting of the rod *A*, spurs *a* *a*¹, semi-circular continuation *B*, continuations *C* and *D*, constructed and operating substantially as described for the purpose specified.

62,533.—THOMAS B. DE FOREST, Birmingham, Conn.—*Buckle.*—March 5, 1867.—The frame has a sliding plate, through whose perforation the band passes, and draws against its outer rib to bind the band by the other side of said plate.

Claim.—The combination of the clasp *B*, constructed with the slot *d* and bar *f*, with the frame *A*, when the clasp *B* is above and the bar *f* below, or vice versa, so that the strap or band, drawing against the bar *f*, draws the clasp *B* upon and so as to hold the strap, substantially in the manner herein set forth.

62,534.—A. M. DUBURN and J. KEITH, Chicago, Ill.—*Frame for Supporting Stoves on Vessels.*—March 5, 1867.—The stove is pivoted to a frame to allow lateral oscillation. Catch arms turn up from the foundation to prevent a too extreme movement.

Claim.—The combination of the standards *B*, suspenders *C*, platform *E*, and arms *I*, substantially as and for the purpose set forth.

62,535.—C. C. ELLIOTT, Escanawba, Mich.—*Snow Scraper for Locomotives, &c.*—March 5, 1867.—This scraper is intended for attachment to a locomotive "cow catcher," and is so connected to the same by springs as to admit of a lateral or vertical movement.

Claim.—The springs *C*, arm *D*, and notched bar *E*, and spring *F*, in combination with the scraper-carrying shaft *B*, when applied and operating substantially as described for the purpose specified.

62,536.—JOHN J. ESHLEMAN, Philadelphia, Pa., assignor to himself and JAMES RILEY, same place.—*Attaching Stoppers to Bottles.*—March 5, 1867; antedated February 16, 1867.—The coil spring ring which

is slipped on the bottle neck has a chain attachment to the metallic cork cap.

Claim.—An expanding or elastic ring D, and a chain *a*, in combination with the stopper B, substantially as and for the purpose described.

62,537.—R. FICKEN and F. L. WILLIAMS, Philadelphia, Pa.—*Machine for Cleaning and Purifying Boneblack.*—March 5, 1867.—The dust is blown through a sieve into the gradually-contracting tube, and into a box from whose bottom rises a pipe with an inverted conical cover above its top. The dust passes into the pipe and comes in contact with a steam jet, to moisten it in its passage to a box below, from whose top the air from the blast issues.

Claim.—First, the box B, with its diaphragm screen K, openings *g* and *d*, in combination with the blower E and trunk I, when constructed and arranged substantially as described.

Second, the dust-collecting boxes M and N, constructed and arranged substantially as described.

Third, the combination of the blower E, diaphragm box B, trunk I, and collecting boxes M and N, constructed and arranged substantially as described.

62,538.—HENRY FLAD, St. Louis, Mo.—*Filter.*—March 5, 1867.—The feed water receptacle is annular and removable from the top of the filter. A ball valve in the center supply tube is hung on a chain by which it is operated. The siphon is connected to a float by which its mouth is kept a proper distance beneath the water surface to regulate the feed.

Claim.—Improved filtering apparatus, constructed of a removable feed tube *c*, and inclined or conoidal supporting plate *b*, a removable feed reservoir B, and outer inclosing vessel A, combined and operating substantially in the manner herein set forth.

Also, the combination of a check valve *e*, chain and supporting bar *c*, with the upright feed tube *c*, of a self-feeding filtering apparatus, constructed and arranged substantially as herein described.

Also, a siphon *d* and float *z*, in combination with feed tube *c*, of an improved filtering apparatus, constructed and operating substantially in the manner herein set forth.

62,539.—F. F. FOWLER, Upper Sandusky, Ohio.—*Ice Crusher.*—March 5, 1867.—The lever pestle forces the ice through the perforated bottom.

Claim.—An ice crusher composed of a box, with holes or openings in its bottom, formed by transverse ribs, a follower, guided to work therein, and a lever to operate said follower, the whole being combined to operate substantially in the manner and for the purpose herein described and represented.

62,540.—WILLIAM B. GEDDIS, Rochester, N. Y.—*Cresset or Barrel Heater.*—March 5, 1867.—The air heater in the stove top has radial exit pipes calculated to give out equal heat to that radiated from the sides below.

Claim.—First, the cresset stove A, having an air chamber B, flues *c*, and supply pipe or pipes *b*, for giving the sides of the stove a uniform heating power, in connection with a single smoke pipe I F² F³ F¹, *f*, or *e*, E F, *f*, or both, substantially as and for the purpose herein set forth.

Second, in connection with the stove A, the barrel cover H, and adjustable pipe F², constructed in one piece, and making suitable connection with the section I and pipe F², substantially as and for the purpose herein specified.

Third, the stove A B b c c, pipes E F F¹ F² E³, *f*, cover H, and counter balances K K, all constructed and arranged substantially in the manner and for the purpose set forth.

Fourth, the construction and arrangement of the pipe F F¹ F² and F³, in such a manner as to perform the double office of a smoke pipe and crane, as herein set forth.

62,541.—ADOLPH H. GLOSE, Philadelphia, Pa.—*Child's Sleigh.*—March 5, 1867.—The spring arms have inclined blades, by whose depression and engagement of the track the sleigh may be turned.

Claim.—A board or platform A, having two parallel runners, in combination with the arms D D', and their blades *e*, when the latter are inclined as described for the purpose specified.

62,542.—JOHN A. HOOPER, South Berwick, Me.—*Nutmeg Grater.*—March 5, 1867.—The nutmeg in the tube of the stock is pressed by the spring against the grater, which is reciprocated in the transverse opening.

Claim.—The combination of the reciprocating cylindrical grater B C, provided with flanges *a*, the holder A A', the follower F, and spring *m*, when constructed and operating substantially as and for the purpose specified.

62,543.—JOHN M. and EUGENE INGOLD, Allegheny, Pa.—*Spring for Carriages.*—March 5, 1867.—Explained by the claims and illustration.

Claim.—First, making elliptic or ellipsoidal springs of one or more leaf or leaves, each leaf extending all around the springs, until the extremities nearly or quite touch each other, so as to form an unbroken curve around the extremities of the major axis of the ellipse, and thus dispense with the welding of the leaf or leaves, substantially as hereinbefore described.

Second, the arrangement of the leaves of an elliptical or ellipsoidal spring, consisting of two or more leaves, and constructed as hereinbefore described, without welding, so that the joint at the extremities of each leaf of the spring shall be lapped or curved by the next contiguous leaf of the spring, the joints of the leaves being alternately placed at or near one or other of the extremities of the inner axis of the ellipse, substantially as and for the purposes hereinbefore described.

62,544.—JUDSON F. JONES, Washington, D. C.—*Switch.*—March 5, 1867.—The lock holds the switch upon the main track, except when forcibly held upon the turn out, and when released a spring returns it to the main track, the locking bar engaging a tooth of the rack bar. The locking bar is disengaged by a key.

Claim.—The combination of the switch lever F, cog wheel E, cogged bar D, with incline *d*, gravitating locking bar K, removable key J, and trigger L, operating substantially as described and represented.

62,545.—FRANK F. LANDIS, Lancaster, Pa.—*Door Lock.*—March 5, 1867.—This forms a latch and lock, applicable for a right or left hand door. For use as a latch the twin bolts are thrown out of engagement with the main bolt. To fasten it against being opened, by key or otherwise, a temporary detent hook is used. Details of construction are cited in the claims.

Claim.—First, the two-legged twin bolts, one upon the other, held by a pivot F, each having a raised flange C and D, and projecting feet *x* and *y*, and *c* and *d*, in combination with the double acting spring *e*, all arranged in the manner and for the purpose specified.

Second, the guard chamber J j, surrounding the key-hole, with its perforations, for the headed pins *z*, in combination with the flanges C and D, on the lower leg, of the twin bolts, arranged and operating in the manner and for the purpose specified.

Third, the twin bolt fastener or lever U, in combination with the prolonged flange D, on the lower twin bolt, when applied in the manner and for the purpose set forth.

Fourth, the construction of the key N, with its projecting pins *n*, in combination with the headed pins *z*, and guard chamber J j, all arranged and operating in the manner specified.

62,546.—JOHN LIPPENCOTT, Pittsburg, Pa.—*Tempering Circular Saws.*—March 5, 1867.—Explained by the claims.

Claim.—First, a platform for sustaining circular saws above the floor of the tempering furnace, constructed to support by contact the central portion of the saw, only thus leaving the marginal portion of the saw free from contact with the platform, or with the floor of the furnace, substantially as described.

Second, the iron carriage, constructed substantially as hereinbefore described, for introducing the saw plate into the furnace, supporting and adjusting the same during the process of drawing the temper, and for withdrawing it from the furnace when the tempering process is completed.

62,547.—DANIEL S. LOY, Gracem, Md.—*Tuyere.*—March 5, 1867.—The air from the bellows

entering the blast chamber acts upon a wing and causes the valve to close the lower aperture of the chamber. When the blast ceases, the valve rises and the cinders are discharged. The shield plate wards off the falling cinders from the operative mechanism.

Claim.—First, the valve E, in combination with the weighted lever F and wing H, substantially as and for the purpose described.

Second, the vibrating wing H, arranged and supported in the manner described, in combination with the valve E and blast pipe B, as and for the purpose explained.

Third, in a tuyere constructed as herein described, the cap plate or shield K, formed and applied in the manner and for the purpose specified.

62,548.—H. B. LYON and G. M. HOPKINS, Albion, N. Y.—*Clamp for Making Brooms.*—March 5, 1867.—The jaw is opened, the corn brush laid in, the jaw closed and the brush, after being pressed by the follower actuated by the set screw, is then wired, removed and the handle driven in. It is now replaced in the jaws with a side clamp, and is flattened by a screw acting at right angles to the former. It is then sewed to preserve its flatness.

Claim.—The screw B, the follower D, and the recess J, in combination with the jointed frame O, having the slot F, the screw K, and the clamp G, as and for the purpose specified.

62,549.—HENRY MALLEY, Chicago, Ill.—*Hoisting Machine.*—March 5, 1867.—Two reciprocating platforms are suspended on ropes coiled on spirally grooved drums, which have wheels gearing into a pinion between them. This latter is on a shaft carrying a central fast pulley with loose pulleys beside it. A straight and crossed belt may either of them be brought in connection with the fast pulley to raise or lower either platform.

Claim.—First, the general arrangement and combination of the reverse pulley 15, standards *i*, shaft *o*, with the wheels P, Q, tie *n*, and shaft *r*, when used to operate the ratchet S and rack *t*, and slide X, as and for the purpose set forth.

Second, the sectional guides J', in combination with the cross-tie H and elbows *m*, substantially as described and set forth.

62,550.—THOMAS W. MANN, Holyoke, Mass.—*Paper-wearing Apparel.*—March 5, 1867.—The paper is folded into plaits and re-enforced by a plain piece behind.

Claim.—Articles of paper-wearing apparel, when folded or plaited, and backed or strengthened throughout its entire surface, substantially as herein described and set forth.

62,551.—THOMAS C. MARIS, Athens, Ohio.—*Attaching Hubs to Axle Boxes.*—March 5, 1867.—The box has a radially ribbed flange with a flattened circumferential ring. The oil hole traverses one of the ribs centrally. The hub cap screws on the box.

Claim.—First, the cap A, with its ribs *b b*, substantially as above described and set forth.

Second, the cap E, in combination with the box C and screw thread, as substantially described.

Third, securing the hub to the box C by means of caps A and E, when one of said caps is rigidly attached to the box and the other adjustable, substantially as described.

Fourth, constructing the cap A, with one or more of its ribs hollow, for the purpose of introducing oil to the spindle, substantially as described.

62,552.—DAVID W. MARSTON, Lebanon, N. H.—*Uniting Scythe and Snath.*—March 5, 1867.—The heel of the scythe is received in the recess of a plate, and the two are traversed by a bolt, which fastens them to the heel plate and heel of the snath. On this bolt they vibrate as a pivot when the point of the scythe is drawn in or out to "hang" it according to the requirement of the mower. A set bolt holds it at the desired adjustment.

Claim.—A straight scythe shank when the said shank is connected to the heel of a snath by means of the transversely recessed and slotted plate A, the shanked ferule B B', the pivot bolt C, and the holding bolt D, substantially in the manner herein described and set forth.

Also, the combination of the transversely recessed and slotted plate A and the shanked ferule B B' with each other, and with the heel of a snath, by means of the pivot bolt C and the holding bolt D, substantially as herein represented and described.

62,553.—WM. W. MARTIN, Allegheny City, Pa.—*Spike Machine.*—March 5, 1867.—The rolls carry dies by which the heated rod is pressed into spikes as it passes between them. One side of the dies of the larger roll is movable, and held to place while the spike is being formed, but sprung out subsequently for the release of the same.

Claim.—First, the slide clamps *i* and *i'*, when used in combination with the dies 2 on the roll B, as herein described and for the purpose set forth.

Second, the friction roller *e*, when used in combination with the side clamps *i* and *i'*, as herein described, and for the purpose set forth.

Third, the flanges J and X, on the roll C, when used in combination with the roll B and side clamps *i* and *i'*, as herein described, and for the purpose set forth.

62,554.—JAMES B. MARTINDALE, New Castle, Ind.—*Hook and Eye.*—March 5, 1867.—The middle loop of the hook is turned in sufficiently to form a spring catch for the eye.

Claim.—The hook A, when constructed and arranged to operate in combination with the eye B, substantially as set forth.

62,555.—GEORGE MERRITT, New York, N. Y.—*Pencil Point Protector.*—March 5, 1867.—Explained by the claims and illustration.

Claim.—First, the metal piece A A¹ A², and the spring B, adapted to operate together upon the end of an ordinary wood pencil, substantially as and for the purpose herein specified.

Second, the combination of a rubber eraser D, with the metallic portion A A¹ A², so as to give the proper erasive property to the exterior, and also to contribute by its contractile force to the clasp of the metallic portion upon the wood of the contained pencil, substantially as herein specified.

Third, the scalloped and flaring mouth *a b* on the wings A¹ A², of the metallic pencil point protector, substantially as herein specified.

62,556.—JOHN H. MILLS, Boston, Mass.—*Steam Engine.*—March 5, 1867.—The steam from the smaller cylinder exhausts through a pipe which traverses the fire box to the larger cylinder. The generator is made in sections which are bolted together. The pipes which surround the furnace connect with the bent pipes which pass through the interior of the generator. The two inner trunnions upon which the cylinders oscillate are arranged so that the steam exhausted through one shall be admitted to the other through its trunnion.

Claim.—First, the combination with a series of sectional boilers of the steam cylinders under the arrangement herein described, so that either cylinder alone, or both together, may be used with the full power of steam generated by the said boilers, or so that the smaller cylinder shall exhaust into the larger, substantially as set forth.

Second, the pipe for connecting the two cylinders, arranged so as to pass through the combustion chamber or fire pot of the boilers, substantially as shown and specified.

Third, the arrangement of the boiler B, consisting of the bent pipe H and connecting pipes *e* operating together as shown and described.

Fourth, the arrangement of the inner trunnions of the steam cylinders in such a manner that the steam may pass directly from one cylinder to the other through the said trunnions, as and for the purposes set forth.

62,557.—GEO. R. MOORE, Lyons, Iowa.—*Damper for Flat Iron Heaters.*—March 5, 1867.—An improvement on his patent August 8, 1864.—The segmental damper partially surrounding the upper end of the fire chamber has openings which are brought more or less in connection with the similar openings in the side of said chamber.

Claim.—The application of the damper D, or its mechanical equivalent, to the fire chambers of heaters having an annular chamber for a flue from the fire

chamber to the smoke pipe, and substantially in the manner and for the purposes herein set forth.

62,558.—DANIEL B. NEAL, Mount Giload, Ohio, assignor to himself and KINGSLAND, ALLEN, and CLARK.—*Apparatus for Defeating Sorghum and other Liquids.*—March 5, 1867; antedated February 17, 1867.—The liquid runs through a vertical series of inclined troughs whose deep ends are placed in opposite directions alternately, and their shallow ends slightly elevated. To the shallow end of each trough is attached a conductor of fibrous material to lead the sirup into the trough next below.

Claim.—First, a series of trays or shallow troughs B arranged with one end of each tray or trough deeper than the other, and otherwise constructed so that the fluid find into the deeper end of the topmost trough will find an exit at the shallow end, and so through the whole series.

Second, the construction and combination of the trays B and the windlasses C c and C' c', substantially as described.

Third, the reservoir D when constructed as herein described, and combined with the trays B.

62,559.—WILLIAM V. PERRY, Burnett, Wis.—*Stove Pipe Damper.*—March 5, 1867.—The usual damper has a central hole closable by a pivoted plate whose operating handle projects at the opposite side to that of the damper aforesaid. Flanged deflecting plates are supported on legs at each side of the central hole.

Claim.—The damper herein described, consisting of plate A, intermediate between the flange plates B B provided with the revolving valve E, the whole arranged and operating in connection with handle F and rod C, substantially as set forth.

62,560.—JOSEPH W. PETTY, New Orleans, La.—*Cotton Bale Tie.*—March 5, 1867.—The band near each end is slit on opposite sides and the ends are brought into lateral engagement and then slipped a little longitudinally, preventing retraction unless previously loosened.

Claim.—The combination of the two ends of an iron band when used for banding cotton, when provided with the openings a b, substantially as described for the purpose set forth.

62,561.—GEORGE E. PEVEY, Lowell, Mass.—*Direction Label.*—March 5, 1867.—The fibrous material is placed inside the lap which encloses the cord at its bend.

Claim.—Inserting a fibrous material substantially as described and for the purposes fully set forth.

62,562.—F. P. PFLEGHAR and WILLIAM SHOLLHORN, New Haven, Conn.—*Oiler.*—March 5, 1867.—An improvement on their patent February 28, 1865. The sides and tube are made of cast iron which may be rendered malleable; the bottom is made of flexible plate metal soldered in a rabbet of the sides.

Claim.—The method substantially as described of constructing oilers.

62,563.—RICHARD W. PITMAN, West Point, Iowa.—*Insect Trap Lantern.*—March 5, 1867.—The lantern has metallic sides, through slots in which the insects pass, singing their wings and dropping into a receptacle of water surrounding the lamp.

Claim.—An insect trap composed of a framework of slats encircling a light and constructed substantially in the manner and for the purpose herein set forth.

Also, the combination of a water receptacle with the slotted framework encircling a light substantially in the manner and for the purpose herein set forth.

62,564.—W. P. PREWITT, Elkton, Ky.—*Fire Escape Ladder.*—March 5, 1867.—A frame with a stop at its mid-length is connected by chains at its inner end to the floor, and to its outer end is hung a jointed ladder. In use, the ladder and one-half the frame is put outside the window, and it is supported by the window sill in connection with the chains and stop.

Claim.—First, a fire-escape ladder composed of H-shaped sections, jointed or connected together by links, substantially as and for the purposes shown and set forth.

Second, the combination with the top section of the ladder of the combined cross brace and round or handle projecting from the face of said section, as shown and described.

62,565.—JOHN C. REED, Cincinnati, Ohio, assignor to SAM'L E. HUTCHINSON, same place.—*Bolt and Rivet Machine.*—March 5, 1867.—One of the clamp blocks is fixed and the other is operated by the driving shaft by cams and a toggle joint. The slide block on which the cam directly acts is extensible by a wedge key in its rear, which device regulates the stroke of the clamp. The heading punch is actuated by a cam on the driving shaft and its stroke regulated by means of a wedge-formed key adjusted by a screw bolt. The slides of the moving clamp-block are adjustable by screws beneath.

Claim.—First, the block R in combination with the sliding head Q, cam C, and screw-shanked wedge S, arranged substantially as described.

Second, the described arrangement of stationary and movable clamp jaws G and H', cross-head I, toggle K K' k, screw-shanked wedge M, and tightening nut N, for the purpose set forth.

Third, in the described combination the screw-threaded heading gauge 2, the screw-shanked wedges X and 11, and set screws v and 12, for adjustment of the length of stroke of the heading punch, substantially as set forth.

Fourth, the arrangement of sliding head W, knuckle w, sliding step 4, and vibrating shoe 7, substantially as described.

62,566.—ASA R. REYNOLDS, Auburn, N. Y.—*Machine for Grinding Metal Plates.*—March 5, 1867.—The ways of the bed piece are concave to correct the tendency of the stone to grind the surface convex. The bed piece is adjustable vertically to suit it to the wearing away of the stone.

Claim.—First, moving a bed that carries an article to be faced to a grinding stone upon concave ways for the purpose of preventing the rounding off of the edge first brought into contact with the stone, as set forth.

Second, adjusting a bed, at both of its ends, to the wear of a grinding stone by means of the journals and bearings a b at one end and set screw c at the other end, substantially as described.

62,567.—L. F. ROLLINS, Bangor, Me., assignor to himself and JAMES NEALEY, Jr., same place.—*Mop Wringer.*—March 5, 1867.—The end of the mop cloth is attached to the crank rod on the handle and a rotation of the said rod wrings the mop.

Claim.—The wringer, as constructed, with cranked rod a, the adjustable clamp e, and connection b, all constructed and arranged to operate substantially as and for the purposes specified.

62,568.—PETER SCHOFIELD, Philadelphia, Pa.—*Steam Gauge.*—March 5, 1867.—The disk with its elastic diaphragm and a cross-piece for holding them in position are detachable from the outer casing of the gauge, so that they may be used in any other of the same construction in case of injury to the one in which they are first placed.

Claim.—The detachable disk D', its elastic diaphragm F, and cross-piece E, in combination with the outer casing A, the whole being constructed and arranged as described.

62,569.—F. B. SHAW, Boston, Mass., assignor to SILAS S. SHAW, Bath, Me.—*Carriage Guard.*—March 5, 1867.—The piece on the carriage against which the wheel grinds in turning short is made of india-rubber.

Claim.—A carriage guard made of india-rubber, or its equivalent substance, as and for the purpose specified.

62,570.—ISAAC A. SMITH, Connelville Pa.—*Sewing Horse.*—March 5, 1867.—The clamping jaws of the horse are extended below the seat and are provided with a treadle lever which is adjustable to suit varying thicknesses of articles to be sewn.

Claim.—The adjustable lever D provided with the screw m and used in connection with the extension B' and C' of clamping jaws, said lever and jaws being

constructed, arranged, and operating substantially as herein described and for the purpose set forth.

62,571.—JOST STENDEL, Croton, Mich.—*Washing Machine.*—March 5, 1867.—Two pendent rubber boards are suspended from arms on a rock shaft so as to be vertically reciprocated in the suds box. A string of rollers is suspended from the ends of the rubber boards.

Claim.—First, the pendent wash boards B provided with alternate rubbers D and spaces and hinged or pivoted to the shafts E, in combination with the adjustable rubbers G and case A, arranged and operating conjointly as and for the purpose set forth.

Second, the shafts B E and arms F, in combination with the side pieces C, rubbers D G, and case A, arranged and operating as and for the purpose set forth.

62,572.—CHARLES TAYLOR, St. Johns, N. B., assignor to himself, JAMES HARRIS, BARTLET LINGLEY, and HENRY C. LOVELL.—*Machine for Sharpening Saws.*—March 5, 1867.—The revolving grinder is combined with a clamp plate and hinged to a holder which can be adjusted to any angle of tooth.

Claim.—First, a vibrating carriage with a movable fulcrum in combination with a clamping plate hinged horizontally to hold the saw and permit it to be turned on edge with facility for examination and pointing of the teeth without removing it from the clamping plate.

Second, the arrangement of the forked lever X, traversing carriage Z, and lever b, for moving the saw and adjusting it to the grinding stone, substantially as described.

Third, making the fork of the lever X adjustable to adapt it to the size of the operator or attendant.

62,573.—JAMES THOMPSON, Vevay, Ind.—*Washing Machine.*—March 5, 1867.—The surface of the roller is armed with alternate wooden and metallic ridges, and it is rotated by the treadle, while the pressure of the board below is adjustable to give an optional rubbing stress upon the clothes.

Claim.—The combination of the yielding rollers B O, fly arms D, treadle F, and controllable pressure board H, all constructed and arranged to operate as and for the purposes set forth.

62,574.—THEODORE R. TIMBY, Saratoga Springs, N. Y.—*Hoe.*—March 5, 1867.—The blade has an angular cutting edge, and the handle has a lug which assists the grasp.

Claim.—First, as an article of manufacture, a hoe with an angular cutting edge, as herein described and represented.

Second, the hook-shaped abutment C, in combination with handle B and hoe A, as set forth.

62,575.—JOHN B. TINKER, Buffalo, N. Y., assignor to himself and J. L. BEAZAN, same place.—*Sash Lock.*—March 5, 1867.—The device has two cam stops, with rounded faces on the outer ends for pressing against the sash, and on their inner ends with teeth which mesh into corresponding teeth in inclined faces. The two steps are held together by a coiled spring, and opened by a slide and knob.

Claim.—First, a sash lock having two stops A A', with cogs or teeth b on one end, which mesh with corresponding cogs or teeth c' made in the case C, and standing upon an incline, constructed, arranged, and operating in the manner and for the purpose substantially as herein described.

Second, the combination and arrangement of the spring D with the stops A A', in the manner and for the purpose substantially as set forth.

Third, the combination of the projecting pin h, made on the stops A A', with a groove h', made in the case, for the purpose substantially as described.

62,576.—H. A. TOWNE, Chicago, Ill.—*Hand-hole Plate for Steam Generators.*—March 5, 1867.—The hollow nut screws into the shank of the T-headed bolt, and its lower portion is made convex to fit into a concave recess in the cap which covers the aperture through the socket, which is screwed into the boiler.

Claim.—The arrangement and combination of the T-bolt E, hollow nut G, and hand-hole cap C, substantially as described and set forth.

62,577.—CHARLES W. TROTTER, Rochester, N. Y.—*Hot Air Furnace.*—March 5, 1867.—The partition divides and regulates the draft in connection with the segmental perforated plate, which opens or closes the apertures, and the damper which opens or closes the communication between the opposite sides of the partition.

Claim.—The peculiar construction of the radiator e, with center partition x, the sliding plate p, and also the damper w.

62,578.—FRIEDRICH VILLARD, Mount Eaton, Ohio.—*Revolving Chimney Top.*—March 5, 1867.—The spindle of the cowl is stepped in a socket, its collar revolving in flanges upon the upper side of the cap plate, which is anchored to the brick work of the chimney.

Claim.—First, the arrangement and combination of the plate A, constructed substantially as described, with the rods B and anchors C, when used on the masonry of a flue or chimney for the purpose of giving stability to the same, as set forth.

Second, the combination of the spindle G and collar H with the step F and socket E, constructed, arranged, and operating substantially as and for the purpose set forth.

62,579.—BENJAMIN WAINWRIGHT, East Boston, Mass.—*Rib Knitting Loom.*—March 5, 1867.—An automatic, intermittent, lateral motion of the rib-needle frame causes the waved or serpentine rib or "shogged work" to be made. When the rocker frame with the needle frame are moved downward the piece attached to the latter presses the lever and operates the pawl, ratchet, pattern cam wheel, and connected parts, to shift laterally the rocker frame.

Claim.—The combination, substantially as described, for effecting the endwise movements of the needle frame B, such combination consisting mainly of the ratchet D, its series of cams g g g, or cammed wheel F, the lever K and its pawl m, the lever E, the connection rod G, the spring N, the weight P, and the arm L, and its T-piece M, the whole being applied to the frame B, its carrier C, and the loom frame A, substantially in the manner and so as to operate as and for the purpose specified.

62,580.—CHRISTOPHER H. WAKEFIELD, Montpelier, Vt.—*Machine for Shrinking Tires.*—March 5, 1867.—The tire is clamped at two points by jaw blocks, which are then drawn together by the rotation of a disk to wrists, on which they are severally attached.

Claim.—The combination as well as the arrangement of the movable carriers B B, connected as described, and their operative mechanism or rods o o, with the self-adjusting jaws d e, cammed lever C, and the slider D, the whole being to operate together substantially in the manner and for the purpose as hereinbefore specified.

62,581.—GEORGE WALLACE, Cincinnati, Ohio.—*Apparatus for Fermenting Malt and other Liquids.*—March 5, 1867.—Three tanks communicate with each other by pipes. Two of them are formed with double walls, between which a current of water circulates. When the pressure of gas in these tanks is too great, the cocks may be turned to allow it to escape through the water in the other tank.

Claim.—First, the water chamber D, by which the temperature of the liquor in vats or tanks A and B can be regulated during fermentation.

Second, the application of the two-way cock H, by which the fermentation of each vat or tank may be regulated, or if a surplus amount of gases is generated, allows it to escape through pipes G.

Third, the open tubs or vat C, containing water, which allows the non-condensing gases to escape, yet prevents the atmosphere from getting in the vats or tanks A and B.

62,582.—JAMES C. WHITEHILL, St. Louis, Mo.—*Filter and Cooler.*—March 5, 1867.—The water from the reservoir above passes into a tube whose mouth is vertically adjustable, and is introduced below the filter bed, through which it passes upward into the ice chamber.

Claim.—First, the arrangement of the removable reservoir A, having a non-conducting bottom a, the clear water and ice chamber K, the adjustable tube

B, the joint or coupling C, and tube D, the whole constructed and operating substantially as shown and described.

Second, the arrangement of the chamber K, surrounded by non-conducting material, the removable filter bed H I, the chamber E, the tube D, the coupling C, the adjustable tube B, and removable reservoir A a, the whole constructed and operating substantially as shown and described.

62,583.—S. LLOYD WIEGAND, Philadelphia, Pa.—*Obtaining Oil from Paraffine, &c.*—March 5, 1867.—The gas generated by decomposing steam by passing it through incandescent carbon, is then passed through heated paraffine, &c., and the vapors carried over by the gas are condensed.

Claim.—The process of treating bituminous substances by means of the gases as hereinbefore described, or in any equivalent manner, and subsequently extracting the oil and paraffine by pressure or displacement, in the manner hereinbefore set forth and described, irrespective of the particular form of the apparatus in which the operation may be conducted.

62,584.—JAMES WILLIAMS and ISAAC SHORT, Amelia, Ohio.—*Swage.*—March 5, 1867.—Particularly adapted for making the "fifth wheels" of carriages. The upper and inner faces of the jaws are recessed. The jaws are recessed from the anvil block by the coiled springs and forced toward it simultaneously by the cam lever. The anvil face is tapered. The spaces between the jaws and anvil are occupied by the clips projecting from the piece forged.

Claim.—First, a swage consisting of the bed plate A, fixed anvil B, movable jaws C D, and grooves E e F f, all arranged and operating in the manner herein set forth.

Second, in combination with the anvil B and movable jaws C D, we also claim the bars G H, cam I, and springs K k K' k', or their mechanical equivalents, as and for the purpose set forth.

62,585.—LEVI WILSON, Springfield, Ohio.—*Cider Mill.*—March 5, 1867.—Two sets of grinding apparatus are connected with the driving mechanism and may be driven simultaneously or separately. A sliding floor beneath the hoppers determines the discharge of ground fruit into the presses; the press heads have slatted prismatic faces, and are advanced and retracted alternately by the revolution of the screw to whose opposite ends they are attached. The press has falling doors. The connecting shaft and mill are arranged to slide on the press, to reciprocate the press follower in either direction.

Claim.—First, the combination with a mill for grinding fruit and a press placed below the same, the intermediate sliding board K, arranged to operate independently of the motion of the press and substantially as set forth.

Second, the mill for grinding fruit and a press for the same, when the two are built with separate frames, and the mill placed over the press in such manner that the mill frame and mechanism may be moved on the press frame, connecting or disconnecting the mechanism of the mill and that of the press, substantially in the manner set forth.

Third, the arrangement of the adjustable shaft A, bevel pinion O, wheels N', sleeves N, screw M, and press heads L, substantially as set forth.

Fourth, the heads L and beds L' of the press, when respectively constructed with correspondingly inclined faces and with open slats in each, through which the juice may freely flow with the action of the press, substantially as set forth.

Fifth, the combination of the screw M, intermediate sliding frame M, springs P, and press heads L, arranged to operate substantially in the manner and for the purpose set forth.

62,586.—THOMAS H. WOOD, Monroeville, Ohio.—*Attaching Carriage Thills.*—March 5, 1867.—The wrists of the thill iron are caught by the hooks of the thill and fastened therein by a key piece, which is secured by springs.

Claim.—The key C, springs D, in combination with the arms F, wrists E, and link A, constructed and arranged substantially as and for the purpose set forth.

62,587.—JOSEPH C. ADAMS, New London, N. H.—*Boot and Shoe.*—March 5, 1867.—The heel is of metal and hollow; its under plate constitutes the treading surface and is secured by a screw to a post in the main portion of the heel, and removed therefrom to allow the shell of the heel to be secured to the sole by means of screws.

Claim.—The parts A B, supporting post D, and shank H, made or cast in one piece, in combination with the independent bottom plate C, as and for the purpose specified.

62,588.—WILLIAM T. ADAMS, Baltimore, Md.—*Revolving Waist Block.*—March 5, 1867.—The bulwark sheave is journaled in a disk, which is permitted to revolve to keep the axis of the sheave at right angles to the direction of the rope.

Claim.—The waist block sheave E, journaled within the rotating disk B, and projecting from its opposite faces, for the purpose and substantially in the manner described.

62,589.—ALEXANDER ADAMSON, Washington, D. C.—*Adjustable Runner, to be attached to chairs, &c.*—March 5, 1867.—The chair is fitted for being run upon the ice by setting its feet in the sockets of the runners.

Claim.—The construction of the adjustable metallic runners, in combination with the sockets and brace rod, to be attached to a chair or small carriage, for the purpose herein set forth.

62,590.—JOHN ASKWITH, Chicago, Ill.—*Piston Packing.*—March 5, 1867.—A ring or flange projects longitudinally from the disk which composes the central portion of the piston, and has set screws which bear upon the interior of the packing rings. A ratchet piece is placed directly over the joint of the ring to prevent the passage of steam through the same, and to keep the ring extended by means of the spring, which falls into notches upon the ratchet piece.

Claim.—The ratchet piece E, the spring f and the set screws h, in combination with the ring C, as and for the purpose set forth.

62,591.—ELIAS C. ATKINS, Indianapolis, Ind.—*Machine for Tempering Saws.*—March 5, 1867.—Arranged upon a drop slide are a series of plates, constituting a tempering plate, made in sections to overcome the liability to warp.

Claim.—The sections H H H H H H, in combination with the sliding bar G and bed I, constructed and operated substantially as set forth.

62,592.—IRA AVERY, Tankhanock, Pa.—*Washing Machine.*—March 5, 1867.—The suds box is pentagonal in its vertical cross-section, and corrugated internally. The suspended oscillating beater has movable rubber blocks, between which the clothes are secured.

Claim.—First, the hollow-chambered beater B, with its adjustable rubbers m so applied that portions of the fabric may be contained within the beater while the remaining portions thereof are being subjected to the rubbing and beating action thereof, substantially as set forth.

Second, the rod i, arranged in a semicircular groove formed in the under side of the bottom bar h of the beater, in combination with the hollow-chambered beater, substantially as herein set forth for the purpose specified.

62,593.—ANDREW C. BARNES, Albia, Iowa.—*Securing Tires on Wheels.*—March 5, 1867.—The tires are secured upon the rim by projections on the felloes, which fit into sockets in the inner periphery of the tire.

Claim.—The combination of the lug C and felloe B, as described, operating correspondingly with the groove a in the tire A, in the manner substantially as and for the purpose specified.

62,594.—THOMAS BEALE, New Milford, Ill.—*Agricultural Fork.*—March 5, 1867.—Explained by the claim and illustration.

Claim.—A fork for agricultural purposes, provided with a supplemental handle C, applied or attached to the main handle B by means of a swivel connection, substantially as shown and described.

62,595.—A. BENNETT, Rockford, Ill.—*Seed Planter*.—March 5, 1867.—The seat supports rest on the journals of the covering rollers. One driving wheel has a series of adjustable inclines, which work the seed slides, the latter being connected by levers and a rock shaft, so that their motion is simultaneous. The frame is tilted by a lever pivoted to the tongue and secured to a segment rack.

Claim.—First, the arrangement of the seat D, the supporting rods *b b* and the covering rollers *c c*, combined and operating as and for the purposes described.

Second, the seed boxes E E, combined with the adjustable feeding slides *i i*, the plows *e e*, and the levers *l n p* for operating the feeding slides, substantially as herein described.

Third, the shifting concentric rim *w* with the cams *q q*, in combination with the rim *w'* and the shifting devices connected with them, arranged substantially as and for the purposes herein set forth.

Fourth, the lever bar H, in combination with the draft pole G, for raising and lowering the hind end of the frame A, arranged substantially as and for the purposes herein described.

62,596.—JAMES S. BODLE, Mecklenberg, N. Y.—*Instrument for Marking Animals*.—March 5, 1867.—The legs of the frame are attached in the dovetail notches in the backs of the letters, and the screwing of the handle into the threaded lugs of the frame spreads the legs and makes their hold on the letters secure.

Claim.—First, a stamp or brand formed with an adjustable frame, and movable letters, combined and arranged to operate substantially in the manner set forth.

Second, the combination of the frame A A¹ with lugs A² and A³, threaded stem B², and notched movable letters C, substantially as set forth.

62,597.—SPENCER C. BOND, Farmersville, N. Y.—*Wool Press*.—March 5, 1867.—The hinged sides are thrown up and held by cord connection to the treadle. The ends are then mutually advanced, by strap connection to the drum beneath, which is rotated by a crank and sustained by a pawl.

Claim.—First, a wool press composed of two hinged wings C and two sliding heads G G', in combination with the lever D and windlass H, all constructed and operating substantially as and for the purpose set forth.

Second, the slotted slide E with its head G, in combination with the single slide F with its head G', constructed and operating substantially as and for the purpose described.

62,598.—HENRY W. BRADLEY, New Berlin, N. Y., assignor to himself and B. VAN HORN, Bennettsville, N. Y.—*Paint*.—March 5, 1867.—Composed of sugar of lead, 1 part; water, 32; boiled oil, 32; mineral paint, 60. Rice mucilage may be substituted for a portion of the oil.

Claim.—First, as an improved article of manufacture, a paint compound which is composed of the ingredients, or their respective equivalents, and in the proportions herein set forth.

Second, the substitution for a certain quantity of oil in paints of boiled rice, substantially as and for the purpose herein set forth.

62,599.—CHARLES B. BRISTOL, New Haven, Conn.—*Attaching Door Knobs to their Spindles*.—March 5, 1867.—One end of the spindle has an inclined plane, in which the end of the binding screw rests. This permits the adjustment to locks of doors of varying thicknesses, as the knob is held by the binding screw at the point of adjustment.

Claim.—The use of the inclined plane *g*, in combination with the screw *h* and the neck of the knob A, when they are constructed, connected, and made to secure the knob A in the desired position on the spindle, substantially as herein described and set forth.

62,600.—BENJAMIN BRITTEN, Galena, Ill.—*Clothes Drier*.—March 5, 1867.—The standard is made in two telescopic sections. One rank of arms is contained in the inner tube, and the other in the annular space between the tubes. The arms are hinged for horizontal radial display.

Claim.—The combination of the tubes A U with the flanged rings F T and arms G S, as herein set forth for the purpose specified.

62,601.—THOMAS S. BROWN, Poughkeepsie, N. Y., assignor to himself and JOHN P. ADRIANCE, same place.—*Lubricating Device*.—March 5, 1867.—A tube extends through the bearing from the shaft to a plug in the oil cup. The oscillations of the shaft cause portions of the oil to flow through the transverse grooves in the plug into the tube, and thence to the shaft.

Claim.—The chamber D in the part *b* of the bearing C, through which extends the tube F, communicating with the passage *c*, in combination with the plug E and journal A, arranged and operating substantially as herein described and for the purpose specified.

Further, the plug or stopper E of the oil chamber D, grooved at its under side, in combination with the tube F and passage *c* in the bearing, substantially as and for the purpose specified.

62,602.—P. S. BUCKMINSTER, Gold Hill, Nevada.—*Shaking Table for Concentrating Ores*.—March 5, 1867.—The bed is supported on cross-bearers, which slide in the slots of the upright posts, and receives an oscillating longitudinal motion. The grooves are made diagonally across the bed, and at the ends are openings in the sides, which are provided with adjustable slides. The lighter portions are carried away and washed off, while the heavier portions are detained, settling, according to their specific gravity, in the grooves.

Claim.—The riffles *b b*, running diagonally across the bed of a shaking table, in combination with openings *c c* at one end and the adjustable slides *d d*, for concentrating gold and other ores, arranged and operating substantially as herein described.

62,603.—G. W. BUFFINGTON, Mechanicsburg, Ohio.—*Fruit Jar*.—March 5, 1867.—The edge of the cover is turned over the edge of the rubber band. When the jar is filled with hot fruit, the cover is placed upon it, and the band turned down so as to embrace the neck of the jar. After the fruit has cooled, the band is turned up over the cover, which is held in position by the pressure of the atmosphere.

Claim.—The combination and arrangement of the plate A, elastic band E, mouth of jar D, curved inward so as to form a seat for the cover A, substantially as herein set forth for the purpose specified.

62,604.—RUSSELL BUNKER, Hindson, Wis.—*Burglar Alarm*.—March 5, 1867.—The spindle of the knob has a cross bar connected at each end to the bell crank trigger which acts as a detent to the escapement of the alarm. Turning the handle in either direction releases the escapement and springs the alarm.

Claim.—Combining an alarm mechanism, substantially as described, with a door latch in such manner that by moving such latch the cord *c* will release the trigger *d* from the 'scape wheel and cause the alarm to strike, substantially as herein set forth.

62,605.—MICHAEL CARPENTER, Moscow, Iowa.—*Water Wheel*.—March 5, 1867; antedated February 25, 1867.—The wheel is formed in two parts: the upper portion has buckets set vertically and radially; the lower part comprising the hub of the wheel, has spiral channels terminating in orifices in the rim of the lower or main part of the wheel. The two parts are attached together and adapted to receive both the percussion and reaction of the water which is received above.

Claim.—In combination with the guides D and gates E, the wheel with the vertical and radially disposed buckets I and hub G and orifices K, the parts being severally constructed and the whole arranged for use substantially in the manner set forth.

62,606.—F. A. L. CASSIDY, Newmansville, Fla.—*Comb*.—March 5, 1867.—The comb back has side wings pivoted to it with inwardly projecting teeth and coiled springs by which the said teeth are kept engaged with the hair.

Claim.—First, the side or wing combs pivoted to the ends of the body of the main comb, substantially

as herein shown and described and for the purpose set forth.

Second, the combination of springs C with the main comb A and side combs B, substantially as herein shown and described and for the purpose set forth.

62,607.—JONATHAN CHILDS, West Troy, N. Y.—*Carriage Axle Adjuster.*—March 5, 1867.—The bar is clamped to the axle and the spindle set by the ring bolt.

Claim.—A carriage-axle adjusting instrument formed of the bar G in combination with the block F, the adjusting screw S, with its nut levers J and K and the clamps M and N, substantially in the manner set forth in this specification.

62,608.—GEORGE R. CLARK, New York, N. Y.—*Metallic Blind Slat Clasp and Pivot.*—March 5, 1867.—A metallic clasp and journal for attachment to the ends of window-blind slats.

Claim.—The metallic clasp *a* and pivot *h* combined for blind slats, as a new article of manufacture.

62,609.—JOHN J. CLYDE, Williamsburgh, N. Y.—*Life-Preserving Berth.*—March 5, 1867.—Explained by the claim and illustration.

Claim.—The combination of the removable berth D having keel *d*^s and provided with ring bolts G, line H, seat I, and paddle J, secured to the berth and adapted to be used for the purposes described when the berth is launched and forms a raft, substantially as specified.

62,610.—BARRY COLEMAN, Louisville, Ky.—*Cotton Bale Tie.*—March 3, 1867.—Explained by the claim and illustration.

Claim.—The rectangular tie plate A having the square and diagonal-sided slot *a* when applied to bale hoops for securing the ends, arranged substantially as herein described.

62,611.—ISAAC C. COLTON, Buffalo, N. Y., and ALBERT M. HASTINGS, Rochester, N. Y.—*Treating Hides and Skins for Tanning.*—March 5, 1867.—The hides are agitated in a close vessel while surrounded by water or cleansing liquid under pressure to clean and soften them. They are afterward subjected to a similar treatment with tanning liquid.

Claim.—First, the treating and preparation of hides and skins for tanning by the combined action of hydraulic or hydrodynamic and pneumatic pressure, or by either mode of pressure separately, in combination with rotary motion of internal agitation or movement of the contents or materials to be operated upon while under pressure, by the means and substantially as described.

Second, the tanning of hides, skins, and leather by the combined or separate use of hydraulic or hydrodynamic and pneumatic pressure in a closed cylinder in combination with rotary motion or internal agitation or movement of the tanning liquors and hides or skins while under pressure, by the means and substantially as above described.

62,612.—ISAAC C. COLTON, Buffalo, N. Y., and ALBERT M. HASTINGS, Rochester, N. Y.—*Bleaching and Dyeing Yarn, Cloth, and other Textile Fabrics.*—March 5, 1867.—The articles are placed in a tight cylinder and subjected to high pressure while surrounded by the dye liquid. The cylinder is rotated during the process.

Claim.—The bleaching and dyeing of cloths, yarns, and other textile fabrics by the combined or separate use of hydraulic or hydrodynamic and pneumatic pressure in a closed vessel or cylinder in combination with rotary motion or internal agitation or movement of the liquors, cloths, and fabrics while under pressure, by the means and substantially as above described.

62,613.—R. A. COWELL, Cleveland, Ohio.—*Car Coupling.*—March 5, 1867.—An automatic car coupling, in the enlarged head of which is a hook pressed down by a spring above and raised by a cam below, operated by a crank and rod to release the coupling.

Claim.—In the draw head A formed with an enlarged chamber in the upper part, the hook *c* in connection with the ordinary link and the cam *h* operated

by a crank and rods, all constructed and arranged to operate as shown and described.

62,614.—WASHINGTON F. DAVIS, Boston, Mass.—*Center Board for Sailing Vessels.*—March 5, 1867.—Explained by the claim and illustration.

Claim.—A center board composed of two or more sections A' B' C' D' so arranged as to slide within or upon each other in a manner and for a purpose substantially as set forth.

62,615.—O. P. DILLS, Falmouth, Ky.—*Sulky Plow.*—March 5, 1867.—The separate parts are adjustable in respect to each other and so connected as to accommodate themselves to the surface of the ground.

Claim.—The arrangement of the draft pole E and bars F C with the land and furrow wheels D K respectively attached, the brace rods O P and plow beam A, for the purpose of forming a new and improved sulky plow, as set forth.

62,616.—DANIEL DIVER, Boone, Iowa.—*Lifting Jack.*—March 3, 1867.—The claw of the adjustable vertical ratchet bar engages under the rail to raise the track by depression of the lever.

Claim.—First, an improved lifting jack formed by the combination of the ratchet hook E, clevis or loop F, and pivoted block C with each other and with the lever B and fulcrum post A, substantially as herein shown and described.

Second, the combination of the spring G with the pivoted block C and fulcrum post A, substantially as herein shown and described and for the purpose set forth.

62,617.—BENJAMIN K. DORWART, Lancaster, Pa.—*Shutter Bolt.*—March 5, 1867.—The pivoted spring jaws are on a plate attached to one shutter and engage a similar plate upon the other.

Claim.—As a new article of manufacture a shutter bolt when composed of two twin plates A A', each provided with a raised conic flange B notched at the base for the reception of the horizontal bolts D D', in the manner and for the purpose specified.

62,618.—LUCIUS H. DWELLEY, Dorchester, Mass.—*Wood Turning Lathe.*—March 5, 1867.—The blank is bored, turned, and cut off in the lathe automatically and at one operation by the devices described in the claims.

Claim.—First, the combination of the shaft F with the cam M traversing thereon and revolving therewith, lever 19 and sliding spindle K with its tool or tools, substantially as described.

Second, the combination of the shaft F with the cam J traversing thereon and revolving therewith, and the vibrating cutter holder *v* with its cutter *u*, for the purpose set forth.

Third, the combination of the shaft F with the cam J traversing thereon and revolving therewith with the severing cutter *s*, as described.

Fourth, the automatic feed mechanism consisting of the cam E, rocker arm D, spring *i*, or its equivalent, toothed bar C, pawl *k*, and gauge *r*, in combination with the traversing carriage B when such carriage carries all the tools required to turn, bore, and sever the spool from the stick, substantially as described.

Fifth, the combination of the auger 17, slotted cylinder 21, with its cutter 22 on its end, and set screw 24, substantially as and for the purpose set forth.

Sixth, the mechanism consisting of the grooved wheel *s* with its notch *j'* and connections, substantially as described, for the purpose of arresting the motion of the cutting and boring tools at a stated position and also to arrest the feed at the same time, substantially as described.

62,619.—G. L. and C. H. EAGAN, San Francisco, Cal.—*Composition for Roofing.*—March 5, 1867.—Composed of melted pitch, three; and refuse of gas lime, two parts; mixed with dry pulverized clay to a consistency for molding.

Claim.—The composition for the manufacture of drain pipes, moldings, roofing, &c., the ingredients of which are prepared and combined in the proportions and manner substantially as herein described.

62,620.—FRANZ ENGEL, Camden, N. J.—*Blower*.—March 5, 1867.—The revolution of the screw forces air through the nozzle.

Claim.—The screw C, provided with a jacket e at its end, and operating in a case A, from which extends a blast pipe B, substantially as and for the purpose described.

62,621.—HENRY FAUS, Hayesville, Ohio.—*Boot Crimping Machine*.—March 5, 1867.—The jaws have a free hinge below, and a wedge-shaped key, and gain cut in each jaw to allow mobility, and to furnish means of adjustment. The leather is clamped on the lever.

Claim.—The iron rods composing the hinge-like arrangement, providing for the mobility of the jaws, and the wedge-shaped key and gain cut in each jaw, for the purpose set forth.

62,622.—WILLIAM B. FOSTER, Ridgeville, Ohio.—*Medical Compound*.—March 5, 1867.—For bowel complaints, &c., composed of alcohol, 3 qts.; cayenne, 2 oz.; and 1 oz. each of saffras, hemlock, oil of cedar, camphor gum, and laudanum.

Claim.—The medical compound, made of the several ingredients, mixed together in or about the proportions substantially as described.

62,623.—JOHN FRANTZ of JOSEPH, Selbysport, Md.—*Fruit Gatherer*.—March 5, 1867.—The pins projecting radially from the roller are to perforate the fruit sufficiently to carry it up to the detaching arms, which convey it to the basket.

Claim.—The drum or cylinder A, provided with grooves a and teeth or pins b, in combination with the finger bars H and receptacle J, all arranged and operating in the manner and for the purpose specified.

62,624.—S. D. FREET, McCutchenville, Ohio.—*Instrument for Paring the Hoofs of Horses*.—March 5, 1867.—The cutter clamped in one jaw enters the groove of a projection on the other. A set screw on the latter jaw prevents the jaws closing sufficiently to injure the cutting edge.

Claim.—An instrument for paring horses' hoofs, constructed, arranged, adjusted, and made to operate as herein set forth and explained.

62,625.—MERRITT GALLEY, Marion, N. Y.—*Car Coupling*.—March 5, 1867.—The coupling is self-engaging, and the tumblers are so arranged that a backward and forward movement of the lever is required for uncoupling.

Claim.—First, the tumbler T T' T'', with cams, slots, and lever projections, combined and constructed as herein described.

Second, the catch hook R, with lever projection R*, in combination with the angular projection Z of tumbler forming the "compound drop latch" Z R, substantially as herein set forth.

Third, the catch tooth C, in combination with its counterpart mortise C', substantially as described.

Fourth, in combination with the tumbler T T' T'', the fulcrum F, for the purpose herein set forth.

62,626.—JOSEPH W. GARDNER, Shelburne Falls, Mass.—*Attaching Handles to Table Cutlery*.—March 5, 1867.—The shank is prolonged into a loop, which is made to enclose the stock of the handle by being pressed into a groove in the edge of the latter.

Claim.—Securing handles to forks, knives, or other instruments by condensing the metal portion of such articles in a groove formed in the handle, substantially in the manner herein described and represented.

62,627.—GEORGE H. HAMMOND, Oneonta, N. Y.—*Stove Pipe Drum*.—March 5, 1867.—The caloric current is deflected horizontally between the two lower disks, then rises in a sinuous course between the outer cylinders, being deflected by the intervening perforated plates, and thence passes horizontally to the chimney, which it ascends. Air passes in below, is heated in the annular space, and escapes above.

Claim.—The construction, combination and arrangement of the disks A E H K L M I F B with each other, with the interior, intermediate and exterior cylinders G J D, and with the short pipes C,

substantially as described and for the purpose set forth.

62,628.—C. C. HARRIMAN, Warner, N. H., assignor to himself and JOHN DAVIS, 3d, same place.—*Corn Cake Machine*.—March 5, 1867.—The thickness of the sheet of dough is determined by the set screws over the journals of the roller; the dough lies on a board, which is moved by the gear-wheel on the roller shaft. The cutter has a rectangular series of vertical knives, which divide the sheet into squares; followers discharge the adhering cakes from the intervals between the cutters.

Claim.—The adjustable roller C, provided with gear wheels G, slotted supports D, set screw E, sliding board B, cutter I, beam J, sliding between the uprights H H, beam K, and hand screw L, when all are constructed and arranged as herein set forth for the purpose specified.

62,629.—GEORGE HEALEY, East Woburn, Mass.—*Machine for Peeling Willow*.—March 5, 1867.—The willow rods are driven between two jaws, thence passed around a wheel between it and the belt that drives it, and are finished by putting them again through flexible jaws, and over a wheel between it and the band, a repetition of the former process on a duplicate machine, driven by the same motion, and acting in conjunction.

Claim.—The combination of a single wheel, a set of stripping jaws, and an endless belt, its supporting rollers, and a deflector, the whole being substantially as described and for the purpose set forth.

Also, the combination of the two elastic or flexible lips with the single wheel, a set of stripping jaws, and an endless belt, its supporting rollers and deflector, as described.

62,630.—SYLVESTER B. HILL, Chicopee, Mass., assignor to himself and F. E. DRAKE, same place.—*Wrench*.—March 5, 1867.—The movable jaw and its shank are sleeved upon the shank of the stationary jaw, which passes through, and is secured at the end of the handle. The nut on the handle engages the thread of the movable jaw shank, and is the means of moving it.

Claim.—A wrench having the jaws B and C, handle A, and nut D, constructed and arranged substantially as herein described.

62,631.—JEAN and GEORGE HOCHAPFEL, Strasbourg, France.—*Tobacco Pipe*.—March 5, 1867.—The tubes are accessible; the smoke tube from the bowl is received in a passage, in whose lower end the nicotine and saliva are collected.

Claim.—The arrangement of the three passages A a c, in relation to the bowl D, none of said passages or openings going through, and all accessible from the outside, and forming passage, trap, and nicotine chamber, as set forth and described.

62,632.—CHARLES HOLLWEDE and JULIUS PRZEZINSKY, New York, N. Y.—*Block Former for Muffs*.—March 5, 1867.—The hollow cylinder is divided longitudinally into sections, and is expanded laterally by a taper pin to stretch the skin, which has been placed thereupon.

Claim.—A muff block, composed of several pieces, arranged and operated substantially in the manner and for the purpose as hereinbefore set forth.

62,633.—A. B. HUTCHINS, Patchogue, N. Y.—*Churn Dasher*.—March 5, 1867.—Explained by the claim and illustration.

Claim.—The dash C, consisting of the rim a, connected by the oblique arms c to hub b, and vertical plate D, with rounded corners, rim e and opening f, and fitted loosely on the rod B, operating as described substantially as specified.

62,634.—HYAM JACOB HYAMS, New York, N. Y.—*Water Meter*.—March 5, 1867.—Within the case is an eccentric revolving wheel whose wings are hinged to its radial arms and connected by flexible membranes, so as to expand and collapse alternately as they revolve. The water is regulated in its supply by a float valve, and occupies the spaces of known capacity around the wheel, whose revolutions are recorded.

Claim.—First, the combination with a fixed crank S of the revolving diaphragm measuring chambers J, constructed and arranged for operation in connection with a foot valve G, substantially as and for the purpose specified.

Second, the combination and arrangement, substantially as shown and described, of the revolving cylinder with its flexible diaphragms, foot valve, and cistern, provided with a valve controlling the head or pressure to the measuring chamber, as herein set forth.

62,635.—EDWARD M. JUDD, Wolcottville, Conn.—*Curtain Fixture.*—March 5, 1867.—The stock carries a sheave and has a tooth engaging the teeth of a rack on the back of the slide. A sliding clamp holds the tooth in engagement.

Claim.—The stock of the pulley *f*, having a tooth *i*, taking the rack on the inside of the slide *a*, in combination with the sliding clamp *g*, for holding said tooth to its place, as set forth.

62,636.—ZENO KELLY, New Bedford, Mass.—*Sealing Padlock.*—March 5, 1867.—The seal is placed in a loop of the shackle bar which comes in front of the key hole, so that an entering key passes through the seal and the slot of the shackle.

Claim.—First, applying a seal or seals to the end of the shackle suitably constructed therefor, so that to unlock it said seal or seals must be canceled or destroyed by the key, substantially as and for the purpose described.

Second, constructing the shackle in such manner, in combination with any suitable arrangement of locking devices upon the inside of the lock, that the key for unlocking the lock when inserted therein will pass through the said shackle to break the seal, substantially as and for the purpose described.

62,637.—WILLIAM H. KELLOGG, Du Quoin, Ill.—*Gate Latch.*—March 5, 1867.—The flat spring at the hinging side of the gate is twisted in opening and the torsion closes it. The incline of the latch strikes in closing against one of the rollers, by which it is retracted and the latch is then caught between the rollers. A double-headed lever projects on each side of the gate for the withdrawal of the latch.

Claim.—First, the gate latch *c*, in connection with the double bent lever *h h*, the friction rollers *k k* and *g g*, and the springs *f* and *b*, combined, arranged, and operated substantially as and for the purposes herein described.

Second, the latch *c*, in combination with the flat spring *b*, for swinging and closing a gate, substantially as herein described.

62,638.—D. J. KIRKMAN and E. H. GRAY, Winchester, Ill.—*Wagon Brake.*—March 5, 1867.—The blocks at each end of the brake bar are driven against the wheel or withdrawn from it by the lever connected therewith by rods.

Claim.—The bar C, in combination with the serrated plate F, stirrup *e*, the rods K K, the cleat M, furnished with strap *i*, and the bar S, the whole constructed and arranged and operating as and for the purpose herein set forth.

62,639.—MATTHEW LAFLIN, Chicago, Ill.—*Apparatus for Amalgamating Gold and Silver.*—March 5, 1867.—An improvement on the patent of Scoville and Gates, September 20, 1864. The means cited in the claims are for mixing the pulverized quartz with the melted lead, and for excluding the air from the latter to prevent oxidation.

Claim.—First, a kettle with partitions dividing it into compartments in the upper part but leaving it open at the bottom, substantially as described.

Second, the method of excluding the air from the lead by means of the covers, one or all of them, substantially as described.

Third, the improved scroll wheel, with one, two or more spiral plates, substantially as described.

Fourth, the screw and its casing, substantially as described.

Fifth, the combination of a scroll wheel and screw, substantially as described.

Sixth, the combination of a scroll wheel, screw and casing, substantially as described.

Seventh, the combination of a kettle, partitions, and scroll wheel, substantially as described.

Eighth, the combination of a kettle, partitions, scroll wheel, and screw, substantially as described.

Ninth, the combination of a kettle, partitions, scroll wheel, screw, and casing, substantially as described.

Tenth, the combination of a kettle, partitions, and cover or covers, substantially as described.

62,640.—EBENEZER G. LAMSON, Shelburne Falls, Mass.—*Table Fork.*—March 5, 1867.—The wire is looped around the handle and secured by a collar. At the point where the ends separate into tines they are clamped by a ferrule, stamped or soldered upon them, and other intermediate tines, if such are used.

Claim.—A table fork made of wire, substantially as herein described.

62,641.—RANSOM K. LARAWAY and JEROME LARAWAY, Battle Creek, Mich.—*Plow.*—March 5, 1867.—Either the frame with cultivator shares or the beam of the gang plow is attached to the wheeled frame by a pivotal connection. Either, when occupying this position, is vertically adjustable by means of the hand lever and chain.

Claim.—First, the manner herein described of attaching the frame B', with gang plows attached, to the frame B attached to driving wheels, and of attaching to the same plow H, as described and set forth.

Second, the manner herein described of raising and lowering the frame B', with plows attached, or single plow, by means of lever C', pawl and ratchet D and E, and flap *n* and chain G, in the manner set forth and described.

62,642.—A. T. LARGE, Chicago, Ill.—*Seed Dropping Attachment for Hoes.*—March 5, 1867.—Improvement on his patent November 27, 1866. The seed box is attached above the hoe handle, near its lower end, and the hand trigger operates a spring slide which drops the seed in regulated quantity.

Claim.—The seed box B, with the box C attached, and provided respectively with the openings *b d*, in combination with the slide D placed within the box C, provided with the opening *c*, and operated by the spring I and lever G, all arranged and applied to the handle of a hoe, substantially as shown and described.

62,643.—W. LAW, New York, N. Y.—*Refrigerator.*—March 5, 1867; antedated December 31, 1866.—The moisture which rises from the provision chamber into the ice chamber is condensed, collected, and conducted to the exit pipe.

Claim.—The construction and arrangement within the walls A of the corrugated inclined plates C and bottom H, in such a manner as to prevent the air that rises from the provision chamber I from having its moisture condensed by contact with the bottom of the plates C, and dropping back into the said provision chamber, as herein set forth.

62,644.—WILLIAM H. LAWES, Somerville, N. J.—*Liniment for Cure of Foot Rot in Sheep.*—May 5, 1867.—Composed of nitric acid, 2 oz.; acetate of copper, 1 oz.; sulphate of copper, 1 oz.; nitrate of potash, 1 oz.

Claim.—A liniment made of the chemical ingredients herein specified, and in about the proportions specified.

62,645.—ADAM LEICH, Brooklyn, N. Y.—*Door Lock.*—March 5, 1867.—The three checks are protected by a division plate from being tampered with by instruments, and require to be operated simultaneously and held clear of the bolt when the latter is to be moved by the key.

Claim.—First, the catches or checks C F G, applied to opposite sides of the bolt B, in combination with the partition plate E, arranged in relation with the bolt and the bar D, of the catch or check C, substantially as and for the purpose set forth.

Second, the wards *g*, placed in line with or applied to the outer key hole *f*, in combination with the partition plate E and the catches or checks C F G, all arranged substantially as herein shown and described.

62,646.—ALFRED LEIGHTON, London, England.—*Apparatus for Printing on Uneven Surfaces.*—March

5, 1867.—Especially intended for ornamenting or lettering curved or irregular surfaces. The printing surface is a flexible, elastic sheet, with the device raised upon it, and the latter being inked is pressed by fluid pressure against the article to be printed.

Claim.—The combined arrangement of a flexible elastic printing surface *a*, with a chamber or vessel containing fluid which, on being subjected to pressure, is caused to act on the printing surface, substantially as described.

62,647.—A. R. LEMEN, Kalamazoo, Mich.—*Hoisting Apparatus.*—March 5, 1867.—Power applied to the crank is communicated by the train of gearing to the hoisting drum, and by dislocation of the connection the chain is rapidly run off the latter.

Claim.—The combination and arrangement of the gear wheels as shown and described, in combination with the frame, when constructed substantially as described and for the purposes set forth.

62,648.—ISAAC LEVINE, New York, N. Y.—*Cuff.*—March 5, 1867.—Instead of being a closed cylinder, the wristlet has one open side, and is clamped against the wrist by an interior coiled spring; a cord limits its motion in unclosing.

Claim.—A cuff *A*, provided with spring *B*, and elastic retaining cords *a*, substantially as described.

62,649.—R. L. LEWIS, Worcester, Mass.—*Boot Tree.*—March 5, 1867.—The pin is attached to an arm of a stretching rod, and traverses upon two inclined planes attached to the front and back of the tree; the adjustable heel piece is operated by a right and left screw.

Claim.—First, a boot tree distended by means of a pin *b*, attached to an arm *G* of the stretching rod *D*, which traverses upon two inclined planes, or slotted inclines, attached respectively to the front and back of the boot tree, substantially as and for the purposes herein shown and described.

Second, a mounted swiveling boot tree, which is provided with an adjustable heel piece *I*, substantially as and for the purpose herein shown and described.

Third, the manner of operating the adjustable heel piece, by means of a differential screw *i* and plates *h h*, substantially as herein shown and described.

62,650.—ANN LOOSLEY, Philadelphia, Pa.—*Medicine.*—March 5, 1867.—For the cure of whooping cough. Composed of West India molasses, 180 parts; pulverized rosin, 60; and tincture of wild cherry bark, 10.

Claim.—The combination of the said ingredients, in the said proportions, thereby producing the said medicine, and which I propose to manufacture and sell as "Loosley's Infallible Cure for Whooping Cough."

62,651.—O. HIGLEY and S. TOOTHAKER, Fredonia, Ohio.—*Wagon Tongue Supporter.*—March 5, 1867.—The wagon hounds are connected beneath the tongue hounds by a spring which forms a rest for the tongue-supporting spring. The eye on the rear end of the latter is passed over the end of the king bolt, and its forward end is slipped into staples beneath the tongue.

Claim.—The springs *a* and *c*, constructed as described, in combination with the tongue or thills *C*, hounds *E E* and axle *B*, for the purposes set forth and specified.

62,652.—THEODORE MACE, New York, N. Y.—*Molasses Gate.*—March 5, 1867.—The valve plate has an outer cup which receives one end of a spiral spring whose other end abuts against the lever to keep said plate to its face.

Claim.—The screw *r*, passing through the lever *e*, in combination with the spring *d* that surrounds the screw *e*, and is within a cup on the outside of the gate *c*, the parts being constructed and applied in the manner and for the purposes specified.

62,653.—DAVID MANUEL, Boston, Mass., assignor to himself and WILLARD MANUEL, same place.—*Bed Spring Fastening.*—March 5, 1867.—The upper rectangularly-bent arm of the spring is held by a metallic plate having end claws for attachment to the slat.

Claim.—The cross-bar holder *c*, consisting of the

hooks *d d*, eye or bridge *e*, hooks *g g* and *h*, constructed as described for the purpose of securing the base of the spiral wire bed spring *B* to the slat *A*, as herein set forth.

62,654.—THOMAS C. MARCH, London, England.—*Ornamenting Mirrors.*—March 5, 1867.—The objects named in the claim are attached by transparent cement.

Claim.—The ornamentation of mirrors, &c., by affixing to the surfaces of the same by cement, glass knobs, beads, or moldings prepared by grinding the face to be attached, substantially as set forth.

62,655.—MOSES S. MARSHALL, Melrose, Mass., assignor to himself and R. WENDELL, Salem, Mass.—*Stove Pipe Damper.*—March 5, 1867.—The damper plate has a central opening spanned by a bar which forms a bearing for a bolt on which a valve plate plays. The bolt also forms means of connection to the two cup-shaped side plates. The inversion of the damper operates the valve.

Claim.—First, the combination in a damper of the concave cups *B B'*, central annular plate *A*, and circular plate *C*, substantially as and for the purpose set forth.

Second, the combination of the damper spindle and key when said parts are respectively constructed and the whole arranged as and for the purpose set forth.

62,656.—W. C. MARSHALL, New York, N. Y.—*Blind Fastening.*—March 5, 1867.—The shutters are drawn to by a weighted cord, and are kept open by a button on a shaft which extends to and is operated from the inside.

Claim.—The latch *e* and releasing lever *g*, in combination with the self-closing shutter *A*, constructed and operating substantially as and for the purpose described.

62,657.—CHARLES F. MARTINE, Boston, Mass., assignor to SOLETTA OIL COMPANY.—*Lamp Wick.*—March 5, 1867.—The wick has a core of wood twine or some firm substance that will consume with the wick; the addition gives stiffness to the wick, and enables the teeth of the elevating wheel to operate upon it more effectively.

Claim.—The combination of a straight stiffish, hand non-conducting core or thread with the loosely woven wicking used for lamps, substantially as and for the purpose described.

62,658.—JOHN MATTHEWS, Jr., New York, N. Y.—*Box for Holding and Transporting Bottles.*—March 5, 1867.—The box is partitioned into pockets for the bottles, the lower edges of the partitions are enlarged, forming shelves upon which the shoulders of the inverted bottles rest.

Claim.—The lower extensions or strips *E* or *E'*, arranged below the upper compartments *a*, and constructed so as to form shelves or projections *c* or *c'*, on opposite sides, and to constitute lower compartments *d*, in combination with the cross strips forming the upper compartments of the box or case, substantially as specified.

62,659.—W. MAY, Binghamton, N. Y.—*Pressing Leather Seams.*—March 5, 1867.—The seam is placed on the fixed support, clamped down by side bars, and pressed by a spring foot, actuated by a treadle, which is re-raised by a spiral spring attached at one end to a short arm of the treadle.

Claim.—First, the application of a treadle to a machine for pressing leather seams, substantially as herein shown and described.

Second, the arm *c'* on the treadle *E*, in connection with the spring *c* and roller *C*, substantially as and for the purpose herein shown and described.

Third, the spring *I*, and the manner of regulating its pressure by means of the screw *g*, substantially as herein shown and described.

Fourth, the rest *h* and clamp *h'*, in connection with the pin *l* and spring *i*, made and operating substantially as and for the purpose herein shown and described.

Fifth, the removable "clamp and holder" *H*, in combination with the fixed supports *G*, substantially as and for the purpose herein shown and described.

Sixth, the sliding bar *F*, to which the spring *I* is

secured, when made and operating substantially as herein shown and described.

Seventh, the rest *h*, which is so constructed that its lower edge will be parallel with its upper surface, substantially as and for the purpose herein shown and described.

62,660.—W. McCracken, Bainbridge, Ind.—*Cotton Cultivator*.—March 5, 1867.—The share has dovetail projections, which are held between cleats on the moldboard. The ground wheel is attached to, and vibratable on, the beam for vertical adjustment. The hoe vibrates laterally by the action of a cam wheel.

Claim.—First, the scraper *I*, in combination with the plow, the former being placed at the rear of the latter and arranged relatively therewith, substantially as and for the purpose set forth.

Second, the connecting of the share *F* to the moldboard *E* by means of the dovetail arms *c*, cleats *d*, and keys *e*, substantially as described.

Third, the manner of attaching the wheel *C* to the beam, so that it may be adjusted higher or lower to regulate the depth of the penetration of the plow, as set forth.

Fourth, the combination of the hoe *O*, pivoted rod *P*, pendant arm *i*, secured to the colter bar, and cam *L*, operating in the manner and for the purpose specified.

62,661.—THOMAS MCGRAH, Sheffield, England.—*Cutlery*.—March 5, 1867.—The circumferentially corrugated tang is fastened with sulphur in the longitudinally-grooved bore of the handle.

Claim.—The securing of handles to the tangs of cutlery by means of sulphur, substantially as set forth.

62,662.—J. MCKIBBEN, Lima, Ohio.—*Combined Bridle and Halter*.—March 5, 1867.—The cheek pieces of the bridle and halter to which the bit and lower ring of the halter are attached are connected by snaps to the centering rings of the brow, crown, and throat straps.

Claim.—The combination and arrangement of the cheek pieces *G*, of the halter, cheek piece *F*, of the bridle, attached to the rings *D* by means of the snap hooks *H*, nose strap *I*, chin strap *J*, brow band *A*, crown piece *B*, and throat strap *C*, as herein set forth for the purpose specified.

62,663.—JOHN M. McMULLEN, West Liberty, Ohio.—*Invalid Chair*.—March 5, 1867.—The back and foot rests are hinged and operated by a windlass placed transversely beneath the seat, to which is fastened the middle portion of a belt, whose ends are attached to said back and foot rest.

Claim.—The combination of the shaft *F*, belt *G*, toothed wheel *a* with its crank *b* and pawl *e*, with seat *A*, back *B*, feet rest *C*, and frame *E*, substantially as and for the purpose described.

62,664.—J. M. MERRYMAN, Indianapolis, Ind., and W. M. DUNN, Gurleysville, Ala.—*Cotton-seed Planter*.—March 5, 1867.—A series of cups are arranged upon an endless and inclined belt which passes in at the bottom of the hopper and out over the front of the same, carrying the seed from below upward. The hopper is mounted on pivots, upon which it oscillates, the agitation keeping the seed toward the bottom of the hopper. A share opens the furrow; the seed drops behind a hood and is covered by a drag bar. The frame is mounted on wheels and guided by handles.

Claim.—First, suspending the hopper *E* upon a pivot, or its equivalent, so that it may be vibrated for the purpose of agitating the inclosed seed.

Second, placing the seed hopper of the seeding machine so that the feeding device, passing in at the bottom and out at the top, shall pass vertically beneath the contained seed.

Third, agitating the seed hopper of the seeding machine by the passage of the feeding device through the same, for the purpose set forth.

Fourth, the cup *M*, constructed and attached as described, so that in passing over the upper roller *J* the seed will be thrown out, as set forth.

62,665.—JAMES C. MERRITT, New York, N. Y.—*Retainer for Neckties*.—March 5, 1867.—The neck-

tie passes through the loops of the metallic plate, and the latter is held down, by an elastic connection, to the button.

Claim.—A retainer for neckties, provided with opening *a* for the reception of the necktie, and having an elastic connection secured to the retainer by means of lip *F*, and provided with the button attachment *e* *g*, substantially as described.

62,666.—I. L. MILES, Charlestown, Mass.—*Apparatus for Printing on Glass*.—March 5, 1867.—The glass is supported on the guide roller, and passes over the type beneath the pressure roller. When a bottle is to be printed, it is supported between rollers and the type cylinder.

Claim.—First, a roller or segment *D*, to which are secured curved ways *a a'* and a form of elastic type *X*, in combination with inking rollers *e e*, and a pressure roller *F*, or their equivalents, the whole being arranged and operating substantially as and for the purpose described.

Second, the roller or segment *D* with its ways and type, in combination with two or more rollers *h h*, substantially as and for the purpose specified.

Third, the adjustable stops or guides *b b'*, in combination with the roller or segment *D*, substantially as and for the purpose set forth.

Fourth, the corrugated bands *F'*, in combination with the roller *F*, for the purpose specified.

Fifth, the roller *J*, with its adjustable guides *c c*, arranged in respect to the roller *D*, substantially as described.

62,667.—LEVI MOREHOUSE, Barton, Wis.—*Bag Tie*.—March 5, 1867.—Two curved arms are pivoted together, one slotted, with a spring rack upon it, and the other arm fitting in the slot, and retained by the rack.

Claim.—A clamp with curved arms, one of them slotted or cratched, and supplied with ratchet bar and spring, substantially as and for the purpose herein set forth and described.

62,668.—WILLIAM NEEMES, Pittsburg, Pa.—*Molding Pulley*.—March 5, 1867.—The box in which the arms and hub are molded is divided at midheight and has segmental slides, which are withdrawn to form the mold for the inner rib of the rim. The mold for the flange of the same is formed in an outer case and has upper and under beveled faces, to coincide with those of the former mold over which it is placed.

Claim.—First, the box *A*, slides *C*, and pattern *B*, in combination with each other, when constructed and arranged substantially as described and for the purpose set forth.

Second, the cast-iron case *D*, for forming the outer side or face of the pulley, constructed as described, and used in conjunction with the sand molds made in box *A*, substantially as herein described and for the purpose set forth.

62,669.—FRANKLIN NELSON, Wyandotte, Mich.—*Straitening Railroad Rails*.—March 5, 1867.—The sliding press drop is operated by a toggle joint whose central pin is connected to a crank by which it is actuated. The roller frames which support the rails are vibratable.

Claim.—The sliding press drop *C*, connected by a toggle joint with the crank *d*, in combination with the vibrating roller frames *K K*, constructed and operating substantially as herein described.

62,670.—MARCUS NEUMANN, New York, N. Y.—*Apparatus for Distilling and Rectifying Spirituous Liquors*.—March 5, 1867.—One or more stills, each having a steam heating apparatus, are so connected with each other and with a concentrator and condenser, as that the vapors formed in one still can be made to pass through the other to heat the contents thereof. The concentrator has conical condensing chambers which receive a jet of water from a pipe.

Claim.—First, the arrangement of the stills *A A'* with heaters *B* and pipes *d d' c c'*, provided with suitable stop cocks, substantially as and for the purpose described.

Second, the condensing chambers *l* and troughs *p*, in combination with the pipe *q*, and condenser *E*, and

still A, constructed and operating substantially as and for the purpose set forth.

Third, the extra injection pipe *t*, in combination with the pipe *q*, chamber *l*, and deflecting plate *o*, in said chamber, substantially as and for the purpose described.

62,671.—LEWIS T. NEWELL, Springville, N. Y.—*Corn Sheller.*—March 5, 1867.—The corn passes between a spring board and two or more corrugated, concave-faced rollers of downwardly decreasing concavity. The face of the spring board has inclined corrugations, and its pressure toward the rollers is caused by an adjustable weighted lever.

Claim.—First, the combination of two or more concave wheels similar to G and G', when one or more of said wheels are made with the toothed concave surfaces deeper than the others, substantially as described.

Second, the weighted lever H, provided with the movable piece I, pin K, and apertures J and L, or the equivalent thereof, substantially as and for the purposes described, and in combination therewith the spring board P, when constructed as described.

Third, the shape and general arrangement of the wheels G and G', by which I combine in one the shelling and gearing teeth.

62,672.—MARK NEWLAND, Dayton, Ohio.—*Washing Machine.*—March 5, 1867.—The segmental rubber is suspended on a cord connected with a vertical treadle slide, and is oscillated by a crank. The tub bottom is transversely grooved, and the face of the rubber has rectangular rollers.

Claim.—The double spring connecting rod D, rubber G, provided with roller K, grooved posts E, cord L, pulley M, and treadle O, when constructed, arranged, and operating as herein set forth for the purpose specified.

62,673.—GEORGE NIMMO, Jersey City, N. J.—*Sash Supporter.*—March 5, 1867.—The rafter is secured to the frame by a plate of metal, the pressure of whose rounded inner sides gives a lateral extension to the rubber, and enables adjustment by the attaching screw.

Claim.—The sash or blind supporter formed of the convex retaining cap *d* and screws *e*, combined with the india-rubber block *c*, in the manner and for the purposes set forth.

62,674.—HARRISON OGBORN, Richmond, Ind., assignor to himself and JOHN W. FREE, same place.—*Straw Cutter.*—March 5, 1867.—The knife is adjustable by set nuts on its holding bolts. The mouth of the box has an adjustable plate outside the knife, to preserve it from outward side pressure. The springs of the straw-pressure board are adjustable in tension by notched eccentrics which engage projection on the springs. A cam block on the fly wheel engages the arm of an oscillating spring plate to move the feed rollers by push and pull paws.

Claim.—First, the adjustable knife H attached to the fly wheel, in combination with the adjustable guide plate G attached to the frame, substantially as and for the purpose set forth.

Second, the combination of the adjustable knife H and adjustable guide plate G with the inclined plate A', substantially as and for the purpose set forth.

Third, the eccentric notched cam N, in combination with the springs M, having projection M', substantially as and for the purpose set forth.

Fourth, the cam G', in combination with the fly wheel G and bell crank K, when respectively constructed and arranged substantially as set forth.

Fifth, the mode of securing the feed hands in their relation to the ratchets, by projections and grooves, substantially as and for the purpose set forth.

Sixth, the devices for actuating and adjusting the feed hands by means of the adjustable cam G', bell crank K, adjustable feed hands P and P', and adjustable plate Q, substantially as described.

62,675.—WILLIAM JOHN OSBORNE and G. B. MASSEY, New York, N. Y.—*Hose Coupling.*—March 5, 1867.—The collar admits of detachment from the lip by a side movement, when screwed back on its pipe. The hose is run over the coupling pipe and

made fast on the inclined circumferentially-grooved part by a screw-threaded ring.

Claim.—First, the tube A, provided with the projecting lip F having a groove *n* formed therein, in combination with the tube B, having the collar E provided with the flange *e* thereon, when said parts are arranged to operate as and for the purpose set forth.

Second, securing the hose to the tubes by means of the inclined surfaces and the rings *b*, constructed and arranged to operate as set forth.

62,676.—JOHN PARK, Joliet, Ill.—*Construction of Houses.*—March 5, 1867.—Box tubes inside the corners of the building conduct air from the cellar to the space between the upper ceiling and the roof. The laths are beveled on the inside to hold the plaster.

Claim.—First, the ventilators F, in connection with the box or tube, for the purposes and substantially as described.

Second, the beveled lath, when applied in the manner and for the purposes herein shown and described.

62,677.—VOLNEY PARKS, Fort Wayne, Ind.—*Adding Machine.*—March 5, 1867.—The numbered disks are moved one space at a time by pawls on spring rods beneath. One disk is marked in the multiples of 3 and the other in units. In adding, the former is moved one space for every time the number 3 is contained in the number to be added, and the remainder is recorded on the unit spaced disk.

Claim.—First, the two intermittingly-rotating disks C and D, furnished on their peripheries with different series of numbers, in combination with each other and with the stationary indices *a*, substantially as herein set forth, for the purpose specified.

Second, the slides F G, pawls H, and ratchet wheels E, arranged in relation with each other and with the disks C D, furnished with the differing series of numbers, substantially as herein set forth, for the purpose specified.

62,678.—ANDREW PATTERSON, Birmingham, Pa.—*Die for Making Bells.*—March 5, 1867.—The circular plate is made to assume the form stated by subtraction to a series of concavo-convex dies.

Claim.—The manner herein described of forming bells out of circular sheets of steel by means of the action of a series of dies of different shapes, constructed and operating on the material, substantially as described, so as to condense or thicken the outer portion of said sheets, thus forming the bells with a gradually increased thickness from their apex or center to the base or mouth, as described and set forth.

62,679.—WILLIAM F. PATTERSON, Vanceburg, Ky.—*Manufacture of Paints and other Compounds from Bituminous Slates, &c.*—March 5, 1867.—Bituminous slate, after subtraction to destructive distillation, is pulverized and mixed with oil, or other cohesives, to form paint or cement.

Claim.—The use of powdered or ground retorted slate with any of the oils, hydrocarbons, or gums, for the purpose of forming a paint, paste, or plastic compound, and this I claim whether other material or colors be mixed with the retorted slate powder or paint, or whether calcined after it is retorted or not, substantially as described.

62,680.—A. PEARSALL, Atlanta, Ga.—*Draft Pipe for Locomotives.*—March 5, 1867.—The draft pipe in the smoke box into which the steam is exhausted has side openings, with outer flanges projecting downward between them, and inner flanges projecting upward from their lower sides.

Claim.—In combination with the exhaust pipe F and the draft pipe B, having downwardly projecting lips D on its outer face, and opening C, the upwardly projecting flanges E on the inner face of the pipe, for the purpose described, substantially as specified.

62,681.—JAMES PINE, Troy, N. Y.—*Harvester.*—March 5, 1867.—The main axle is surrounded with a sleeve, which has journal boxes affording bearings for the axle, and having a rear extension, from which is suspended the gearing and vibrating frame, to which the cutting apparatus is attached. The coupling piece to which the cutting apparatus is hinged is pivoted to the vibrating arm, and is so connected

with levers on the arm and sleeve, that when the vibrating frame is raised or lowered, the cutting apparatus is rocked so as to maintain the same angle of presentation to the grain or grass. The coupling arm and draft power are both attached to a sector plate above the pivotal attachment of said plate.

Claim.—The use of an open sleeve, upon which is suspended the gearing to drive the knife and the attachment to hold the cutting apparatus, when said sleeve is furnished with journal boxes, substantially as and for the purposes set forth.

Also, the use of the swinging arm P, when hinged at its rear end to the projecting portion L of the sleeve, and when said arm supports the gearing and cutting apparatus, substantially as described.

Also, the use of the downward projecting arms or guides Q Q', and the rearward projecting arm piece L, in combination with the open sleeve, substantially as described and for the purposes set forth.

Also, the combination of the hinge V, the coupling piece Y, and the lever X, substantially as and for the purposes set forth.

Also, the use of a graduated sector-shaped draft bar, when both the cord or chain and double tree or team are united to it above its pivoted point, substantially as and for the purposes set forth.

62,682.—A. M. POLSEY, Boston, Mass., assignor to T. H. FULLER.—*Machine for Making Nails.*—March 5, 1867.—The nail is received from the shaping and drawing roller dies between two movable plates, which are forced in by side rollers to straighten the nail. Its point is removed by a cutter at the same time. A spring beneath the head ejects the nail from the dies.

Claim.—In combination with the drawing and shaping die rolls and with the rolls *b c*, between which the nail is passed, the movable blocks or pieces *e f*, arranged to operate against and straighten the opposite edges of the nail, substantially as set forth.

Also, in combination with the rolls *b c* and the edge-straightening blocks *e f*, the throat *l*, operating in connection with the rolls to straighten the broad faces of the nail, substantially as set forth.

Also, in combination with the rolls *b c* and the straightening mechanism, the die projection *m* operating in connection with the edges of the groove *d* to shear or clip off the rough edges of the nail near the point, and also so formed as to chamfer the end of the nail, substantially as set forth.

Also, in combination with the rolls *b c* and straightening mechanism, the cutter *n* for pointing or finishing the point of the nail, substantially as described.

Also, in combination with the rollers *b c* and the straightening mechanism, the spring *i* for throwing the head of the nail from the groove, substantially as described.

Also, the arrangement of the straightening, chamfering, and cutting mechanism described, so as to automatically co-operate with the shaping and drawing die rolls *h*, substantially as set forth.

62,683.—JAMES S. and RUSSEL PORTER, Waterford, N. Y.—*Alarm Lock.*—March 5, 1867.—When the bolt is moved by the key a latch is elevated which releases the hammer, and the latter explodes the cap upon the nipple. The cam at the lower side of the case is turned to engage the bit of the key and prevent its rotation.

Claim.—First, the pistol C, hammer G, latch H, and trigger L, when all arranged and combined within the interior of a lock casing, provided with a cover O and plug F, substantially in the manner and for the purpose described.

Second, the cam P, substantially as and for the purpose described.

62,684.—SILAS S. PUTNAM and LUCIUS H. DWELLEY, Dorchester, Mass., assignor to S. S. PUTNAM & Co.—*Machine for Making Horseshoe Nails.*—March 5, 1867.—The nails are made directly from the rod by a continuous operation, the blank from which the nail is to be made being first cut from the rod and then passed successively through a series of revolving dies operating in pairs, by which it is gradually drawn down and finished.

Claim.—First, the combination of the several pairs of revolving dies, connected by gearing and otherwise arranged to operate successively and alternately on

opposite sides of a nail blank, substantially as described.

Second, in combination with the foregoing, a device for cutting off the blank, substantially as described.

Third, in nail-making machines, having a series of pairs of revolving dies operating substantially as described, constructing the several pairs of dies in the form herein described, for drawing down the blank in a rounded form during the first part of the operation, and afterward to the form proper for the nail, as specified.

62,685.—SILAS S. PUTNAM and LUCIUS H. DWELLEY, Dorchester, Mass., assignor to S. S. PUTNAM & Co.—*Machine for Making Horseshoe Nails.*—March 5, 1867.—The rod is fed from the furnace by corrugated rollers and acted on alternately by vertically and horizontally moving pairs of recess-headed hammers. The lower hammer has positive movement to its place and acts the part of an anvil. The three other hammers are retracted by cams and driven forward by springs. These cams are so formed as to cause lighter strokes as the work progresses.

Claim.—First, the combination of the cams with the spring hammers, constructed and operating substantially as described and for the purpose set forth.

Second, the rolls R and the feed mechanism, constructed substantially as described, in combination with the hammers F G H I, operating substantially as described and for the purpose set forth.

Third, the mechanism, substantially as described, for cutting off the nail, without moving the rod from its normal position.

Fourth, the mechanism, substantially as described, for cutting off the nail, in combination with the hammers K L M N and a device for holding them apart and out of the way of the cutters while the nail is being cut off.

Fifth, the combination with the hammers K L M N, mechanism for cutting off the nail, feed rolls R and furnace O, operating substantially as described for the purpose set forth.

Sixth, the hammer or former N brought up positively to the nail rod in combination with the spring hammers K L M, substantially as and for the purpose set forth.

Seventh, the cam wheels F G H I, in combination with the hammers K L M N and a device for cutting off the nail, substantially as described.

62,686.—GEORGE T. REED, Philadelphia, Pa.—*Broom and Brush Head.*—March 5, 1867.—The corn is placed between the bars of the lower side of the head and those on a separate frame. The bars of each frame are then forced into the interstices of the other and retained by the upturned edges of the lower frame, which engage the upper frame or head.

Claim.—A broom head composed of frame A B C D, strips, wooden or metallic, *a a'* and C, and top piece T, all combined together in the manner and for the purpose above described and set forth.

62,687.—WARREN ROBINSON, Highgate, Vt., assignor to himself, J. H. FAIRCHILD, and H. FARRINGTON, same place.—*Dumping Wagon.*—March 5, 1867.—A series of boxes to receive the load are pivoted to allow their turning for discharge. The boxes have but one end each, which serves as a division between that and the one adjoining.

Claim.—The construction of boxes A, as herein described, and used with the frame B B, in the manner and for the purposes herein set forth.

62,688.—GEORGE ROGERS, Philadelphia, Pa.—*Casting Pipes.*—March 5, 1867.—Two rings of metal are arranged in the mold so as to form the circumferential end recesses for the connecting collars and give a smooth surface to the same. Applicable to the patent of J. M. Bolles, June 19, 1855.

Claim.—The use of the rings or chills A A, in the manner and for the purposes described.

62,689.—HENRY ROPES, Brooklyn, N. Y.—*Pocket Book Clasp.*—March 5, 1867.—The catch engages behind a spring plate, which has a side movement by a thumb plate at bottom.

Claim.—In a clasp for purses, pocket-books, &c., the construction and arrangement of the slot C which takes the catch and catch A, substantially as described,

to allow of automatic expansion and contraction of the purse, in combination with the bar D and spring *a*, or their equivalent, for locking or fastening the catch and holding the two parts of the clasp together, the several parts operating substantially as and for the purposes set forth.

62,690.—O. SAGE, Wellington, Ohio.—*Cheese Vat*.—March 5, 1867.—The cheese vat sets within a tank to which water from a heater is admitted. The flow of water is regulated by a valve operated by a wire from the outside.

Claim.—The arrangement of the valve U and rod 3 in combination with the box B, in the manner and for the purpose herein specified.

62,691.—ELNATHAN SAMPSON, Lansingburgh, N. Y., assignor to himself and E. CHAMBERLAIN, same place.—*Railroad Rail*.—March 5, 1867.—The chair rail is bolted to the sleepers and has an upward flange to sustain the track rail laterally and a foot flange to receive the lower bearing edge of the rail. The rails are laid to break joint.

Claim.—First, the chair rail A, constructed with its sides P C, top *a*, groove *g*, and rib *r*, together with the usual base and flanges, substantially as set forth and described.

Second, the bearing rail B, constructed with its track face *e*, beveled inner edge *i*, sides *h h'*, bearing edge *k*, substantially as set forth and described.

62,692.—JACOB SCHMOLL, New York, N. Y.—*Anti-Rheumatic Compound*.—March 5, 1867.—Composed of extract of rain worms, 4; extracts of ants, 4; camphor dissolved in alcohol, 3; extract of crocus sativus, 1 part.

Claim.—An anti-rheumatic compound made, as described.

62,693.—FRANZIS SCHWEIZER, New York, N. Y.—*Machine for Cutting Threads on Bolts*.—March 5, 1867.—Two dies and die stocks are secured to two horizontal shafts, which are connected by gearing so as to revolve in opposite directions. The bolts are held in two vises, and are fed to the dies. As the latter revolve in opposite directions a thread will cut on one bolt while the other bolt is being released from its die, and conversely. The driving crank is rotated in alternate directions.

Claim.—First, the sliding stocks N and O, in combination with the lever P, arranged relatively with the cutters *a* and *b*, operating as described, for the purpose specified.

Second, the adjustable lever P, which is provided with arms *d* and *e*, substantially as and for the purpose herein shown and described.

Third, the elastic sliding rest *g*, made and operating substantially as and for the purpose herein shown and described.

62,694.—H. H. SEELY, Hudson, Mich., assignor to himself and F. SWIFT, Lenawee county, Mich.—*Grain Separator*.—March 5, 1867.—The angle of inclination of the bottom of the shoe is adjustable. A wrist on the fan shaft is connected to the bell-crank lever, whose rod gives a lateral motion to the shoe, while the other rods give a longitudinal and partial rotary motion.

Claim.—First, the adjustable shoe bottom C, rod *b*, and perforated plate *a* upon the shoe, arranged and used as and for the purpose herein specified.

Second, the arrangement of the rod G, lever H, and rods J and L, with the shoe, for the purpose of giving said shoe three motions, or one, as may be desired, substantially as set forth.

62,695.—JACOB H. SHEAR, Albany, N. Y.—*Ash and Sifting Pan for Cooking Stoves*.—March 5, 1867.—A sloping plate beneath the grate of the fire chamber directs ashes and cinders into a removable tray beneath the hearth. The grated bottom of the tray is oscillated, and the ashes fall into a box beneath.

Claim.—First, the sloping plate under the fire chamber, in combination with a closely-fitted lifting receiver, having an independently-vibrating or oscillating grated bottom for sifting the ashes, substantially in the manner and for the purposes above described.

Second, the detachable lifting receiver, with a vi-

brating or oscillating grated bottom fitting closely to the hearth and to the sloping plate under the fire chamber, for the purposes within described, in combination with the lifting ash pan underneath, to receive the ashes during the sifting of the same.

Third, the detachable receiver with the vibrating or oscillating grated bottom, in combination with the lifting ash pan underneath and the vacant space or chamber F between the receiver and the front of the oven, to give the grate room to vibrate outside of the receiver, substantially as shown and described.

Fourth, the detachable lifting receiver, having a vibrating or oscillating grated bottom, constructed in the manner substantially as and for the purpose above described.

62,696.—FREDERICK SHICKLE and EVERMOND RANDALS, St. Louis, Mo.—*Filter*.—March 5, 1867.—The water poured in above passes by a tube to a sediment chamber below, and thence upward through the filtering material to the chamber whence it is drawn.

Claim.—The water filter, consisting of the annular receiving chamber E, filtering chamber D, supply chamber C, surrounded at its upper part by the partition wall *d*, tube *f f*, air tube *g*, and mud chamber B, when constructed and arranged as herein set forth, for the purpose specified.

62,697.—MICHAEL SIMONS, Middletown, Conn.—*Strainer for Coffee and Tea Pots*.—March 5, 1867.—The strainer is movable in guides, and removable to prevent its becoming rusty in place.

Claim.—The arrangement and combination of movable strainer C with its handle D and guides B, when made of britannia ware and attached to and operating on the inside at the base of the spout of a tea or coffee pot, as herein described, and for the purposes set forth.

62,698.—HENRY C. SNOW, Princeton, Ill., assignor to himself and C. C. LATTIMER, same place.—*Cutter for Trimming Wall Paper*.—March 5, 1867.—The paper is laid with its margin projecting over the edge of the table. A wheel running on the paper communicates its motion to a pair of cutting wheels, between which the paper is passed.

Claim.—An implement or cutter for the trimming of wall or other paper or sheet material, constructed, arranged, and operated substantially as herein described.

62,699.—JOHN G. SORGEN, Kenton, Ohio.—*Stove-Pipe Drum*.—March 5, 1867; antedated January 10, 1867.—The upper and lower deflectors have movable center pieces and marginal flue spaces. The middle deflector has a central aperture.

Claim.—The deflecting cones F and L and the frustum of a cone J, arranged in relation to each other and the cylinder A, as set forth.

Also, making the points of the deflecting cones movable, so that they can be swung from the opening in the cone to let the blaze and smoke pass up in the center of the cylinder.

62,700.—EZRA STAPLES and WILLIAM W. GOULD, Skowhegan, Me.—*Car Coupling*.—March 5, 1867.—The link is held in coupling position by a bent rod operated by a horizontal shaft. The link entering the opposite drawhead displaces the counterweighted catch, and releases the frame to which the coupling pin is attached.

Claim.—The drop slide D, carrying the pin C, forked piece F, book G, counterbalance G', drawhead A having its bottom plate, slotted lug *a*, bent lever J, horizontal rod *k*, and handles *m m*, when all are constructed and arranged as herein set forth, for the purpose specified.

62,701.—CARLOS SWIFT, Mt. Carroll, Ill.—*Attaching Cords to Window Sashes*.—March 5, 1867.—The slotted bed plate is embedded in the edge of the sash. The knot of the sash cord is caught behind the catch plate, which is inserted behind the bed plate.

Claim.—The bed plate *a*, in combination with the catch plate *b*, for attaching the cord *d* to the sash A, arranged and operating as and for the purposes herein described.

62,702.—CHESTER W. SYKES, Suffield, Conn., assignor to JAMES MORSE, H. H. W. WRIGHT, ALBERT PICKERNELL, MARSHALL W. PARKER, RICHARD S. JENNESS, DANIEL DORR, JAMES A. KELLY, GEORGE OCHS, and CLARENCE L. WILKINS, South Boston, Mass., and ERASTUS WILKINS, Warner, N. H.—*Knife and Scissors combined.*—March 5, 1867.—A knife blade is attached to one blade of the scissors, and the edge of the former is covered with a hinged shield when not in use.

Claim.—The knife blade B, shield A, in combination with the scissors, when constructed and operating substantially as herein described.

62,703.—HENRY TODD, Bridgeport, Conn., assignor to THE BRIDGEPORT BRASS COMPANY.—*Machine for Polishing Sheet Metals.*—March 5, 1867.—The sheets of metal are passed through a trough, having pressure applied to corrugated scouring surfaces, between which the metal passes to a removable sleeve on a revolving shaft.

Claim.—The combination of the trough and presser B and C with the rotating shaft E, arranged to draw the sheet through the scouring surfaces of the trough and presser, substantially as specified.

Also, in combination with the same, the removable sleeve G and reversely-rotating shafts E and F, essentially as and for the purposes herein set forth.

62,704.—WILLIAM H. TOWERS, Boston, Mass.—*Kindling Fires.*—March 5, 1867.—A burner is attached to the side of a stove or grate connected with the gas pipes, so as to bring a jet of gas to play on the coals, or other fuel in the stove, to kindle it.

Claim.—The use of gas for kindling fires, substantially as herein set forth and described.

62,705.—JOS. F. TUDER, Philadelphia, Pa.—*Rest for Sharpening Saws.*—March 5, 1867.—The rest supports saws while they are sharpened, and the table is adjustable in any direction, and controlled by a projecting arm fitting in notches in a rack or plate, and secured in position by a set screw.

Claim.—First, combining the rest plate A with the standard B by means of the joint a at or near the plate, substantially as above described and for the purpose specified.

Second, the combination of the rack f on the standard B with the rest plate A, substantially as and for the purpose set forth.

62,706.—CHARLES USHER, Iowa Falls, Iowa.—*Manufacture of Iron and Steel.*—March 5, 1867.—Wrought iron or steel to be coated with malleable cast iron is placed between two shells of malleable iron, with intervening layers of borax. The sheets are then placed in a furnace heated to such a degree as to melt the malleable iron.

Claim.—The within-described process for plating iron and steel, substantially as herein described.

62,707.—MARY VAN VRANKEN, Washington, D. C.—*Attachment for Heating Kettles and Boilers by Gas.*—March 5, 1867.—The kettle stands on a perforated cone, which forms a cap over the burner, the apex of the cone extending within the bottom of the kettle.

Claim.—A perforated stand attached to the bottom of a kettle or boiler, and adapted to be used upon an ordinary gas burner, substantially as and for the purpose specified.

62,708.—C. F. WALKER, Benford's Store, Pa.—*Washing Machine.*—March 5, 1867.—The beaters are alternately vertically reciprocated by the lever. The standard on each dasher is the fulcrum while the other is being moved.

Claim.—The combination of the dashers B B, valves 6, lever C, weight D, and tub A, as and for the purposes specified.

62,709.—S. W. H. WARD, New York, N. Y.—*Envelope for Spittoons.*—March 5, 1867.—The spittoon is concealed in a box, whose hinged lid may form a footstool, &c. A hole in the bottom of the box assists in raising the spittoon for removal from the box.

Claim.—The spittoon envelope, with the perforation E in the bottom for the purpose of raising the

spittoon out of the cavity which contains it, when it is desired to remove it, substantially as set forth.

62,710.—GEORGE I. WASHBURN, Worcester, Mass.—*Steam Engine.*—March 5, 1867.—Explained by the claims and illustration.

Claim.—First, the arrangement of the cylinders A C with their double-acting pistons B D, and valve with three disks reciprocating in the chamber between the cylinders and controlling the ports, substantially as described.

Second, the steam valve, when arranged to be operated by pressure from below and an eccentric above, substantially as described.

62,711.—GEORGE I. WASHBURN, Worcester, Mass.—*Steam Engine.*—March 5, 1867.—The rods of the pistons of the respective cylinders are united to the cranks, which have a relative angle of 180° on the same shaft. Steam admitted above the smaller piston is used directly, and, the valve being raised, is cut off; and the annular space between the two disks forms a means of conveying the steam below the said piston, where it is equalized as to its effect on that piston, and above the larger piston, where it is utilized expansively.

Claim.—An arrangement of cylinders and steam ports, by which the steam, after being used on one piston, is permitted to flow to the other side of the same piston, and to the other cylinder, to be used expansively, substantially as described.

Also, the arrangement of the double-disk hollow valve H, operating substantially as described.

62,712.—GEORGE I. WASHBURN, Worcester, Mass.—*Steam Engine.*—March 5, 1867.—The cylinders may be parallel, in line, or otherwise. Live steam, after being used on the smaller pistons alternately, is used expansively upon alternate sides of the double-acting piston.

Claim.—The arrangement of the two cylinders with single-acting pistons, and the larger cylinder with a double-acting piston, upon whose sides the steam from the other cylinders is used expansively, substantially as described.

62,713.—GEORGE I. WASHBURN, Worcester, Mass.—*Steam Engine.*—March 5, 1867.—On each rod is a double-acting piston and a double disk valve, respectively working in steam and valve cylinders placed in line. Two such arrangements are placed parallel, and connect by ports, so that each valve governs the admission, &c., of steam to the steam cylinder alongside of it. A valve on the exhaust port prevents the reflux of steam into the cylinder after the exhaust has taken place.

Claim.—First, the arrangement upon one piston rod of the double-acting operating piston in its own cylinder, and a valve or valves attached to said piston rod and operating within a valve chamber in line with said cylinder, substantially as described.

Second, the combination with each other of two such arrangements as expressed in the above claim, the valves attached to a given piston rod in each case governing the induction and eduction ports of the opposite steam cylinder, in which reciprocates the other piston rod, substantially as described.

Third, a valve, operating in connection with an exhaust port or pipe, to permit the egress of steam and prevent reflux thereof, for the purpose described.

62,714.—GEORGE WAITE, New Orleans, La., administrator of the estate of JOHN WATTS, deceased.—*Filter.*—March 5, 1867.—The water in the annular outer chamber enters perforations at the upper portion of the filter, descends through the filtering material, and through the chamber below to the chamber above, whence it is discharged by a faucet.

Claim.—A water filter and cooler, having the chamber B, the cylinder H, perforated at a, filtering material C, cylinder H', perforated at a', chamber D, and clear-water chamber E, all arranged as herein set forth for the purpose specified.

62,715.—WENDELIN WEIS, St. Paul, Minn.—*Apparatus for Making Vinegar.*—March 5, 1867.—The wash passes from the top down through the whole series of troughs, and a current of air passes

in the opposite direction over the surface of the liquid.

Claim.—An apparatus for making vinegar, which consists of the boxes C C, troughs D D or blocks F or G, all made and operating substantially as and for the purpose herein shown and described.

62,716.—DAN. WELCH, Lowell, Mass., assignor to H. A. HILDRETH, Lowell, and W. J. JOHNSON, Newton, Mass.—*Plate Lifter.*—March 5, 1867.—The jaws consist of wire loops, which catch beneath the edge of the plate, the adjustability of one jaw allowing it to accommodate itself to varying sizes of plates.

Claim.—The combination of the fixed and swinging jaw B and C, arranged substantially as described and for the purpose fully set forth.

62,717.—JOHN S. WILLIAMS, Warsaw, Ohio.—*Ointment for Treating Diseases in Horses and other Animals.*—March 5, 1867.—For veterinary purposes. Composed of cantharides, pulv., 3 oz.; oil of spike, 2 oz.; tincture iodine, 3 oz.; gum camphor, 1 oz.; corrosive sublimate, 5 drachms; spirits of turpentine, 3 oz.; gum euphorbium, 3 oz.; fish or lard oil, 1 quart.

Claim.—The improved Spanish ointment, for treating the diseases of horses, prepared substantially as herein set forth and described.

62,718.—ELI YORK, Windsor, Ill.—*Portable Fence.*—March 5, 1867.—The posts are planted in the sills and braced by inclined struts, which are connected by cross-bars. The boards lie in the mortises of the posts, and have connecting slats at the overlap of adjacent panels.

Claim.—The combination of the post A, and sills B, braces C, planks D, connecting bars E, and cross-bars G, substantially as described for the purpose specified.

62,719.—JOSEPH ZAHM, Fredonia, N. Y.—*Shifting Rail for Carriage Seats.*—March 5, 1867.—The rear rail has a joint at its mid-length, each section being independently pivoted to a lever. When the latter is thrown down the sections are thrown in line, and the hooks on the rail are thrust into the retaining sockets on the seat.

Claim.—The joint and lever above described, and the use and application of the same, for the uses and purposes above described.

62,720.—JOHN HARTZELL ZINN, Idaville, Pa., assignor to himself and PETER D. JOHNS.—*Hinge.*—March 5, 1867.—The hinge may be used as a right or left. The leaves are counterparts. The portion of the leaf attached to the support is thicker than the remainder, and a shoulder is formed on each leaf at the point where they shut into each other. The central portion projects equally on each side.

Claim.—First, attaching the socket or knuckle c to the leaf centrally, so as to project equally on each side of the leaf at the point of attachment, substantially as herein shown and described.

Second, the leaves A and B, constructed with the parts a and b of different thickness, and arranged to shut together, as shown and described.

Third, a loose-joint butt hinge, constructed and arranged to operate as herein set forth.

62,721.—JOHN ZUNDORFF, New York, N. Y.—*Steam Valve.*—March 5, 1867.—The expansion ring on the piston throttle valve is packed against the walls of the cylindrical valve chamber. The valve is moved by a rack and segment pinion.

Claim.—The expansive movable ring b, with longitudinal slot n and ports m m', when constructed substantially as described and for the purposes set forth.

62,722.—JOHN ZUNDORFF, New York, N. Y.—*Safety Valve.*—March 5, 1867.—The pressure of the steam raises the valve against the force of the spring until openings in the tubular valve stem come opposite to the ports in the spherical enlargement of the escape pipe. If pressed above this point, the valve itself passes the ports and steam escapes freely.

Claim.—First, the spherical-formed pipe p, in combination with the ports G' G' G' G'' G''', when constructed and operated substantially as described.

Second, the combination of the valve E and ports G' G' G' G'' G''', for the purpose specified.

Third, the spring b, in combination with the piston d, shippers g and f, when operated as above described.

62,723.—R. D. CHATTERTON, Bath, England.—*Propeller.*—March 5, 1867.—The two water pipes traverse the vessel its whole length below the water line. The vertically moving diaphragms form stops in these pipes on each side of the pump, by which the water is actuated. Valves in one pair of the diaphragms allow the passage of water in one direction and those of the other in a contrary one. The valve rods are so coupled together that the descent of either pair raises the other.

Claim.—First, the arrangement of the valved diaphragms G G' in the tube A, constructed as described, and operated simultaneously by means of a connecting device of rack and wheel, or equivalent, for the purpose specified.

Second, the arrangement of the valves G G' H H', the racks and pinions, and the reversing apparatus I J K, or equivalent device, as set forth.

Third, the combination with the longitudinal tube A of the direct action engine and pump acting between valved diaphragms connected for simultaneous adjustment and reversal, substantially as described.

62,724.—ROBERT H. ALDRICH, Northampton, Mass.—*Dusting Brush.*—March 12, 1867.—The wires are planted in a circular series of holes in the stock and are furnished with strips of sheepskin with the wool on.

Claim.—The duster herein described, constructed of plumes formed by attaching strips of sheepskin to wires a, &c., which are fastened in the handle A B, in the manner set forth.

62,725.—THOMAS J. ARNOLD and BENJAMIN IRVING, New York, N. Y.—*Porcelain Gas Burner.*—March 12, 1867.—The porcelain burner is either perforated or slit. It is intended to avoid the difficulty in metal burners of gumming up from corrosion.

Claim.—The making of a glazed porcelain gas burner by perforating or slitting it after being glazed, for the purposes and in the manner substantially as hereinbefore set forth.

62,726.—WM. BAMFORD, Milwaukee, Wis.—*Heating Stove.*—March 12, 1867; antedated September 12, 1866.—The air chambers are suspended in the stove above the fire space.

Claim.—First, the air-heating chamber, composed of an upper and lower cylinder connected by one or more air flues, and located entirely above the fire box so as to bring all parts of the chamber and flues in contact with the heated products of combustion, substantially as set forth.

Second, the combination and arrangement of the upper cylinder C and lower cylinder B, connected by the flues c, and located above the fire box, with the pipe or flue F and the discharge pipe I or E and stove case A, substantially as specified.

62,727.—LEVI BISSELL, New York, N. Y.—*Car Truck.*—March 12, 1867.—The two-wheeled and four-wheeled frames are connected together by brace rods which cause the axles to assume a radial direction on a curve.

Claim.—A two-wheeled truck in combination with a truck of four or more wheels, both trucks moving on king bolts and connected together by jointed braces, substantially as set forth.

62,728.—JESSE BOOHER, Dayton, Ohio.—*Flower Pot and Tub.*—March 12, 1867.—Wooden vertical staves are confined in the grooves of the bottom and the annular head plate. These metallic plates are held together by bolts.

Claim.—The cast-iron plates A and B and their arrangement with reference to the staves e and rods ff, in the manner substantially as and for the purpose described.

62,729.—PURMORT BRADFORD, New Haven, Conn., assignor to SARGENT & COMPANY, same place.—*Lifting Handle.*—March 12, 1867.—Explained by the claim and illustration.

Claim.—The socket A formed with a vertical slot d, provided midway with a seat to receive the trun-

nion *a*, constructed and arranged to operate as herein described, as an article of manufacture.

62,730.—EUGENE BROWN and WM. POOL, Birmingham, Mich.—*Potato Scoop*.—March 12, 1867.—The iron rods or wires are placed at equal distances on an iron frame, which is attached to a wooden handle and acts as a screen in shoveling potatoes or other roots.

Claim.—As an article of manufacture, a potato shovel A A' B, constructed substantially as described.

62,731.—ENOCH CARLETON and ELI GOSS, Portland, Me.—*Artificial Leg*.—March 12, 1867.—The knee is stiffened when the weight is imposed upon the foot, and as the leg is flexed the detent catch of the knee articulation is withdrawn. A posterior spring rod remains in contact with a plate on the heel and is driven up as the leg is extended, and the heel rests on the ground.

Claim.—A knee joint made stiff when the weight is borne upon the leg by means of a movable rod or bolt attached to the leg, externally or internally bearing upon the heel and extending upward into a catch or slot upon the leg above the knee joint, which rod is worked by means of a spiral or other spring in such a manner that when the weight is removed from the leg the rod is forced downward by the spring out of the slot or catch, thus liberating the joint and leaving the lower leg free and swinging; and when the weight is placed upon the leg by bearing upon the heel, the rod is pushed upward into the slot or catch, and the knee joint thus held stiff while the weight is borne upon the leg.

Also, the rendering of the knee joint stiff or limber at pleasure by means of a spring rod and catch applied as above described.

62,732.—GEO. R. CLARK, Livonia, N. Y.—*Fence*.—March 12, 1867.—The notched rail ends of the adjacent panels overlap within the mortises of the post in which they are keyed. The fence is stayed laterally by A-shaped braces.

Claim.—The relative arrangement of the joint braces or jacks J and the sections or lengths B and A, when the parts are constructed and connected substantially in the manner and for the purposes herein set forth.

62,733.—ISAAC COOK, St. Louis, Mo., assignor to himself and M. RANDOLPH & Co., same place.—*Bran Duster*.—March 12, 1867.—The meal is fed into the machine at the bottom, separated from foreign substances, and then carried upward and in contact with the sieve by means of the devices cited in the claims.

Claim.—First, feeding the material through a pipe L and upon the receiving I head underneath the beaters, substantially as set forth.

Second, passing the material upwardly from the head I by an upward air draft drawn from the lower air feed K, substantially as set forth.

Third, the receiving head I, constructed and operating substantially as and for the purposes set forth.

Fourth, adjusting the beaters *n* to any desirable angle, by means substantially as described.

Fifth, the combination of the beaters *n* and the distributing head N, operating substantially as set forth.

Sixth, returning the bran from the receiving surface *f* through the feed pipe L, substantially as and for the purposes described.

Seventh, the combination of the feed pipe L, head I, distributing head N, and adjustable beaters M, substantially as and for the purposes described.

62,734.—HUGH H. CRAIGIE, New York, N. Y.—*Basin*.—March 12, 1867.—The interior conformation of the basin is preserved and a circle of holes near its upper margin leads into a circumferential chamber to whose walls the discharge pipe is connected.

Claim.—A stationary wash basin with a horizontal flattened water-way around the upper portion of said basin and outside of the general curvature of the interior of the basin, said water-way opening into the basin through the sides thereof so as to take away the surplus or overflow water from the basin, as specified.

Also, forming the descending horn or overflow pipe

upon the outside of said horizontal water-way and opening into the same, as specified.

62,735.—GEO. G. CURTIS, Rochester, N. Y.—*Gate*.—March 12, 1867.—Supporting rollers act on a slide bar upon the gate and another side bar projects from one side of the gate to raise and direct the same as it slides back. A flanged roller above has vertical play in a slotted plate and serves to hold the gate by a rail upon it.

Claim.—First, in combination with a sliding gate A, the employment of the double inclined rails B B', the one running the length of the gate and the other extending beyond and serving to hold the gate in place while at the same time it insures its self-action, the whole arranged and operating as and for the purposes herein set forth.

Second, the combination of the brace *d* with the extended inclined rail B' and gate A, as and for the purpose specified.

Third, the combination and arrangement of the clip or stirrup D holding the roller *a*, operating as herein set forth.

Fourth, the combination of the sliding guide *i* with gate A and inclines B B', as set forth.

Fifth, the double-acting latch C, employed in combination with the gate A, as specified.

62,736.—HORACE H. DAY, New York, N. Y.—*Canals and Navigation thereof*.—March 12, 1867.—It is intended to enable the removal of vessels from one water level to another without lowering the water on the higher levels under conditions of short supply of water. The vessel floating in a caisson is supported in a level position upon a wedge-shaped frame whose lower longitudinal bars run upon the rollers which have their bearings upon the inclined planes up which the vessel in the caisson is drawn by the cable.

Claim.—First, in the construction of canals the double inclined planes in combination with floating dry docks or movable camels, and their combination with canals for the raising and transportation of vessels from one water level to another, substantially as described.

Second, the ratchet shafts, or their equivalent, for holding or moving the wire or other cable, when used in combination with inclined planes and movable locks, substantially as described.

Third, the water tanks, caissons or locks, constructed with a wedge-shaped bottom, to hold water upon a level for passing ships up and down inclined planes, substantially as described.

Fourth, the water tanks, caissons or locks containing water for passing vessels up and down inclined planes, in combination with stationary rollers or wheels placed in and revolving upon the bed of the inclined plane, substantially as described.

Fifth, the wedge-shaped camels, or a detached segment or portion thereof, or both, upon inclined planes for passing the same from one angle or inclination to another, and the combination of the wedge-shaped camels with one or more inclined planes when used to transport vessels, substantially as described.

62,737.—A. J. DOOLITTLE, Hamden, Conn.—*Pruning Shears*.—March 12, 1867.—The spring operates to open the blades and the loop and hook to maintain the closed position when required.

Claim.—First, the arrangement of the double-leg coil spring in the manner described, in combination with the two handles B and D, substantially as and for the purpose specified.

Second, the combination of the loop I upon the one handle and the hook L upon the other, so as to operate substantially as set forth.

62,738.—EDWARD DUNSCOMB, Boston, Mass.—*Vacuum Pump*.—March 12, 1867; antedated February 28, 1867.—The vessel contains water and is fitted with a bell to which weighted cords are attached. A pipe is connected with the still, pan, retort or other object, passes up into the vessel and terminates above the surface of the water.

Claim.—The peculiar construction of the vacuum pump *j*, that is, as composed of the vessels *n* and *o* and pipes *h i k*, with their stop-cocks, as to operate both as a vacuum pump and vapor receiver and storeroom, substantially as and in manner described.

62,739.—EDWARD DUNSCOMB, Boston, Mass.—*Vacuum Pump, Pan, &c.*—March 12, 1867; antedated February 28, 1867.—The still has within it a steam heater and opens into a dome within a vessel which is filled with cold water. From the dome extend pipes connected with vacuum pumps, which consist of vessels containing water and fitted with inverted bells raised by weights. The vapors from the still are condensed upon the dome and caught by an annular trough, from whence they are conducted to the receiver.

Claim.—First, the air induction pipe *c'* with its stop-cock *d'* applied to the air-tight tank *g'* for the purpose described, substantially as set forth.

Second, the pipe *f* with the stop-cock *f'*, as applied to tank *g* and trough *e*, as before described.

Third, the employment of the generator *C* in combination with the condenser *D* and pipes *h* and *k* and vacuum pump *j*, substantially as set forth.

Fourth, in combination with the condensing apparatus before described, the air-tight tank *g*, in the manner and for the purpose set forth.

Fifth, the combination of the condensing dome *d* and trough *e* with pipes *h* *i* *k* and vacuum pumps *j*, *j'*, essentially as set forth and explained.

62,740.—JOHN E. FINLEY, Memphis, Tenn.—*Churn.*—March 12, 1867.—The blades of the respective dashers are so inclined as to cause them to revolve in opposite directions as the plunger is reciprocated.

Claim.—The combination of the propeller wheels *B* *C* with the air cells or indented arms *D* *D*, for the purpose herein set forth.

62,741.—L. H. GANO, Milwaukee, Wis.—*Bag Holder.*—March 12, 1867.—The arm and platform are respectively hinged to the standard and fold up for storage or transportation. The projecting arm holds the bag by means of a spring and is itself supported by a hinged brace which engages a notch in the standard.

Claim.—First, a platform *A*, upright standard *B*, and adjustable arm *C* in combination, to fold up, substantially as and for the purpose described.

Second, arm *C* with jaws *D*, metal jaws *E*, support *F*, and spring *G* in combination, substantially as and for the purpose described.

62,742.—AARON S. HADLEY, Boston, Mass.—*Dusting Brush.*—March 12, 1867.—A furniture duster whose flexible perforated arms are furnished with woolen yarn or other suitable substitute in the place of feathers.

Claim.—The combination as well as the arrangement of the spreader with the handle, the flexile arms and masses of fibrous material applied to and arranged with such arms or to them and the handle, substantially as specified.

Also, the combination of the finishing masses of fibrous material extending through the handle with the flexile arms, or the same and the spreader and the masses of yarns or fibrous material arranged within such arms, as explained.

62,743.—JOSIAH HARRISON, Frederick, Md.—*Truss.*—March 12, 1867.—Metallic slides enfold the flexible belt and afford points of attachment for the pads. The slides are secured by screwbolts passing through holes in the belt.

Claim.—The arrangement on the flexible belt *A* of the pad or pads *B*, adjusted by means of slides *D*, bolt *E*, and nut *E'*, substantially as described and represented.

62,744.—JOHN P. HART, Chicago, Ill.—*Car Truck.*—March 12, 1867.—Explained by the claim and illustration.

Claim.—The use of different sized car wheels of trucks upon the same axles, as and for the purpose set forth, to obviate the necessity of transferring passengers or freight on account of the difference in the gauges of railroads.

62,745.—JOHN P. HART, Chicago, Ill.—*Railway Frog.*—March 12, 1867.—The grooves in the frog below the flange track allow the larger wheels of trucks to pass through the frog.

Claim.—The grooves *G*, for allowing compound

wheels to pass through the frog, substantially as set forth.

62,746.—WILLIAM HAYES, Fall River, Mass.—*Preventing the Lapping of Belts on Shafting.*—March 12, 1867.—The loose sleeve placed round the shaft on which the belt is liable to be thrown will hold the belt without revolving, and prevent it becoming lapped and wound upon the shaft, which continues to revolve inside.

Claim.—The device herein described for preventing belts from lapping around shafts, constructed, applied, and operating as herein set forth.

62,747.—FRANCK HERRMANN, Newport, Ky.—*Spring Hinge.*—March 12, 1867.—An automatic hinge, that according to adjustment causes the door to either open or shut in reversal to the motion that has been given it by the person passing. When the door is oscillated on its hinges it presses upon one or the other check and winds the appropriate spring, which tends to restore it to its original position.

Claim.—First, the stationary pintle *D'*, having the notched collar *E*, and stop *J*, in combination with the helical springs *H* *H'*, cheeks *I* *I'*, and slotted eye *G*, constructed and arranged substantially as herein set forth.

Second, the square eye or socket *C*, in combination with the toe *d* on the pintle *D*, and collar *E* *e*, for the purpose herein set forth.

62,748.—A. K. and H. P. HOOD, Lowell, Mass.—*Bench Dog.*—March 12, 1867.—A spring beneath raises the bench hook, which is depressed or held in the required vertical adjustment by a cam spindle resting on the pressure block of the hook shaft.

Claim.—The cam spindle *c* and block *h*, when operating substantially as described and for the purpose fully set forth.

62,749.—MORGAN HUNGERFORD, San Francisco, Cal.—*Ore Concentrator.*—March 12, 1867.—The circular disk inclines downward toward its periphery, which has a grooved depression discharging through holes above its bottom into the trough surrounding the pan. The sulphurets being agitated with their accompanying sand, &c., in the revolving pan, are separated by their greater relative specific gravity, and collect in the outer trough, while the lighter matters are washed away.

Claim.—First, a pan cut in two and dropped about one inch, so that the lowest depression shall be two inches, more or less, below the ridge or angle of such concentrator, substantially as described and for the purpose set forth.

Second, the slots or outlets *F* *F*, above the line of the groove around the inner rim, as described.

Third, the outer rim *G*, with stops *H* *H*, also the discharge holes *J* *J*, under the pan, around the said outer rim, substantially as described and for the purpose set forth.

62,750.—JOHN HUNTINGTON, Cleveland, Ohio.—*Construction of Stills for Oil.*—March 12, 1867.—The reverting flues under the still may be made to communicate directly with the stack or with the annular flue which encircles the base of the still.

Claim.—The flues *E* *J* and damper *M*, or their equivalents, arranged in relation to an annular flue *K*, surrounding the base of the still, and operating conjointly in such a manner as to be combined with a single or double furnace, to diffuse a uniform heat without injury to the oil or burning of the still, and also to induce a current of cold air to reduce the heated oil and still, as specified.

62,751.—JOSHUA JENKINS, Salem, Ohio, assignor to himself and SAMUEL WILLIAMS, same place.—*Box for Transplanting Plants.*—March 12, 1867.—The boxes are for use in place of transplanting pots in a greenhouse; their movable sides permit the plants to be removed without injury to their roots. The boxes are arranged in a tray with movable front.

Claim.—A transplanting box, constructed and arranged substantially as and for the purpose specified.

62,752.—LEMUEL P. JENKS, Boston, Mass., assignor to EDWARD A. GALBRAITH, same place.—*Peat*

Machine.—March 12, 1867.—The rotating cylinder contains molds with movable bottoms; the molds are filled as they pass under the hoppers; are compressed by a plunger, and the cakes ejected by a radial projection of the bottom when the molds are in proper position.

Claim.—First, the combination of pockets or boxes, plungers and movable bottoms passing to the top of the pockets for the compression of peat and other substances, substantially as described.

Second, the arrangement of curved inclined planes, discharging shafts and ears, to bring the compressed cake of peat to the surface, substantially as described.

Third, the arrangement of wiping belts and mops pressing by the sides of and in combination with the perforated boxes, and the squeezing or drying rollers to dry the mops, substantially as described.

Fourth, the general combination and arrangement of the whole machine, constructed as and for the purpose substantially as described.

62,753.—DAVID C. JORDON, Sr., Brooklyn, N. Y.—*Door Lock.*—March 12, 1867.—The axial spindle in the key relieves the perforated disk of its catch pin, and the pin on the bit of the key engages the disk to rotate it and consequently to shoot the bolt.

Claim.—The combination of the bolts, revolving disk, and catch lever, substantially as described, operating as herein specified, for the purpose set forth.

62,754.—T. C. KEITH, Valley Falls, R. I., assignor to JOSEPH K. MALLERY, same place.—*Auger.*—March 12, 1867.—The clearing disk is applied to the shaft of the auger for the purpose of clearing the chips from the top of the stick which is being bored.

Claim.—The use, application, or employment of a clearing disk C, substantially as described, in combination with an auger or center bit, as described, for the purposes specified.

62,755.—B. J. KELLAM, Tremont, N. Y.—*Oar.*—March 12, 1867; antedated February 15, 1867.—The oar is loaded or banded between the row-lock and the handle.

Claim.—The construction of a balancing oar in the manner shown and described.

62,756.—A. D. KING, Granville Corners, Mass.—*Measuring Rod.*—March 12, 1867.—Quadrilateral ferules at the ends embrace the outer sections and the central slide piece. Clips on the sides of the outside sections form guides to the extension piece.

Claim.—An extension measuring rod, consisting of the frame formed of the parallel pieces A and C, connected substantially as shown, and the extension piece B, sliding in the same, the whole combined and arranged as herein set forth.

62,757.—GEORGE W. LAMPSON, Waterloo, N. Y.—*Cistern Filter.*—March 12, 1867.—The entering water is distributed by the cone, and then percolates through the various qualities of filtering material which are contained in the successive perforated pans arranged in vertical series in the case.

Claim.—The pans B, C, D and E and cone F, in combination with the vessel A, the whole constructed substantially as and for the purpose described.

62,758.—BERNARD LAUTH, Reading, Pa., assignor to himself and JAMES MCCARTY, same place.—*Manufacture of Bars or Rods of Iron or Steel.*—March 12, 1867; antedated September 2, 1866.—The rust is removed from the bar by acid, which is afterward neutralized with an alkali; the bar is covered with petroleum, with a small addition of wood ashes. The bars thus treated are then heated in a muffle furnace to a low red heat, after which they are removed and subjected to the action of finishing rolls.

Claim.—Bars of malleable iron or steel, treated substantially in the manner and for the purpose described.

62,759.—BENEDICT LEHMANN, Piqua, Ohio.—*Ointment for Curing Spavin, Splint, &c., in Horses.*—March 12, 1867.—Composed of deutoxide of mercury, 2 drachms; lard, 2 oz.; lamplblack, $\frac{1}{2}$ drachm.

Claim.—The combination of the above-named ingredients, so as to produce an ointment for the purpose of curing the blemishes above mentioned.

62,760.—GEORGE A. LEINAU, Philadelphia, Pa.—*Preparing Fertilizers.*—March 12, 1867.—Quicklime is spread upon and incorporated with grass or clover sod after it has been worked with a plow; the whole is then formed into banks and 134 per cent. of blood and the same of urine are then added, after which one per cent. of pigeon or horse dung is added. The mass is then covered with plaster and charcoal.

Claim.—The fertilizer made by the process set forth, in which vegetable matter is banked up with quicklime, and mixed with certain other named ingredients at proper intervals of time, in the manner substantially as described.

62,761.—ISAIAH LINCOLN and AARON PRATT, Cohasset, Mass.—*Animal Tether.*—March 12, 1867.—The tether is attached to a sleeve whose revolution prevents its becoming wound thereon. The trumpet form of the sleeve keeps the tether from working below it and becoming wound upon the stake.

Claim.—The device for tethering animals, substantially as described.

62,762.—SAMUEL MAINSTER and JOHN F. KIRKWOOD, Thistle, Md.—*Measure for Liquids.*—March 12, 1867.—The measuring vessel is mounted on a frame, which permits its vertical adjustment to reach the mouth of the faucet or gate in the barrel from which the liquid is drawn.

Claim.—First, the arrangement of the gates C D in relation to each other and to the measuring vessel A, all constructed substantially as and for the purposes specified.

Second, the arrangement and combination of the measuring vessel A, its supporting frame B, valves or gates C D L, and the standards N, substantially as and for the purpose set forth.

62,763.—JOHN MARTINO, Philadelphia, Pa.—*Dust Arrester for Stoves, Furnaces, &c.*—March 12, 1867.—A horizontal slot in the door beneath the level of the bottom of the grate, and equal to the width of the latter, for the insertion of the poker. Pendant valves close the opening but do not interfere with the passage of the poker, as they swing freely on their pivots.

Claim.—First, the combination of the horizontal slot *a* and door H, or its equivalent, with the fire door or other vertical plate of a stove, range, or heater, substantially in the manner described and for the purpose specified.

Second, the combination and arrangement of the pendant valves *b* and *b'* with the slot *a*, substantially upon the principle and in the manner above described and for the purpose set forth.

62,764.—PETER MARVIN, Warsaw, Ind.—*Brick Machine.*—March 12, 1867.—The rim containing the molds is revolved around the central vertical shaft, whose cams operate the followers to press and eject the brick. The mixers bring the clay into condition and the picker removes the stones.

Claim.—First, the combination of the mixers F, picker E, and molds *m*, substantially as set forth.

Second, the cams X Y Z &, in combination with dies *n*, molds *m*, guides P, and rim L, substantially as and for the purpose set forth and described.

62,765.—CHARLES G. MATCHETT, Greenville, Ohio.—*Window Blind.*—March 12, 1867.—The flexible blind is wound on a roller upon whose journals are wound the side tapes which are connected to the window frame above. One cord supports in its loop and adjusts the height of the lower roll of the blind; the other cord winds with the upper roll and adjusts its height by winding it or allowing it to unwind its contents.

Claim.—A flexible curtain B, provided with bands or cords E F I, arranged substantially as set forth, to admit of rolling the curtain from the upper or lower end at will.

62,766.—DON CARLOS MATTESON and TRUMAN P. WILLIAMSON, Stockton, Cal.—*Plow.*—March 12, 1867.—The mold board has two sharp edges, and by removing two retaining bolts either can be brought into working position, the diagonal corners each carrying a plow-point. The standard has a branching

attachment to the beam and a lug by which it is laterally braced.

Claim.—First, the curved standard A, with the lug B, and the offsets D and E, substantially as and for the purpose described.

Second, the curved mold board F, with its two complete edges H and H', attached to the standard as shown, and operated substantially as and for the purpose herein described.

62,767.—J. KENNEDY MAX, Springfield, Mass.—*Machine for Molding the Backs of Books.*—March 12, 1867.—The back of the book cover is rounded by being pressed between the heated cylinder of a given size and a corresponding groove in the bed plate beneath. The cylinder is depressed by a treadle and raised by springs.

Claim.—First, the adjustable cylinder D, constructed substantially as and for the purpose specified.

Second, the use of steam or the heated rods *x* for the purpose of heating the same, substantially as described.

Third, the adjustable bed E, operating substantially as described.

Fourth, the combination of the cylinder D, bed E, slides B B, and treadle I, having the rods F F and springs K K, with the table A, operating substantially as and for the purpose set forth.

62,768.—H. B. MILLER and M. P. WESTON, Grand Rapids, Mich.—*Broom Head.*—March 12, 1867.—The butts of the broom corn are pushed into the flaring mouth of the case and confined by the teeth of the side bars which project into the cavity, the bars being secured by screw bolts.

Claim.—The combination with the flaring case C of the bars D D with the teeth *d*, projecting through the sides of the case into the broom corn, and connected by set screws E E, substantially as described.

62,769.—D. C. MYERS, South Bend, Ind.—*Harrow.*—March 12, 1867.—The quadrilateral harrows may be so hinged at their angles as to be adjustable in width by means of their lateral diagonal brace, and the rear harrows are hinged to the one in advance and connected by a transverse coupling bar.

Claim.—The arrangement of the series of angular jointed harrows A B C with their respective braces and connections, when constructed and combined as and for the purpose set forth.

62,770.—JOHN NAGLE, Duncansville, Pa.—*Manufacture of Artificial Stone.*—March 12, 1867.—Composed of washed gravel, 1; sharp, washed sand, 1; hydraulic or Roman cement, 1 part.

Claim.—The composition of the ingredients when used in the quantities as herein described, and placed under water under a heavy pressure, for the purpose of producing a cheap and durable artificial stone.

62,771.—S. HENRY NOBLE, Chicago, Ill.—*Sleigh.*—March 12, 1867.—The knee has an internal support, whose feet rest upon the runner; its upper end has an elastic pad between it and the bench to diminish the jar upon the latter.

Claim.—First, the rubber spring I, or its equivalent, placed in the joint between the knee and the cross beam of a sleigh, substantially as and for the purpose set forth.

Second, the combination of the support H with the runner A, knee B, rubber I, and beam C, substantially as described.

62,772.—J. H. PARSONS, Quincy, Mich.—*Car Coupling.*—March 12, 1867; antedated March 1, 1867.—Improvement on his patent February 13, 1866. The entering link strikes the spring extension of the hook pin, and disengages the latter, which allows the frame of the coupling pin to drop, and the latter to engage the link.

Claim.—The use of a spiral spring *y* and the slide-hook pin S, or its equivalent, substantially as described.

62,773.—GEORGE B. PERKINS, Bridgeport, Conn.—*Ironing Machine.*—March 12, 1867.—The iron is heated by steam, revolved by a hand wheel and band, and caused to move to and fro, and to the right and

left, over the shirt bosom, which is stretched on the table below.

Claim.—First, the arrangement of the hollow revolving or rotating heated iron M, in relation to the mechanism described to permit the movement of the said iron over the surface to be ironed or polished, substantially as herein set forth.

Second, in combination with the foregoing the table B, constructed and arranged so as to draw the front smoothly thereon, substantially as herein described.

62,774.—THERON E. PLATT, New Haven, Conn.—*Book Holder.*—March 12, 1867.—The plate is attached to any object, the socket is adjustable to an angle thereon, the post in the socket and the rack on the head of the post.

Claim.—The combination of the rack J, the rod F, with their socket H, and with the socket B made adjustable upon a plate A, the whole constructed and arranged substantially as described.

62,775.—N. A. PLYMPTON, Northborough, Mass.—*Measuring the Strength of Watch Springs.*—March 12, 1867; antedated February 25, 1867.—The end of the spring is introduced into the chamber, and the body of the spring being bent over the pin, the end bears against the spring lever and vibrates it to a point, which is shown upon the index, and is the measure of its power.

Claim.—The index lever *b*, in combination with the chamber A, slot *a*, and pin *f*, constructed and operating substantially as and for the purpose described.

62,776.—J. H. RAE, Syracuse, N. Y.—*Collecting Gold and Silver from Washings, Sweepings, &c.*—March 12, 1867.—Explained by the claims.

Claim.—First, the within-described process of treating sweepings, filings, or washings containing gold or silver, by exposing the same to the combined action of a current of electricity and of suitable solvents or chemicals, substantially such as herein specified, or any others which will produce the same effect.

Second, separating gold and silver from washings, filings, or sweepings containing said metals, by the action or aid of electricity, substantially as described.

Third, using the bath A as an electrode and as an agitator, substantially as and for the purpose set forth.

62,777.—GUSTAVUS RICKER, Covington, Ky.—*Cotton Bale Tie.*—March 12, 1867.—One end of the hoop is looped over one bar of the link plate, and the other passed through the other opening and retained by the bite of the two angular edges.

Claim.—The plate with slot B having angular projections C, one above and the other below the plate on opposite sides of the same slot, substantially as represented and described.

62,778.—E. A. G. ROULSTONE, Roxbury, Mass.—*Traveling Bag.*—March 12, 1867.—The edge of the leather being clipped within the fold of a bent metallic strip is with the latter pushed within the rebent edge of the frame and the parallel plates secured by rivets. Instead of cutting a piece out of the corner to enable the bending of the frame into form, the rebent edge is turned down and lapped to form a reinforce for the rounded corner.

Claim.—Connecting the bag leather or body to the frame by first securing the edge of the flexible material in the fold of a strip *d* and then applying said strip to the frame between the groove *b* and plate *f*, uniting the whole together, substantially as set forth.

Also, reinforcing the corner of the frame by turning down the tail pieces *i* so as to form a backing for the plate *f* at the corner, substantially as described.

Also, forming the angle *k* rounding or concentric to the corner, when constructed and arranged as set forth.

62,779.—E. A. G. ROULSTONE, Roxbury, Mass.—*Traveling Bag.*—March 12, 1867.—The edge of the leather is nipped within the longitudinally double metallic strip, which is folded firmly upon it and then riveted to the turned-over edge of the frame. The bent-over side of the frame is folded and flattened down at the angle instead of being cut out.

Claim.—The attachment of the flexible body of a bag to the frame thereof by inserting the edge between

two lips *b d*, one or both of which are formed on a strip or plate *c*, riveted to the frame by rivets passing through the edge of the flexible body, the frame and the strip or plate substantially as set forth.

Also, by forming the corner *e* by producing folds *f* and flatly compressing the same, substantially as shown and described.

62,780.—S. C. RUNDLETT, Portland, Me., assignor to himself and JOSEPH GRANT, same place.—*Cattle Tie*.—March 12, 1867.—The rope is permanently attached to the rim surrounding the disks, which are fastened in the latter by a screw bolt. The prongs of the bow set within grooves in the periphery of the disk.

Claim.—First, the center screw *g* to unite the two disks when placed within the rim.

Second, in combination with the two disks *a* and *b*, when the disk *b* has the washer *c*, the shoulder *m* on the inside of the rim.

Third, attaching the rope at the rim, as set forth, in combination with the center screw *g*, shoulder *m*, and washer *c* on the disk *b*, for the purpose of allowing the two united disks to revolve within the rim.

62,781.—JAMES SANGSTER, Buffalo, N. Y.—*Brick Machine*.—March 12, 1867.—By the arrangement of the arms the objectionable employment of cams is obviated. The rollers are formed with concentric grooves for the more complete subdivision of the clay. The mold is constructed with an enlargement near the bottom for ventilation after the lower piston has descended. By a counterbalance the motion of the machinery is equalized.

Claim.—First, the combination and arrangement of the arms H I and J and the piston G, when constructed substantially as described.

Second, the grooved rollers, when used in combination with plain or straight rollers, as and for the purposes described.

Third, the construction of the lower part of the mold by means of which the piston K, as it descends, leaves the necessary ventilation as described.

Fourth, the segment T¹, when constructed substantially as and for the purposes described and set forth.

Fifth, the arms A A and crank wheels T and T¹, when used to give the reciprocating motions to the pressing piston of a brick machine, substantially as described.

62,782.—J. NOTTINGHAM SMITH, Jersey City, N. J.—*Brick Machine*.—March 12, 1867.—The annular revolving cam operates the plunger by its inclined upper edge, and the mold box by a cam groove in its face. These parts are raised up at proper intervals to the fixed presser head.

Claim.—The revolving annular wedge D, applied to a brick press, and constructed and operating substantially as and for the purpose herein specified.

Also, the mold carrier H, in combination with the annular wedge D, substantially as herein set forth.

Also, the plunger I, in combination with the annular wedge D, substantially as herein described.

Also, the combination and arrangement of the mold carrier H, plunger I, and annular wedge D, substantially as herein specified.

Also, the combination of the suspended bed C, in combination with the mold carrier H, plunger I, and annular wedge D, substantially as herein set forth.

Also, the mold, with chilled cast-iron plates *r r*, applied substantially as herein described.

62,783.—HEMAN S. SNOW, West Meriden, Conn.—*Boot Heel*.—March 12, 1867.—The movable heel is secured to a metallic plate attached to the sole by a central screw bearing on some elastic substance. The upper surface of the heel has notches into which fits a projection from the lower side of the metallic plate. When the heel is turned the elastic substance on which the screw bears yields sufficiently to allow turning from one notch to another.

Claim.—The combination of the heel C, with its notches *a*, more or less, and the heel plate B, with its projection *d*, when constructed and arranged so as to be adjustable to different points, and secured at such points by a spring, arranged substantially in the manner herein set forth.

62,784.—CLAS. F. SPENCER, Rochester, N. Y.—*Securing Buttons to Garments*.—March 12, 1867.—The button is retained in position by the head on the stem of the button, inside which is placed a disk which has four radial slits, which allow it to expand over the head when being placed in position, and then by contracting prevent its return.

Claim.—The disk *f*, constructed substantially as described, in combination with the stem or shank *c* of a button provided with a head *i*, arranged and operating substantially as and for the purpose set forth.

62,785.—W. H. TAMBLING, Mazo Manie, Wis.—*Churn*.—March 12, 1867.—The upper section through which the cream first passes has gauze-covered wings and a gauze-covered aperture in the bottom connecting with the lower section, in which paddles are attached to the ends of the arms at different inclinations to drive the cream in contrary directions. A band connects the two shafts.

Claim.—The arrangement of the boxes A and C, the one provided with the arms E E and paddles *a a*, and the other provided with gauze-wire wings and bottom, the two being constructed and used as and for the purpose specified.

62,786.—WM. B. TUCKER, Hillsborough, Ohio.—*Churn*.—March 12, 1867.—Angular three-sided dasher blades are secured in reversed positions upon alternate dasher arms. The angular edges of one set of blades strike into the cream and draw it toward the center of the churn; the succeeding set of blades present flat surfaces to the cream and force it outward.

Claim.—Combining the angular dasher blades, in alternating positions, upon the dasher arms of said churn, substantially in the manner and for the purpose herein set forth.

62,787.—D. UPFON, Rochester, N. Y., and C. H. NICHOLS, Buffalo, N. Y.—*Ash Pan and Fire Grate for Locomotives*.—March 12, 1867.—The grate surface is contracted by side and end plates in the same plane, and plates descending from the inner edges of the side plates to the bottom of each pit are inclined together at their front ends. The air passes under the side plates and around their rear ends to the space beneath the grate bars.

Claim.—First, the application of the draft or flue plates D, substantially in the manner and for the purposes herein shown and described.

Second, in combination with the said draft plates D the contracting plates P and grates B, substantially as and for the purposes set forth.

62,788.—SAMUEL VAN EMON, Cincinnati, Ohio.—*Hoisting Machine*.—March 12, 1867.—The upright guide timbers have anti-friction rollers, which engage a spiral flange upon the rotating drum beneath the platform. The upper floor of the platform rests on anti-friction rollers of a circular frame of the drum. The driving belt passes around two pulleys journaled in the platform, the upper one of which actuates the drum.

Claim.—First, an elevator platform, provided with a spiral drum or worm D, in combination with two or more vertical flights of rollers I, arranged and operated as set forth.

Second, the provision of the anti-friction roller frame E F G H, for the purpose specified.

Third, the gravitating pulley frame P and brake Q, operated in the manner and for the purpose specified.

62,789.—AARON VOTAW, New Garden, Ohio.—*Wagon Brake*.—March 12, 1867.—The cams on the ends of the brake bar behind the front wheels are brought against the wheels by the inclination forward on a down grade of the adjustable frame to which the thills are attached; the latter press back on levers which connect by links on a fulcrum with the bar to which the cams are affixed, and thus bring them against the wheels.

Claim.—First, the bar B, cam E, as arranged, in combination with the links F H I, levers G, and adjustable frame K, as and for the purpose set forth.

Second, the bar B, cam E, as arranged in relation to the wheels A, and operated by the frame K, levers G, and links F H and I, for the purpose and in the manner described.

62,790.—JOHN WATSON, Buffalo, N. Y.—*Brick Machine.*—March 12, 1867.—Perforations through the end of the piston allow the escape of clay from the middle of the brick during pressure, and render it more porous and less apt to crack. Pins attached to the inner ends of the guides clear the holes on the return of the pistons.

Claim.—The stationary pins F and G, or the equivalent thereof, when placed within the faces of the pressing pistons, and so arranged as to be dependent upon the motion of said pistons for their effect.

62,791.—JOHN R. WEBER, Bourbon, Ind.—*Loom.*—March 12, 1867.—A two-winged cam actuates the hooked arm to rotate another cam bar 90° at each movement, and this latter cam operates as a lever, to which the cord which raises the shuttle plate is connected. The object is to lift positively either shuttle into position to be driven by the picker. After elevation the plate descends by gravity.

Claim.—The combination of the lever 16, cams 17 and 18, with the hook 19, pinion 34, bar 24, spring 23, lever 26, cams 20 and 21, when constructed to operate the shuttle plate 37, substantially as set forth.

62,792.—WM. P. WENTWORTH, Detroit, Mich.—*Clamp for Clapboarding.*—March 12, 1867.—The device is clamped to the corner board or sash facing of the house, and the adjustable claw arm supports one end of the board.

Claim.—As a new article of manufacture, a clapboarding implement, arranged and operating as set forth.

62,793.—LORIN WETHERELL, Boston, Mass., assignor to himself and JOHN H. WELLS.—*Forging Hammers.*—March 12, 1867.—By a series of intaglio and cameo dies a hammer is forged exclusively by machinery, gradually assuming the required form by the action of the successive pairs of dies, which more and more nearly approximate to the required shape.

Claim.—First, the first pair of dies, represented in figures 1 and 2, constructed and operating as described.

Second, the fourth pair of dies, represented in figures 11, 12 and 13, constructed and operating as described.

Third, the fifth pair of dies, represented in figures 15 and 16, constructed and operating as described.

Fourth, the process of forging hammers by the use of a series of dies, constructed and operating substantially in the manner specified.

62,794.—OTIS C. WHITE, Hopkinton, Mass.—*Dentist's Chair.*—March 12, 1867.—The position of the head-rest is regulated by a swinging bail on the back of the chair. The vertical rod supporting the head-rest is clamped to the bail by a saddle and set screw.

Claim.—The combination as well as the arrangement of the bail D, the clamp C, and the pivoted rod B.

Also, the combination as well as the arrangement of the bail D, the clamp C, the slide rod E, and the pivoted rod B.

Also, the combination of the ball and socket clamp n, and the arm o, with either or both the rods B E, the clamp C, and the bail D, the whole being applied to the head-rest and back of a chair, or their equivalents, substantially in manner and so as to operate as hereinbefore set forth.

Also, the clamp C, constructed with the two openings f g, the rear saddle k, and the set screw h, arranged in it substantially as specified.

62,795.—JACOB G. WILLANS, Bayswater, England.—*Puddling Iron.*—March 12, 1867.—Granulated cast iron and oxide of iron are heated together until the iron is nearly decarbonized; the melted metal is run from the furnace upon a revolving disk, which is kept cool by jets of water. The metal thus granulated is mixed with the cinder and heated in a revolving furnace, through which an oxidizing flame is made to pass. In 30 minutes the metal is removed to the bed of an ordinary puddling furnace, kept at the highest possible heat by means of a reducing or decarbonizing flame, and is then balled, hammered and rolled in the ordinary manner. The revolving furnace is lined with blocks of fire-resisting minerals, cut out of the solid mineral in proper shape to fit securely in the furnace.

Claim.—The heating a mixture of cast iron and iron oxide, each being in a granulated or divided state at a heat below the fusing point of the cinder, and then removing the mixture into another furnace, (or it may be another part of the same furnace,) where it is subjected to a heat which melts the cinder and allows of the metal being collected together into puddle balls.

Also, the lining of that part of revolving or reciprocating puddling furnaces which is exposed to friction of the iron in the charge whilst working with blocks or forms cut or shaped from the minerals above described.

62,796.—JAMES F. WOOD, 2d, Cohocton, N. Y.—*Wagon Brake.*—March 12, 1867; antedated March 1, 1867.—Improvement on his patent May 10, 1864. The sliding tongue operates the brake by a bell crank, which has upon it a cam plate adjustable by a slot to regulate the position of the brake blocks. The motion is communicated through a link beneath the bolster, traversed by the king bolt.

Claim.—First, the adjustable cam E, on the lever D, the plate h on the brake lever, as and for the purposes herein described.

Second, the sliding plate B, hasp k, in combination with the sliding pole A, fork braces a a, and the brake blocks i i, substantially in the manner herein described and for the purposes set forth.

62,797.—WALTER WRIGHT, Danvers Center, Mass.—*Cut-off Valve Gear of Steam Engines.*—March 12, 1867.—A sliding plate on the valve has transverse slots coinciding with those of the valve, and trapezoidal stops upon it which come in contact with arms vibrated in a vertical plane by the governor. The inner inclined faces of these stops have rectangular indentations, which receive the impact of the arms and limit the movement of the plate to cut off the steam.

Claim.—The construction of each of the trapezoidal projections I I, with offsets or steps, as set forth, to operate in combination with the arms l m and the two shafts n o, arranged and connected in manner and to operate as described.

Also, the combination and arrangement of the shafts n o, the arms l m and r, when arranged in manner and to operate with the trapezoidal projections I I, fixed to the auxiliary valves G H, applied to the main slide valve F, as described.

62,798.—W. H. YOUNG, Athens, Ohio.—*Preparing Petroleum for Lubricating.*—March 12, 1867.—The oil is subjected to the action of hot water, which is contained in a tank and treated by a steam coil.

Claim.—The cleansing of oil by means of an underlying body of heated water, substantially as described.

62,799.—CHARLES J. ADDY, Roxbury, Mass.—*Tobacco Cutter.*—March 12, 1867.—The tobacco is forwarded by a draw pawl adjustably connected to the shaft of the cutter and acting through a ratchet wheel, spur wheel, and rack on the forwarder. The tobacco passes beneath an adjustable spring plate in the vicinity of the knife.

Claim.—The combination of the adjusting arms E E, and setting pin t, and holes s s, or the equivalent thereof, with the presser D, combined with a knife a and feeder C, arranged to operate substantially as specified.

Also, the above-described arrangement of the rack k, the pinion i, ratchet h, and draw pawl g, with the presser D, the feeder C, the knife a, or knife lever B and its shaft d.

Also, in combination with the knife lever B, shaft d, arm f, draw pawl g, ratchet h, the pinion i, rack k, and the feeder C, the mechanism for varying the feed, as described; such mechanism consisting of the bent prongs g g of the draw pawl, with the pin p, and the holes y y, arranged in the prongs, and the said arm f, as specified.

62,800.—CHARLOTTE W. ALLEN, Newport, Ky.—*Smoothing Iron Stand.*—March 12, 1867; antedated February 23, 1867. The stand has a rim round it to keep the iron from slipping off, and has a clamp and thumb screw for fastening it to the table.

Claim.—The smoothing iron stand, consisting of

the guard or rim A B and the screw clamps C D, combined and arranged substantially as and for the purpose specified.

62,801.—CLARK ALVORD, Westford, Wis.—*Handle for Brushes.*—March 12, 1867.—An elastic hand strap to the brush stock suits it to different sized hands.

Claim.—The application to and combination of an elastic strap with a brush, as above described and shown, and for the purpose above set forth.

62,802.—SOLOMON ANDREWS, Perth Amboy, N. J., assignor to EMMETT DINSMORE, Eric, Pa., and CHARLES E. PLUMB, New York, N. Y.—*Tobacco Pipe.*—March 12, 1867.—The stem is axial to the bowl and the mouth is on the side. This arrangement is to allow the escape of nicotine.

Claim.—The elongated pipe A, with its opening H at its upper side at the end B, when its stem is constructed and applied in the manner herein represented and described.

62,803.—RICHARD S. ARNALL, Wright City, Mo.—*Car Coupling.*—March 12, 1867.—The pin depends from a weighted lever worked by a treadle from the car top. A spring and catch on the treadle rod sustain the pin when uncoupled.

Claim.—The arrangement of the rod D, with its arm and pin C, and elongated box E, when used in combination with lever F, rod H, shoulder z, spring I, and box H, the several parts being constructed and used as and for the purpose specified.

62,804.—S. S. AYERS, Plainfield, N. J.—*Churn.*—March 12, 1867.—By a system of pulleys, cranks, &c., a vertical motion is given to the dashers, which are of a triangular form beneath and flat above, so as to drive down with ease but lift the cream in rising to aid the introduction of air. A fly wheel equalizes the difference in resistance between the upward and downward strokes.

Claim.—The combination and arrangement of the dasher O, churn lid or cover P, dasher handle L, guide rod K, pitman J, crank I, fly wheel H, pulleys and band E D F, or equivalent, and crank C, with each other, substantially as herein shown and described, and for the purpose set forth.

62,805.—SELDEN A. BAILEY, Woonsocket, R. I., assignor to BAILEY WASHING AND WRINGING MACHINE COMPANY, same place.—*Wringing Machine.*—March 12, 1867.—The upper and driven roller is made of smaller diameter than the driver to cause similar rotation, though checked by the clothes. The diameter of the driving wheel is greater than that of the pinion, but has an equal number of cogs. The pinions have outer flanges to impinge against the lower shaft when inclined and prevent too deep gearing of the cogs.

Claim.—First, the manner of assisting the increased rapidity of the driven roll D', and easing the movement of the machine, as set forth, by making the diameter of the driving pinion E greater than that of the driven pinion F, both pinions having the same number of teeth, substantially as described.

Second, the combination of the flanges a on the pinions E or F, or on both of them, with the shafts of the opposite rolls, as and for the purpose set forth.

Third, the combination, substantially as described, of the flanges a and hubs b with the pinions E and F, for the purpose set forth.

Fourth, the springs G G' and set screw d, or their equivalents, with the journal blocks H, operating substantially as set forth, in combination with the pinions E and F, arranged and operating substantially in the manner and for the purpose described.

62,806.—LORING J. BAKER, East Machias, Me.—*Climbing Stave.*—March 12, 1867; antedated March 1, 1867.—For climbing telegraph poles. The frame has upper and under cylinders studded with spikes. The upper cylinder is rotated by crank and gearing. A cam sustains the frame in position.

Claim.—The general construction and combination of the parts of a climbing machine, substantially as described and for the purpose set forth.

62,807.—A. BARDELL and S. SMITH, New York, N. Y.—*Coal Scuttle.*—March 12, 1867.—The peculiar conformation of the flanged sides of the bottom secures the point of contact from moisture, increases the strength where it is most required, and the rigidity of the bottom is increased by its arched and corrugated form.

Claim.—First, the combination of a body and base rim, with a bottom so constructed as to have a flange, which can be sprung into the recess formed upon the body, and thereby bring together three thicknesses of sheet metal, just above the bottom of the coal scuttle, substantially as and for the purpose herein described.

Second, a struck up and corrugated sheet-iron bottom B, in combination with the body and base rim, substantially as and for the purpose herein described.

62,808.—A. S. BARNWELL, Savannah, Ga.—*Cultivator.*—March 12, 1867.—A transverse bar is attached under the beam, extending on each side and carrying two adjustable standards and shares. A central standard and double share follow in the rear, working the balk between the furrows just made.

Claim.—The two adjustable shares G G, in combination with the fixed double share D, applied to the beam A, and arranged to operate in the manner substantially as and for the purpose set forth.

62,809.—SAMUEL R. BARTLETT, Detroit, Mich.—*Trap Door.*—March 12, 1867.—A swinging brace is hinged to the top or back of the door. A rod to the inner side of the brace has a heavy stop, which plays loosely through the door and forces the brace back to the right position for supporting the door when it is raised.

Claim.—The combination and arrangement of the arm C, the rod a, and the stop b, when attached to a trap door, substantially as herein shown and described.

62,810.—ALONZO T. BOON, Galesburg, Ill., assignor to himself and JOSEPH STAFFORD, same place.—*Composition for Roofing.*—March 12, 1867.—Composed of coal tar, 1 barrel; and from 2 to 6 gallons of molasses, with silicate of alumina, clay, ashes, or lime, in sufficient quantity to make it the consistency of plasterers' mortar. The molasses tends to give elasticity and prevents cracking.

Claim.—The composition for roofing, compounded from the ingredients specified, substantially as herein set forth.

62,811.—NICHOLAS H. BORGFELDT, New York, N. Y.—*Machines for Granulating Tobacco.*—March 12, 1867.—The circular, closed box contains a sieve revolving by a crank above the box lid. This sieve has triangular holes and has teeth projecting upward between pins on the lower side of the cross bar of the yielding head.

Claim.—First, an apparatus for granulating tobacco composed of a closed box A, movable toothed sieve D, and yielding head E, with projections d, constructed and operating substantially as and for the purpose described.

Second, the arrangement of a sieve D, with teeth b, constructed and operating substantially as and for the purpose set forth.

Third, making the sieve D, shaft C, and head E removable from the box A, as and for the purpose described.

62,812.—HARKNESS BOYD, New York, N. Y.—*Overflow Basin.*—March 12, 1867.—The overflow holes are near the bottom, but communicate with an upwardly bent pipe to allow the basin to hold water up to a given level.

Claim.—A stationary basin or vessel having an ordinary waste or discharge plug, in combination with an overflow pipe opening into said vessel near the bottom thereof and ascending as a siphon to the desired water level of such basin, as and for the purposes specified.

62,813.—IRA S. and CHARLES N. BROWN, Providence, R. I., assignors to themselves and J. MASON GROSS.—*Saw.*—March 12, 1867.—The curved form of the shanks tends to imbue them tighter in their sockets when meeting the resistance of the wood in saw-

ing; each tooth fastens the one next beneath it; the upper is secured by lock at top.

Claim.—The combination of the curved shank *b*, with projections *b'*, and means for locking or fastening the last tooth in the series, the whole operating together substantially in the manner and for the purpose above set forth.

62,814.—MELVIN C. CHAMBERLAIN, Plainview, Minn.—*Whiffletree.*—March 12, 1867.—The traces are cast off the pivoted bars on the whiffletree by throwing up the lever, and thereby unfastening the coupling connection of the two pivoted bars. By taking up a notch of the coupling the length of the traces is adjusted.

Claim.—The arrangement of the bars *C C* and *D* and *E*, constructed as described, and used in connection with the lever *F* and box *a*, substantially as and for the purpose herein specified.

62,815.—MOSES D. CHEEK, Clarendon, Ark.—*Baling Press.*—March 12, 1867.—The press is operated by screw power beneath the follower. The driving shaft has two bevel pinions, which may respectively be optionally engaged with a larger or a smaller wheel on the shaft which actuates the nut wheels on the screw shafts. By means of a lever and stirrup, a slow, effective motion and rapid return are thus obtained.

Claim.—The nut wheel *F*, constructed with the hub *G* and the bored recess *J*, substantially as and for the purpose set forth.

Also, the nut wheels *F*, pinion *L*, provided with the two bevel gears *M* and *N*, and dividing pinions *P* and *Q*, combined, arranged, and operated substantially as set forth.

Also, the lever *S* and stirrup *T*, in combination with the bevel gears *P* and *Q*, substantially as set forth.

62,816.—JOHN B. CHRISTOFFEL, New York, N. Y.—*Boiler-tube Cleaner.*—March 12, 1867.—The spiral blades are attached at one end to a stationary head, and at the other to a movable head, which is driven toward the former with a spring, so as to expand the spirals against the bore of the tube.

Claim.—First, an improved tube cleaner, formed by the combination of the series of spiral scrapers *C*, the stationary head *B*, and the movable head *D*, with each other and with the rod *A*, substantially as herein shown and described.

Second, the combination of one or more elastic or flexible scrapers *G* with the rod *A*, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the coiled spring *E*, or equivalent, and adjusting nut *F*, with the rod *A* and movable head *D*, substantially as herein shown and described and for the purpose set forth.

62,817.—J. K. CLARK, Mount Pleasant, Iowa.—*Window-sash Lock.*—March 12, 1867.—The journals of the rollers are connected to the ends of toggle arms, and are guided in oblique slots in the plates on the sides of the sash. The extension of the toggle bends them against the window casing, and the contrary movement withdraws them and frees the sash.

Claim.—The connected levers *g g'*, in combination with the friction rollers *d d'*, moving on inclines *c c'* in the shell *A*, arranged and operating as and for the purposes herein described.

62,818.—ROBERT J. COLVIN, Lancaster, Pa.—*Combined Rake and Seeder.*—March 12, 1867.—The rake bar, seed roller, the hoppers, &c., each have their appropriate sockets when the apparatus is adjusted for the specific purpose of raking, seeding, or planting. The divided axle is extensible for width in raking, and a gear wheel on the axle is the means of driving the seed roller.

Claim.—First, the manner of attaching the rake piece *J* and corn-planter devices *P* and *Q* to the grain drill frame, as herein described.

Second, the adjustable bar *M*, to which the hoes are attached, with the shifting sections *Q*, by which means the machine, when used for planting corn or raking hay, is clear or free of all unnecessary machinery.

Third, the construction of the cylinder with its de-

vices *U V T*, so as to sow grain in different quantities, and plant one or more rows, as desired.

Fourth, the adjustable feed board or apron *H*, as combined with the hopper, by which the hopper *F* can be shifted without obstruction.

Fifth, the using of drag bars, in connection with their rear attachments *N N*, as cleaners for the rake.

Sixth, the construction of the shifting axles *X X*, with their devices *Y Z*, as arranged for the purpose of widening the drill frame *B* the proper width for the rake.

Seventh, the shifting rods *P P*, for the purpose of removing the extra drag bars that should be dispensed with when the machine is operating as a rake or corn planter.

Eighth, the combination of the grain drill, corn planter, and hay rake, so arranged as to be easily and quickly adjusted, as herein specified and for the purposes set forth.

62,819.—ANSON G. COOK, Burlington, Vt.—*Manufacture of Iron.*—March 12, 1867.—The iron case and its cover are lined with fire clay or brick. The top has perforations for the escape of gases, and the sides have recesses, which are filled with a composition of black oxide of manganese, coal tar, and clay. The vessel is then charged with charcoal; the iron, with 10 per cent. of hematite, is poured in, and, by the heat and decomposition, becomes carbonized and purified of extraneous matter.

Claim.—First, the rectifier or apparatus, consisting of a chamber or vessel lined with fire brick provided with recesses *a*, or their equivalents, substantially as described.

Second, the perforated cover *A'*, provided with the points or flanges for securing the lining of fire clay, substantially as described.

Third, the process, herein described, of treating fused metal in a closed vessel or chamber containing charcoal, or its equivalent, substantially as described.

Fourth, the employment or use of the compound of oxide of manganese and coal tar, for the purpose of refining iron, substantially as described.

62,820.—ALFRED A. CONSTANTINE, New Providence, N. J.—*Manufacture of Soap.*—March 12, 1867.—*A medicinal soap for cleansing and curative uses.*

Claim.—The use of pine tar in its combination with soap or soaps, and in the manufacture of soap or soaps, substantially as described.

Also, as a new article of manufacture, soap made with pine tar as one of its ingredients.

62,821.—JOHN GEORGE COOPER and EDWIN W. H. COOPER, Hartford, Conn.—*Caloric Regulator for Boiler Furnaces.*—March 12, 1867.—The metallic air chamber within the furnace communicates with a cylinder having an adjustable piston to limit the air space, and also with another cylinder whose piston rod has a rack, connected through segmental gears and a spring rack rod, to the damper within the door.

Claim.—First, the heater *B'*, working cylinder *G*, piston *H* and rod *I*, in combination with the sliding spring rod *P*, pusher rod *U*, and damper *V*, constructed and operating substantially as described, so that the position of the damper is regulated automatically by the expansion of the air or other elastic fluid in the heater.

Second, the regulating chamber *G'*, in combination with the heater *B'*, working cylinder *G*, spring rod *P*, and damper *V*, constructed and operating substantially as and for the purpose set forth.

Third, the arrangement of an adjustable piston *H'* in the regulating chamber *G'*, to operate in combination with the heater *B'* and cylinder *G*, substantially as and for the purpose described.

Fourth, the valves *E f* and trips *d e*, in combination with the chamber *G'*, cylinder *G*, and rod *P*, constructed and operating substantially as and for the purpose set forth.

Fifth, the spring catch *b* and recess *a* in the rod *P*, arranged to operate in connection with the rod *U* and latch *W*, substantially as and for the purpose described.

Sixth, the perforated plate *c'* and regulating slide *z*, in combination with each other and with the furnace door *A'* and rear shield *e'*, constructed and operating substantially as and for the purpose set forth.

Seventh, the sliding pin *l* and cam *l'*, in combination with the damper *V* and furnace door *A*², constructed and operating substantially as and for the purpose described.

Eighth, the chambers *b*² *d*¹ *f*² in the furnace door *A*², in combination with the damper *V*, slide *i*, shield *e*¹, and perforated plate *g*¹, constructed and operating substantially as and for the purpose set forth.

62,822.—H. R. CROWE, Carondelet, Mo.—*Field Roller*.—March 12, 1867.—The rear sections are hinged to a rod in the rear of the front roller frame, so as to enable them to conform to a rolling surface, or to plow lands. The seat is suspended by chains from flexible bars erected on the frame.

Claim.—First, hinging the frames *E* and *F* of the two end sections *A* and *B* to each other, substantially as herein shown and described, and for the purpose set forth.

Second, suspending the seat *K* by means of links *M*, or their equivalent, from the springs *L* attached to the frames *E* and *F* of the roller, substantially as herein shown and described.

62,823.—JAMES CRUTCHETT, Stroud, England.—*Manufacture of Gas*.—March 12, 1867.—Explained by the claims.

Claim.—First, the manufacture of gas, for lighting and heating purposes, from pulverized or fine coal, or other carbonaceous materials, injected into retorts or ovens in small quantities, either by separate successive injections or in small, continuous currents, as herein described.

Second, the injection into retorts or suitable ovens or chambers of pulverized, powdered, or small coal, saw dust, oils, or carbonaceous materials, by means of steam supplied to such retorts in separate charges or in continuous currents, as herein described.

Third, the injection of suitable carbonaceous materials, as aforesaid, for the manufacture of gas into retorts, ovens, or heated chambers, by separate successive injections or currents, by means of compressed atmospheric air, compressed gas, springs, or other mechanical means, as hereinbefore described, whether the interiors of such retorts be under a slight pressure or vacuum.

62,824.—JOHN CUNNINGHAM, Philadelphia, Pa.—*Curtain Fixture*.—March 12, 1867.—The slide to which the cord is attached has a rack, which is engaged by a worm wheel on a thumb-wheel shaft for its vertical adjustment.

Claim.—The slide *B*, fitted in a slot or opening *a* in the case, provided with a knob or pulley *C* at its outer side, and with a rack *c* at its inner side, into which a screw *C*^{*} on a rod *D* gears, said rod projecting through the end of the case, and having a thumb wheel *E* on its end at the exterior of the case, all arranged substantially as and for the purpose set forth.

62,825.—EDWARD P. CURTISS, Madison, Wis.—*Connecting Piston Rods for Steam and other Powers*.—March 12, 1867.—The connecting rod has parallelograms at a certain distance from the pin passing through it, and the piston rod has a slot at the outer end and a pin which traverses around the parallelograms, working upon its angular sides and forming a lever power to force the crank past the center.

Claim.—The parallelograms *A*, the flanges *L* *L* that support them, the pin *B* that works on the angular sides of the parallelograms *A*, the pin *E*, and slot *D* which moves the pin *B* to the opposite side of the piston rod *M*, which reverses the motion, and the slot *C*, which allows the piston rod *M* more stroke for the pin *B* to pass around the parallelograms *A*, coming in contact with their angular sides, forces the connecting rod past the centers, to work substantially as herein set forth.

62,826.—ALEXANDER T. DE PUY, New York, N. Y.—*Stereotype Plate Holder*.—March 12, 1867.—The frame is formed of separate pieces clamped in the chase, and has catch plates and screw-adjusted catches to clamp the plate.

Claim.—First, a block or holder for stereotype plates, constructed of sections, in the manner substantially as herein shown and described.

Second, the combination of independent or detached

clamps with a sectional stereotype plate holder, substantially as and for the purpose set forth.

62,827.—THOMAS DOLAN, Albany, N. Y.—*Bridge for Billiard Tables*.—March 12, 1867.—The bridge has concave anti-friction rollers to sustain the cue without checking its movement.

Claim.—A billiard table bridge having its resting or bearing surfaces for the cue formed of rollers, substantially as described, for the purpose specified.

62,828.—G. H. DONEY and MOSES CLAY, Lockport, Ill.—*Making Soap*.—March 12, 1867.—To 2 oz. lime, dissolved in boiling rain water, add aqua ammonia, 1 oz.; borax, 1 oz.; sal soda, $\frac{1}{2}$ lb.; forming the first compound. Mix rain water, $\frac{1}{2}$ gall.; hard soap, 1 bar; saltpeter, 1 oz.; borax, 1 oz.; rosin, $\frac{1}{2}$ lb.; alum, 2 oz.; sal soda, $\frac{1}{2}$ lb.; common salt, 2 oz.; alcohol, 1 oz.; after boiling for 10 minutes add $\frac{1}{2}$ pint of the first compound.

Claim.—The use of the ingredients specified in the particular proportions and manner set forth, to make soap.

62,829.—LUCIUS H. DWELLEY, Dorchester, Mass.—*Machine for Cutting the Rolls of Window Blinds*.—March 12, 1867.—The hopper is vibrated to deliver the rolls parallel to each other into the magazine, which delivers them to the indentations of rotating disks which carry them to the saws to be cut to length. The saws are adjustable on their shaft.

Claim.—The arrangement of the vibrating hopper *F*, which receives the sticks in mass, with magazine *G*, which arranges them in a single column, so that they may be delivered one at a time to a carrier or holder that conveys them to the tool or tools that are to afterward operate upon them, substantially as described.

Also, arranging within the magazine *G*, a guide *10*, at one of its ends only, which guide arranges the sticks in a line at that end of the magazine, and allows all the inequalities in their lengths to project at the opposite end, substantially as described.

Also, the spring *r*, with its roll *q*, in combination with its carrying disks *H* *I*, substantially as and for the purpose described.

Also, the crank *P*, with its eccentric *m*, in combination with a slotted arm *K*, and so arranged with a screw that, when turned in a direction to throw the worm wheel *L* into gear with the wheel *O*, it will clamp the arm *K* firmly in place, substantially as described.

Also, making the saw *E* adjustable on its arbor *D*, by means of the split collar or sleeve *R*, screw nut *v*, with its recess *14*, and recessed collars *t* *u*, substantially as set forth.

62,830.—O. F. FITCH, Morristown, Ind.—*Carding Engine*.—March 12, 1867.—The points which conduct electricity from the roping are above the same, and in vertical position to prevent the accumulation of waste upon them.

Claim.—First, the conductor, armed with slender pendant points presented to the roping in rear of the condensing rollers, as herein shown and described, as and for the purpose specified.

Second, the shaft *H*, uprights *I* *I*, and pendant points *a*, in combination with the condensing rollers *D* *D* *D*, spool *F*, and frame *A*, when constructed and arranged as herein set forth and for the purpose specified.

62,831.—DANIEL FITZGERALD, New York, N. Y., assignor to himself and R. ONDERDONK, same place.—*Portable House*.—March 12, 1867.—The grooved cap covers the apex of the house and has grooves to hold the ends of boards, which are sprung so as to form the arched roof and the sides of the house.

Claim.—The cap *F*, provided with grooves as represented, when used in combination with the boards *A* *A*, the upper ends of which are held by said cap, and which are bent to form the roof and sides of the house, said boards being prevented from warping, substantially as herein specified.

62,832.—MERWIN FOWLER, Wolcottville, Conn.—*Buckle*.—March 12, 1867.—Explained by the claim and illustration.

Claim.—A buckle formed of wire bow *a*, attaching

bow *b*, and clamping bow *c*, formed with eyes *e*, passing around the wire of the bow *a*, at the return bends *z*, as and for the purposes specified.

62,833.—**DAVID L. FURMER**, Rostraver, Pa.—*Machine for Washing Sand and other Materials.*—March 12, 1867.—A series of trays are arranged one above another, in an inclined position, in the frame. A shaft passing through the centers of the several trays carries stirrers to agitate the sand and water within the trays. Each stirrer moves the sand toward the highest part of the tray, where it is discharged into the tray beneath or the final outlet.

Claim.—The combination of the inclined trays *A* and stirrers *L*, constructed and acting conjointly, substantially as and for the purpose set forth.

Also, the combination of the inclined trays *A* and spouts *Y*, or their equivalents, to supply each tray separately with pure water, substantially as and for the purpose set forth.

Also, the trays *A*, when located one above another, and pierced centrally by the shaft *k* upon which the stirrers are located, so as to wash and re-wash the sand without rehandling the same and without occupying more space than the area of one tray requires, substantially as set forth and described.

Also, the agitating screw *S*, in combination with stirring mechanism of a sand washer, to comminute the sand and earthy matters before being submitted to the action of said stirring mechanism, substantially as set forth.

Also, the trays, stirring mechanism, water spouts, screen, driving gear, and framework, herein set forth and described, to form a machine for washing and cleansing sand of other earthy matters usually mixed with it.

62,834.—**CHARLES C. GARRETT**, Dayton, Ala.—*Corn and Cotton Seed Planter.*—March 12, 1867.—The cotton seed cylinder has vertical adjustment by a lever and set screw. The corn seed slide has movement from side-pins on the operating pinions of the cotton cylinder, which is journaled in an arm vibratable by a lever to throw it in or out of gear with its driver. The harrow is attached to draw springs.

Claim.—First, the stirrup lever *R*, connected to the cylinder *Q*, so that it can be raised and lowered, substantially and for the purposes herein described.

Second, the stirrup lever *R* and its connections with the seed cylinder *Q*, in combination with the lever *O*, for the purposes and substantially as described.

Third, the harrow *C* and its means of attachment to the springs *D* ² *D* ², in connection with the seed planter, when constructed in the manner and for the purposes and substantially as described.

62,835.—**LEWIS GIBBS**, Canton, Ohio, assignor to **BUCHER, GIBBS & COMPANY**, same place.—*Plow.*—March 12, 1867.—The casting attached to the rear end of the beam has a gain which receives the lip of a slotted casting attached to the handle, and a bolt of the former traverses the slot of the latter, by which lateral adjustment is admitted. The ground bar is detached from the share. The holding edges of the colter are beveled and the gain of its holder plate similarly formed, to admit of tightening the colter by screwing up the plate.

Claim.—Uniting the beam and handle of a plow by means of the castings *d f* and their lips *e g*, and a screw bolt *t*, substantially as described.

Also, the beveled edges of the socket *j* with the beveled edges of the colter *D*, and the screw bolts *k*, for the purpose of holding and tightening the colter, substantially as described.

Also, the bar *m*, made and united to and with the land side and share, substantially as and for the purpose described.

62,836.—**MARSHALL GILBERT**, New York, N. Y.—*Garbage Box.*—March 12, 1867.—The cask is let into the pavement and has an annular edge inside upon which is placed a grating that supports the garbage vessel, which is covered with a lid.

Claim.—The vessel *c*, formed with a ring or ledge *e*, in combination with the movable grating *f* and receptacle *g*, the whole constructed and applied in the manner specified to form a receptacle for ashes and other refuse matter.

62,837.—**JAMES E. GILLESPIE**, Boston, Mass.—*Low Water Detector.*—March 12, 1867.—A pipe from the boiler bottom and one from just below the water level are brought up above the boiler to form a coil and to communicate with a tank supported on said coil. When the fall of water level in the boiler exposes the end of the pipe to the steam, the latter fills the tank, which is raised by the coiled spring and operates a lever connected with the alarm whistle.

Claim.—First, the hollow springs *g f*, or their equivalents, in combination with the tank and boiler, as specified.

Second, the combination of the pipes and springs *g f* and tank *e* with the whistle of a boiler, whereby to raise an alarm in case of low water.

62,838.—**WILLIAM F. GOODWIN**, Washington, D. C.—*Harvester Rake.*—March 12, 1867.—The axle of the driving wheels has a lengthened key seat, in which the splinc key of a cog wheel has play, to bring a pinion gearing with the said wheel in connection with either one of a series of pinions of various diameters upon a shaft parallel with the axle. This shaft has a crank which traverses a yoke on a slide bar connected with a pivoted lever, which is connected to a series of levers so pivoted together to the frame and the rake as to give the latter the proper sweep over the platform. The series of wheels on the crank shaft furnish means for adjusting the movement of the rake. The rake passes beneath a jointed guide plate in its forward movement, and above it in its return, to raise it above the grain. The rake mechanism may be thrown in or out of gear by a lever.

Claim.—First, the gear wheels *A*, *A* ¹, *A* ², *A* ³, and *A* ⁴, shaft *B* ⁵, crank *B* ⁶, lever *L* and *L* ¹, and block *M*, arranged to operate in the manner and for the purpose substantially as described.

Second, the yoke *A* ⁷, and *A* ⁸, and vibrating arm *A* ⁹, arranged to operate in the manner and for the purpose substantially as described.

Third, the bars or levers *B*, *B* ¹, *B* ², *B* ³, and *B* ⁴, crank *B* ⁵, and post *B* ⁶, with the rake *B* ⁷, attached, arranged, and operating in the manner and for the purpose substantially as described.

Fourth, the switch *S* and tracks *T* and *T* ¹, arranged on the side of a circular platform, to operate in the manner and for the purpose substantially as described.

Fifth, the rake head *B* ⁷, hinged or jointed to the reciprocating and turning post *B* ⁹, arranged and operating substantially as and for the purpose described.

Sixth, the arrangement beneath the grain platform of the mechanism for communicating motion to a reciprocating, turning, and lifting rake, which operates from above upon the platform, substantially as described.

62,839.—**R. M. GREEN**, Baltimore, Md.—*Machine for Bending Cable Links.*—March 12, 1867.—One end of the link blank is clamped to the "former," and it is bent around the same by adjustable anti-friction rollers upon a swinging arm. The bent blank is thrown off the "former" by a treadle.

Claim.—First, the slotted lever *D*, provided with the wheels or pulleys *J J*, in combination with the "former" *C*, arranged as and for the purpose specified.

Second, the arrangement of the set screw *P*, with the "former" *C* and lever *D*, substantially in the manner and for the purpose herein specified.

62,840.—**C. S. S. GRIFFING**, Geneva, Ohio.—*Fence.*—March 12, 1867.—A series of compensating loops allow expansion or contraction of the wire without either loosening the attachment or injury to the fence, which is steadied laterally by tri-lateral braces at the junction of the panels.

Claim.—First, the frame *A*, provided with wires *C C* and compensating loop *K*, as constructed and arranged, in combination with the brace post *D*, for the purpose and in the manner as described.

Second, in combination with the above, the panel *A* ¹, constructed and arranged in the manner as described.

62,841.—**JOHN HAGUE**, Providence, R. I.—*Steam Trap.*—March 12, 1867.—The upper end of the tubular stem of the water valve forms the seat of the air valve. The water valve is opened by a float, which movement closes the air valve.

Claim.—The hollow valve stem C, constructed and arranged substantially as described, in combination with the air and water valves B and E, and operated substantially as herein set forth.

62,842.—JOEL HAINES, West Middleburg, Ohio.—*Dinner Bucket.*—March 12, 1867.—The permanent horizontal partition divides the bucket into two compartments. A door in the end opens into the lower division, in which sliding trays are supported on cleats.

Claim.—A victual and provision bucket, made with a double bottom or permanent horizontal partition to divide it into two apartments, one above the other, with a door in the side of the bucket opening into the lower division or apartment, substantially as described.

Also, the cleats in the lower apartment, in combination with the pans or trays.

62,843.—LEWIS HANNUM, Cortland, N. Y.—*Wringer for Clothes and Mops.*—March 12, 1867.—One roller rotates in fixed bearings in the frame; the other has its bearings in a sliding frame, and is brought up to the former by pressure upon the hand lever or treadle.

Claim.—First, the rolls B C and links D, arranged relatively to the arms E² on the shaft E, which latter is adapted for being partially rotated at will, all substantially in the manner and for the purpose herein set forth.

Second, in connection with the above, the hand lever E¹, foot lever G, and connection G¹, arranged substantially as and for the purpose herein specified.

Third, the board D¹, carried on the links D and arranged to serve relatively thereto and to the rolls B C, which are opened and closed thereby, substantially as and for the purpose herein specified.

62,844.—THOMAS HANVEY, Elma, N. Y.—*Machine for Making Cheese Boxes.*—March 12, 1867.—One end of the rim is clamped between the edge of the hinged segment and the contiguous part of the drum. The bottom is held by the pins projecting therefrom, and the box formed for nailing by a rotation of the same. The vibrating support arms of said segment are operated by a crank, which has a retaining spring catch.

Claim.—The hinged section D¹, constructed and operating in the manner and for the purpose substantially as set forth.

62,845.—L. O. HAYWORTH, New Cumberland, Ind.—*Grain Register.*—March 12, 1867; granted February 28, 1867.—The first wheel moves half a revolution, at an impulse derived from the motion of the carriage which holds the half-bushel measure. The succeeding wheels are connected to it, and are decimally arranged, to score units, tens, &c.

Claim.—The combination of the wheels B B B with ratchet center pieces of varying diameters and teeth, the wheel A², sliding frame I, swinging pawls J K, rod B², slotted arm L, and arms N O, operating with the grooved side bar S of the carriage P, substantially as described, for the purpose specified.

62,846.—EDMUND HERSEY, Hingham, Mass.—*Machine for Cutting Heads and Bottoms of Wooden Boxes.*—March 12, 1867.—Two gouge-shaped, circular reciprocating cutters complete the circular cut in the material placed upon the post beneath it.

Claim.—Having the edge of the cutter C formed of two gouge-shaped parts, substantially as and for the purpose shown and described.

62,847.—ARON HIGLEY, South Bend, Ind.—*Car Brake.*—March 12, 1867.—One ratchet on the windlass prevents the latter from turning if the train starts prematurely, which would tend to throw the retaining dog out of the other ratchet.

Claim.—The ratchets X and 2, in combination with windlass 7, substantially as and for the purpose set forth.

62,848.—LUCIAN HILL, North Brookfield, Mass., assignor to LAWSON M. HILL, same place.—*Corset Clasp.*—March 12, 1867.—The clasps are not attached to the stiffening ribs, but formed with sockets for the passage of the latter, so that all may be removed for washing.

Claim.—The detachable clasp for corsets herein described, consisting of the parts a a and spring b, constructed as set forth.

62,849.—T. HOFSTATTER, JR., New York, N. Y.—*Auger.*—March 12, 1867.—The clearing screw of the auger has an outer screw thread, which carries countersink dies, a holding collar, and a jam nut.

Claim.—The countersink b, washer c, and thumb screw d, when constructed and arranged upon the screw thread a of the auger A, and operating as herein set forth for the purpose specified.

62,850.—EDWIN HOYT and EDWARD P. WHITNEY, Stamford, Conn.—*Step Attachment for Berths.*—March 12, 1867.—The hanging arm on the side of the berth has a folding step at about midlength and a stop pin on the berth below.

Claim.—The device, herein described, of the arm B and folding step C, constructed substantially as herein specified, to serve as a resting place for the foot, for facilitating ascent to and descent from berths in steam and other vessels and railway vehicles.

62,851.—R. B. HUGUNY, Cleveland, Ohio.—*Wringing Machine.*—March 12, 1867.—A single gear is on the shaft of each of the rubber rollers, the lower one moving on the outer surface, and the upper one on the inner surface of the rim of the double-gear wheel, which is kept in adjustment with the cog wheel on the lower shaft by toggles. The bars are attached by bolts and springs, and adjusted by screw bolts passing through the stiffening bar.

Claim.—First, the arrangement and combination of the double-gear wheel A and single-gear wheels B, C, and D, and toggles E E, or their equivalents, as described, for the purposes specified.

Second, the arrangement and combination of the stiffening bar P, spring bars K and L, bolts M M, spring collars N N and adjusting screws O O, as described, for the purposes specified.

62,852.—JOHN S. JENNINGS, Medina, N. Y.—*Boiler Form.*—March 12, 1867.—The form is composed of two segmental blocks, with a rim and lips to keep the edge of the boiler in position. The blocks are connected by two dowels, and distended by a double-acting screw in the middle.

Claim.—The rim f and lips d, the double-acting screw b b', and the dowels a a, when combined with the two heads A A, the whole arranged and operating as herein set forth.

62,853.—OLIVER A. KELLEY, Slatersville, R. I., assignor to LAMB, COOK & Co.—*Governor.*—March 12, 1867.—The gate or valve is regulated by the action of two pivoted pawls and a ratchet gear. The pawls point in opposite directions and sweep over the circumference of the ratchet, one or the other engaging according as the speed exceeds or otherwise the medium rate desired, at which they sweep back and forth without engagement. The pawls are regulated by shoes, which are lifted by the rising or falling of the governor balls above or below a specified position.

Claim.—First, the weighted shoes F, in combination with the lever G, elbow shaft A, rod H and governor I, substantially as described, for the purpose specified.

Second, the cam groove D, in combination with the arm C, pawls b b', ratchet gear B, shoes F, lever G, rod H and governor I, constructed and operating substantially as and for the purpose described.

Third, the yielding or self-adjusting shoes F, in combination with the pawls b b', dovetail teeth a of the ratchet wheel B, lever G, rod H, and governor I, all constructed and operating substantially as and for the purpose set forth.

62,854.—GISON KEYES, Binghamton, N. Y., assignor to himself and F. Y. PAYNE, same place.—*Washing Machine.*—March 12, 1867.—The washboard covers the bottom of the suds box, and the canvas which lies upon it is secured by the sliding end pieces. The rubber is so presented as to bear angularly upon the corrugations of the board, and imitate the hand operation.

Claim.—The combination and construction of the suds box A with the lever E, notched handle of the

rubber B, and mode of securing the canvas apron by means of the slides C C, as described and for the purpose set forth.

62,855.—JOSHUA KIDD, London, England.—*Apparatus for Carburetting Gas and Air.*—March 12, 1867.—The gas-tight vessel contains a liquid hydrocarbon, and has a vertical aperture, which forms a chimney for the burner below, whereby the contents are heated. The cap over this aperture is adjusted vertically to increase or diminish the power of the liquid, which is heated principally from above. Oil is supplied to the reservoir by an intermittent fountain feeder.

Claim.—As new, for carburetting gas or air by heat at the burner for obtaining light, forming the apparatus with a heating aperture through its center, also with heat regulator D, together with the application of oil-supplying arrangement, substantially as described.

62,856.—JOSHUA KIDD, London, England.—*Apparatus for forming an Explosive Mixture of Air and Hydrocarbon Vapors for use in Motive Power Engines.*—March 12, 1867.—This is designed to make available light petroleum spirit, instead of gas, for working the Lenoir or other gas motor engine. The vaporizer has a chimney through its center, and a burner concentric within it. The feed is a distant intermittent fountain. Each stroke of the engine draws in air through the gauze mouth of the air inlet, and the air charged with vapor of hydrocarbon passes to the cylinder to be exploded in the ordinary manner.

Claim.—As new, for the purposes of this invention, the general arrangement of apparatus, substantially as described and set forth.

62,857.—MARTIN C. KILGORE, Washington, Iowa.—*Corn Sheller.*—March 12, 1867.—The face of the cylinder is slightly concave, and has T-headed spikes, which shell the corn pushed against the cylinder by the spring plate. Inclined bars lead the cobs to a side exit, and the shelled corn escapes at the bottom.

Claim.—A corn sheller having a box as described with plate *a*, springs *d*, *b*, *c*, and the device as described for the *gress* of cobs, all constructed, combined and arranged substantially as herein specified.

62,858.—H. J. KINTZ, Greece, N. Y.—*Potato Digger.*—March 12, 1867.—The pointed and elevated mold board passes centrally under the hills, divides them, and severs them from the vines. The tubers pass up and are acted upon by a double conical revolving sifter, which delivers them to the hinged conductor, which discharges them in a compact row at the rear.

Claim.—The construction, combination, and arrangement of the scraper A, consisting of the vertical side points *a a*, the central share *b*, extending backward and upward in a semicircular ridge, with its point projecting below the level of the side points, and the intervening shallow scoops with concave edges *c c*, and gradual upward inclination between the side and central points, operating substantially in the manner and for the purposes herein set forth.

Also, in combination with the scraper, constructed and arranged as above described, the double conical sifter E and its cogged driving wheel G, operating in the manner and for the purpose specified.

Also, the hinged adjustable and self-supporting conductor H, provided with the converging fingers *p*, and the concave *k*, when combined and arranged with the double conical sifter E, in the manner and for the purpose set forth.

Also, the special arrangement of the machine, consisting essentially of the scraper A, with draft arms D, the sifter E, with driving wheel G, the conductor H, and the vine clearers I, operating as herein described.

62,859.—RICHARD LAVERY, South Boston, Mass.—*Tool for Cutting off Boiler Tubes.*—March 12, 1867.—The eccentric cutter is pivoted in a cylindrical head, which fits the interior of the tube to be cut, and is revolved by a ratchet and handle. The cutter is turned on its own axis to project the edge of the tooth beyond the periphery of the head, or to withdraw it for insertion or removal from its place of working.

Claim.—First, the eccentric cutter B, in combina-

tion with the head A, constructed and operating substantially as and for the purpose described.

Second, the lip or nose *e* on the eccentric cutter, in combination with the shoulder *f* in the head A, substantially as and for the purpose set forth.

Third, the pin C, provided with a key *c*, in combination with the eccentric cutter B and head A, constructed and operating substantially as and for the purpose described.

Fourth, the ratchet handle D, in combination with cogs *g* in the head A, and with the eccentric cutter B, constructed and operating substantially as and for the purpose set forth.

62,860.—PETER LAWSON, Lowell, Mass.—*Apparatus for Refrigerating, Cooling, and Preserving.*—March 12, 1867.—The revolving shaft brings any portion of the tables over the opening of two chambers. A movable table in the upper compartment is operated by a rack and pinion for the purpose of introducing ice.

Claim.—First, an upright shaft with one or more tables or shelves, and suitable means to revolve the same, in combination with the interior of a refrigerator, provision safe, or preserving house or similar structure, substantially as herein set forth and described.

Second, one or more shelves M, rack *p*, pinion *q*, in combination with the body of a refrigerator or similar structure, substantially as herein described and set forth.

Third, the combination in a refrigerator or like structure of one or more revolving tables C, with one or more movable shelves M, substantially as herein set forth and described.

62,861.—FRANCOIS LECLERC, Watertown, N. Y., assignor to himself and J. S. LETRED, same place.—*Lantern.*—March 12, 1867.—Eyes upon the bail give points of attachment to the wire frame, and springs projecting inward from the lower ends of the frame-wires come beneath the flange of the lamp and support it in position.

Claim.—The combination of the bail F, with its eyes *f*, the wire G, and spring I arranged with the slotted chamber H, operating with the lamp A and its flange *a*, all constructed and arranged in the manner and for the purpose herein described.

62,862.—AUSTIN LEYDEN, Atlanta, Ga.—*Combination Padlock.*—March 12, 1867.—The lock is designed for through freight cars, the destination being indicated by an exposed letter, and it resists the attempt to open it by a way key.

Claim.—First, the disk bolt A, constructed substantially as described, with indicating letters upon one side, and the latch B attached to the other side, and operating substantially as herein shown and described.

Second, the catch C' C'' attached to the shell of the lock, substantially as described, in combination with the disk bolt A, for the purposes specified.

62,863.—ALBON MAN, Brooklyn, N. Y.—*Lock Seal.*—March 12, 1867.—The seal is printed on a slip of paper, with a marginal register, on which can be noted a memorandum of time and place.

Claim.—First, a seal for lock seals or other analogous purposes, where it is important to keep a record of the number and kind of seals used, and the times, places, and circumstances of the use thereof, by the preparation of the seal upon a slip of paper with a marginal register, on which all the said facts may be noted.

Second, constructing said seals variously, so as to operate as a check upon counterfeiting, and so that it cannot be known which design is used in any given case, except by the person using it and by the record.

Third, these variant designs combined in pass books on slips of paper, so as to allow a permutation of the designs for further security.

62,864.—THOMAS MARSH, Smithfield, R. I., assignor to himself, JOHN BALCHON and S. PERRY, same place.—*Beer Faucet.*—March 12, 1867.—A screw socket is fastened to the cask around the ordinary wooden plug, and a screw shaft is made the means of forcing in the said plug. A portion of the shaft is hollow, and has an ordinary spigot; when the screw

plug is forced in to a certain distance lateral openings are exposed, which admit liquid into its hollow interior, the discharge of which is regulated by the spigot as usual.

Claim.—First, the faucet, composed of two parts 1 and 2, the part 1 to be attached to the barrel at any time after the filling and before the tapping of the same, and to act in combination with the part 2 in forcing out the common wooden plug, the use of which is rendered inobjectionable by this invention, and which it is no part of my design to supersede.

Second, the combination of such faucet with a collar C affixed to the cask, such parts in combination constituting an apparatus for tapping a cask, substantially as described.

Third, combining with the apparatus described in the first clause a cutting bit F, substantially as described, for the purposes specified.

62,865.—FRANKLIN J. MAY, Morrisania, N. Y., assignor to himself and J. G. BARNUM, same place.—*Safety Key-holder for Door Locks.*—March 12, 1867.—The swinging plate being vibrated so as to bring the slot over the shank of the key, the pawl is brought to bear against a square on the shank to prevent its rotation by an outsider.

Claim.—The weighted pawl H, in combination with plate E, operating directly against the square shank of the key, substantially as herein represented and described.

62,866.—GEO. W. McCANN, Springfield, Ohio.—*Measuring Funnel.*—March 12, 1867.—The scale is marked on a bent strip which clips the side of the vessel. The stem of the valve is guided in a projecting bridge piece, and the measure stands upon a detachable base.

Claim.—First, the scale I, in combination with the cup A of a funnel, when said scale is constructed substantially as described, and retained in place by a spring pressure against the side of the cup.

Second, the guide bridge E, in combination with the valve C, stem D, and cup A of a funnel, when constructed so as to be readily removable, substantially as and for the purpose set forth.

Third, the removable base L, in combination with a cup and nozzle of a funnel measure, substantially as and for the purpose set forth.

Fourth, the nozzle J of a funnel, constructed with the wire k wound spirally round its outer surface, for the purpose of permitting the air to escape upward by the side of the nozzle, as set forth.

Fifth, the combined cup, funnel, and measure, constructed and arranged as set forth.

62,867.—DONALD L. McDONNELL, Detroit, Mich.—*Horseshoe.*—March 12, 1867.—The foot is protected from injurious concussion by the interposition of a vulcanite insole between the hoof and the iron shoe.

Claim.—The combination of the iron shoe, having a continuous groove in its upper surface, and spurs projecting upwardly therefrom, with the elastic shoe, having a continuous tongue fitting said groove, all constructed and arranged as described.

62,868.—C. F. MEGQUIER, Eureka, Ill.—*Cultivator.*—March 12, 1867.—The plows are raised vertically by levers which are actuated by hand or by treadles. The inside plows are moved laterally to conform to the sinosities of the rows by means of hand levers.

Claim.—The plow standards F F, pivoted at their upper ends in metal straps c, which encompass loosely the shaft G in the frame A, so that said standards and the plows H attached may be moved vertically and laterally in combination with the plow standards I I, pivoted to the outer sides of the frame A, the levers k k, to which the plow standards are connected, and the rods N attached to the plow standards, all being arranged to operate in the manner substantially as and for the purpose set forth.

62,869.—W. D. MILLER, Enon, Ohio.—*Automatic Wagon Brake.*—March 12, 1867.—As the team pulls back on the neck yoke and tongue the fore axle slides back, the king bolt traversing in the slotted bolster and coupling pole. The brake bar is connected to the fore axle, and by the motion of the latter the rubbers are brought into effective action on the wheels.

Claim.—First, the axle G and slotted bolster H, in

combination with the rollers J, substantially as and for the purpose set forth.

Second, the automatic brake A, operated by means of the connecting rod C and the axle G, in combination with the slotted bolster H, slotted perch I and bolt F, as and for the purpose set forth.

62,870.—JOHN MOODY, York, England.—*Floating Battery or Light-house.*—March 12, 1867.—The hull or base is of a star-like or radiating form viewed in plan or horizontal section, with a flat or slightly rounded bottom, and with its top preferably arched in all directions. The upper structure may be a light-house or plated battery.

Claim.—The construction of floating lights, beacons, floating batteries, and other vessels with radiating arms, as described, for the purpose of preserving their steadiness in a rough sea, as herein set forth.

62,871.—THOMAS B. MOORE, Bridesburg, Pa.—*Bed Bottom.*—March 12, 1867.—The springs are coiled upon spindles resting on the rails, and their upper ends are looped to bars beneath on the slats.

Claim.—First, an improved spring for bed bottoms, formed by combining the spring B, having a loop or hook b' formed upon its upper end, with the bars C and ears D, having notches formed in their rear sides, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the loops or bridles F with the springs B, substantially as herein shown and described and for the purpose set forth.

62,872.—FRANK MORTON, Kingston, Mass.—*Strainer.*—March 12, 1867.—Two arms of the frame support the handles and two keep the bag distended while filling. The bag is then removed, enveloping contents, whose juice is expressed by torsion.

Claim.—The arrangement and combination of the handles C C' with the strainer cloth A, and the supporting frame B B' B''.

62,873.—ALFRED S. MUNGER, Chicopee Falls, Mass.—*Breech-loading Fire-arms.*—March 12, 1867.—The hammer constitutes the abutment to sustain the recoil, and the pivot of the detaining catch is relieved by the interposition of a rigid support between the back of the hammer and the stationary part of the frame.

Claim.—The lever catch G, formed with the foot g, which in the act of firing is interposed between the back of the hammer and the part c of the frame to relieve the pivot b of the pressure, and in the act of cocking is retracted to release the hammer, as and for the purposes described.

62,874.—JAMES H. MURHILL, Baltimore, Md.—*Valve Gear for Oscillating Engines.*—March 12, 1867.—Steam is admitted through one of the trunnions and exhausted through the other. The slide-valve rod has two studs embracing the eccentric arc which partakes of the side movement of the lever, which is oscillated from its upper end by the eccentric on the crank shaft. As the cylinder oscillates, the studs traverse the arc and move the valve rod longitudinally. Variation in the throw of the valve is effected by adjustment of the arc.

Claim.—The arrangement of the arc e, lever D, valve rod d, crank shaft F, and oscillating cylinder A, substantially as described and for the purposes set forth.

62,875.—GEORGE OGG, Lacon, Ill.—*Harrow.*—March 12, 1867.—The parts of the quadrilateral frame are pivoted together, and the implement is regulated as to the width of tilth by means of the diagonal draft chain.

Claim.—The manner of connecting the arms with each other by the bolts B and rings D, and the arrangement and combination of the chain E passing through the ring D, by which any width of harrow desired may be readily effected.

62,876.—ISAAC E. and JOHN A. OVERPECK, Overpeck's Station, Ohio.—*Cane Stripper.*—March 12, 1867.—The handle being grasped by the right hand, the stalk is grasped by the hook and cut by the knife, which is slipped by the sleeve; a downward motion

strips the blades and the stalk is cut off by an upward pull.

Claim.—First, the double-edged knife *e*, arranged and operating in combination with hook *a*, for cutting and stripping stalks, substantially as and for the purpose described.

Second, the handle *b d* and shield *A A'*, in combination with a hook and knife, arranged substantially as specified for the purpose set forth.

62,877.—ZIBA PARKHURST, Milford, Mass.—*Machine for Removing Burrs from Wool.*—March 12, 1867.—The wool fed in by the rollers is crowded by the induction plate between the teeth of the cylinder, and any fiber projecting beyond the teeth is acted on by the combs.

Claim.—The application of the induction plate *G*, or its equivalent, to, or its combination with, the burring machine, so as to operate with the main cylinder thereof, substantially as and for the purpose specified.

Also, the combination and arrangement of one or more combs with the burring machine, so as to operate with the main cylinder thereof, substantially as and for the purpose hereinbefore explained.

Also, the application of the induction plate and combs, or either of them, to the burr box, so as to be movable therewith, as described.

62,878.—GEORGE T. PARRY, Philadelphia, Pa.—*Preventing Incrustation of Steam Boilers.*—March 12, 1867.—The electricity, generated by a jet of steam impinging upon brush points, is carried to the boiler to detach the scale and prevent the incrustation of sediment.

Claim.—First, the mode, substantially as described, of removing the scale from, and preventing the incrustation of, boilers by means of electricity generated without the boiler by jets of steam impinging upon one or more points, or equivalent means, said electricity being conducted into the boiler by suitable means.

Second, the combination of the try-cock *B* and the insulated brush of points *H*, set in the bulb *G*, or its equivalent, when connected by a suitable conductor *K* with the shell of the boiler, and arranged to operate substantially in the manner and for the purpose set forth.

62,879.—ELIAS C. PATTERSON, Rochester, N. Y.—*Rein Holder for Carriages.*—March 12, 1867.—The jaws are attached to the dash-board and clasp the reins.

Claim.—The improved rein holder, constructed substantially as described.

62,880.—H. H. PEMBER, New York, N. Y.—*Fid.*—March 12, 1867.—The fid is made in several sections adapted to form cringles of various sizes.

Claim.—The fid, consisting of a series of transversely divided sections *B*, of conical form, resting on each other, fitted on the shaft *C*, and adapted to receive the thimble between the sections relative to size, substantially as represented and described.

62,881.—DANIEL PETERS and JOHN W. PAULY, Keokuk, Iowa.—*Plow.*—March 12, 1867; antedated March 4, 1867.—The wheel has adjustable journals in a holder attached to the mold board and relieves the sole of pressure upon the ground.

Claim.—The combination of the friction wheel *H* and adjustable supporting bar *G* with the mold board *E* of the plow, when said wheel and bar are constructed and arranged substantially as herein shown and described and for the purpose set forth.

62,882.—ALBERT C. PIERSON, Rahway, N. J.—*Calculating Machine.*—March 12, 1867.—The decagonal prisms have on each face two columns of figures and are rotatable on their journals. The figures are read in connection with a movable bar or slide, and its application cannot be briefly described.

Claim.—First, in calculating machines, presenting to the eye only the columns which are wanted to compute the units, tens, &c., substantially as herein specified, when the several columns for each of the nine digits, with the blank column for the cypher, are arranged to be presented simultaneously, so that they may be read off for units, tens, hundreds, &c., and added mentally, with the ease and rapidity of adjustment and of use herein set forth.

Second, the belt or sliding calendar-column *E*, when used in combination with columns of calculated interest, or equivalent calculated columns, the quantities in which vary according to the number of days, substantially as and for the purpose herein set forth.

Third, the combination of the bar *G*, having a parallel motion, with the several columns on the rollers *B C* and *c*, with or without the column *M* or other columns, substantially as and for the purpose specified.

Fourth, the slide *I* fitted on the bar *G* and adapted to operate in combination with calculated columns so as to expose different columns according as it is moved, and allow only one to be visible for the units, one for the tens, &c., at one time, substantially as and for the purpose herein specified.

62,883.—THOMAS PLACE, Alfred Centre, N. Y.—*Machine for Boring and Temoning.*—March 12, 1867.—Pressure on the treadle draws the spoke to the hollow auger whose stock is turned by hand till arrested by the stop. For boring feloes a detachable bed is fitted on the sliding carriage. A screw clamp in the bed holds the feloe, which is moved up to the auger turned by hand as in the former case and arrested by a gauge stop.

Claim.—The sliding carriage *D*, having adjustable rack *i*, adjustable stop *n*, and elbow lever *k*, and operated by the treadle *h*, and operating substantially as described for the purpose specified.

62,884.—EBENEZER S. PURDY, Croton, N. Y.—*Cider Mill.*—March 12, 1867.—The teeth of one cylinder run in the intervals between the teeth of the other cylinder, and one at a much more rapid rate than the other, so as to grate the fruit.

Claim.—The alternate arrangement of the teeth *a a'* on the cylinders *B B'*, the teeth of one cylinder passing closely between the teeth of the other cylinder, and adapted for grating the fruit instead of crushing it, the whole being constructed, arranged, and operated in the manner and for the purpose set forth.

62,885.—EMMETT QUINN, Washington, D. C.—*Steam Gauge.*—March 12, 1867.—Improvement on his patent March 13, 1866. The gauge performs the function of indicating the pressure in a steam generator irrespective of the changes of temperature. The compound siphons occupy small space and are removable after being charged for use without liability of derangement. The claims explain the devices.

Claim.—First, the tubes inserted in plates, as described, with the channels cut therein from one tube to another, and with the cap or outer plate covering the channels and ends of the tubes, as and for the purpose described.

Second, the packing and diaphragms between the plates, with the plungers for the purpose of cutting off communication between the tubes, as described.

Third, the means provided for adjusting the mercury in the final or index tube to the zero point on the scale, or for adjusting said zero point to the mercury, in the manner described.

Fourth, the construction of the index tube by a combination of a back piece containing a groove of a suitable caliber, with a glass face cemented to or clamped thereon, in the manner substantially as described.

Fifth, the construction of channels from tube to tube of a size sufficient for the necessary operation of the gauge, but too small to allow of a rapid movement of the fluids when pressure is suddenly applied.

62,886.—LEONIDAS M. REAMY, Kokomo, Ind.—*Corn Planter.*—March 12, 1867.—Two parallel shares raise a ridge which is split by the central share, in whose rear the seed is dropped and covered by the rake following. The seed cylinder is rotated by band connection to the wheel beneath the beam.

Claim.—First, in the described combination the two ridging shares *c c'*, followed by the seed-dropping drill *E*, substantially as and for the purpose set forth.

Second, a corn-planter, consisting of two shares *c c'* making a central ridge on which to plant, combined with the drill *E* and crescent-shaped rake *H*, the whole arranged and operating substantially as set forth.

Third, in this connection, the crescent-shaped grain coverer or rake *H*.

62,887.—SAMUEL RICHARDS, Philadelphia, Pa.—*Glass Furnace.*—March 12, 1867.—The doors are in line with the benches; the width of the "tone" or space between the benches is reduced, and the pots of tapering form extend over the "tone" and expose their side surfaces to the flame. At the bottom of each pot is a strainer and a tube reaching to the exterior of the furnace.

Claim.—First, the furnace, constructed with doors and of the width described, in combination with the tapering pots, the whole arranged and operating in the manner and for the purpose substantially as described.

Second, constructing refining pots with the projection *b*, with or without the strainer *c*, in the manner and for the purpose substantially as shown and described.

62,888.—JOSIAH S. RICKEL, Geneseo, Ill.—*Corn Planter.*—March 12, 1867.—A seed box is suspended from the beam of the single shovel plow and its discharge slide is operated by the handles as the plow moves across the check row.

Claim.—The seed slide *G*, placed within a chamber *c* in the tube *F*, having a hole *d* made through it and operated by the levers or hands *E E*, in combination with the fixed partition *H* provided with the elastic projection *i* and flap *I*, and the recess *e* with a glass *f* at its outer side, all arranged substantially as and for the purpose set forth.

62,889.—LOUIS S. ROBBINS, New York, N. Y.—*Construction of Dikes and Leves.*—March 12, 1867. The upright planks are driven in connection with guide clamps; have removable caps to keep them in line while being driven, and when built in a trench have longitudinal timbers at their feet within the embankment.

Claim.—First, the employment of a removable cap *D*, substantially as and for the purpose herein shown and described.

Second, the employment of a guiding clamp *E*, or its equivalent, in one or more parts, substantially as shown and described.

Third, the combination of one or more longitudinal timbers with the lower portions of the upright planks or timbers, substantially as and for the purpose herein shown and described.

62,890.—EDWARD A. L. ROBERTS, Titusville, Pa.—*Torpedo for Oil Wells.*—March 12, 1867.—Improvement on his patent, No. 59,936. A powder chamber is surrounded by nitro-glycerine and a quickmatch passes from the powder to the priming chamber, which communicates through a tube with the fulminate, which is exploded by a hammer.

Claim.—First, the combination of the quickmatch *F* with the priming chamber *H H*, for the purposes set forth.

Second, the torpedo with the priming chamber, in combination with the quickmatch, substantially as and for the purposes set forth.

62,891.—EZRA M. ROBARDS, Avoca, N. Y.—*Driving Well Tubes.*—March 12, 1867.—The plug of zinc or soft metal in the cap protects the screw threads which would be bruised by the contact of iron with iron in the process of driving.

Claim.—The metallic cap or cap *C*, provided with a block or plug of zinc *e*, or its equivalent, substantially in the manner and for the purpose as herein set forth.

62,892.—E. A. G. ROULSTONE, Roxbury, Mass.—*Traveling Bag.*—March 12, 1867.—The edge of the leather is laid in a groove of the frame and confined therein by a strip of metal and rivets which pass through each portion.

Claim.—The construction of the frame, with the groove or recess *e'* to receive the edge of the leather or cloth body *b*, and the confining strip *d*, all being formed, arranged, and connected together, substantially as set forth.

62,893.—JOSEPH RYAN, St. Louis, Mo.—*Fluid Ejector.*—March 12, 1867; antedated February 27, 1867.—A liquid packing around the joints prevents the leakage of air into the chamber and the consequent

vitiating of the partial vacuum caused by the condensation of steam. The water raised is discharged against pressure of the atmosphere by a body of air associated with the steam and expanded by receiving a part of the heat of the latter. While drawing from a single supply the discharge may be at several pipes.

Claim.—First, the method of economizing the heat produced by the condensation of steam in a siphon by application thereof to one or more air currents, then caused to act in combination with the steam current or currents upon the fluid to be raised, substantially as set forth.

Second, the arrangement of the tube *F²*, its feed of steam and stop-cock, or their equivalents, with the tube *f²*, its feed of air or throttle valve, or equivalents, in such a manner that the steam current shall impart to the air current velocity and heat, and bring said air current in acting contact with the water to be discharged, thus avoiding greater loss of power by condensation which would ensue if steam alone were used, substantially as set forth.

Third, the tube *F²*, arranged to utilize the expansion of steam by widening the inner diameter thereof, substantially as set forth.

Fourth, the globes or other increases of surfaces of the air feed tube *f²*, thus favoring an expansive action of air, substantially as set forth.

Fifth, the combination of the supply pipe *g¹*, the steam chamber *G*, stop-cock *g*, and feed pipes starting from *G*, for the purposes described.

Sixth, the arrangement and combination of the chambers *F*, the bulbs *E*, with the necks *A²* and the bulbs *C* and *D*, when used as set forth.

Seventh, the arrangement for packing the valve rods to effect the perfect exclusion of air from the vacuum, the same consisting of a stuffing box, arrangement *e¹* and *e²*, (Fig. 4.) and this surrounded by a liquid, usually water, as in *e²*, and this backed by a second stuffing-box, as in *e³* and *e⁴*, or any equivalent arrangement which uses a liquid to prevent the egress and ingress of air, in combination with some mechanical stuffing-box contrivance to prevent the leakage of the air-checking fluid.

Eighth, the combination of the male and female screw parts *c* and *c'* of the valve stem *c* with the pin *c''*, worm wheel *c³*, worm shaft *c⁴*, and hand wheel *c⁵*, as and for the purposes set forth.

Ninth, the joint of the pipe *D* with the root piece *D¹* by means of a flange *d¹* and lead cement, or equivalents, filling the space surrounding *d¹* of *D¹*, substantially as described.

Tenth, the valve ball *b²*, when arranged of an inner wooden kernel and coated with vulcanized rubber, or its equivalent, as set forth.

Eleventh, the combination of the bulb *B*, diaphragm plate *b¹*, and drop valve *b²*, as and for the purpose set forth.

62,894.—GEO. SAVAGE, JR., Bangor, Me.—*Planking Screw.*—March 12, 1867.—The fulcrum point of the lever is dogged to the rib, and while one end is propped against the rib the other has a clamping screw which brings in the plank to the shape of the frame. The lever slips in the clevis and the prop upon the rib to adjust the screw in the required position.

Claim.—First, the planking screw, consisting of lever *D* with the prop or fulcrum *E*, screw *F*, and dogs *d d*, attached to lever *D* by the clevis *G*, or its equivalent, all arranged to operate in manner substantially as described and shown.

Second, the rollers *a a* in fulcrum *E* in combination with sliding clevis *G*, whereby to allow the adjustment of screw *F*, substantially in manner as and for the purposes specified.

62,895.—DAVID SMITH, Hartfield, N. Y.—*Wash Board.*—March 12, 1867.—A pressure board is hinged to the upper side of the bottom of the washboard and is operated by a lever squeezing the clothes between it and the washboard. One or more hard rubbers are mounted at one end on rods attached to either side of the washboard.

Claim.—The combination of the hinged pressure board and lever *C e*, hand rubber or rubbers *f*, and rod or rods *g*, with the washboard *A*, arranged and operating substantially as and for the purposes described.

62,896.—JAMES SMITH and SAMUEL C. BROWN, Richmond, Ind.—*Stove Damper*.—March 12, 1867.—A section of pipe is extended into the stove and has a bell-shaped deflector adjustable vertically to act as a damper.

Claim.—First, a conical or bell-shaped damper, constructed and applied substantially in the manner set forth.

Second, the internal pipe A when provided with a damper and arranged substantially as described and for the purpose set forth.

62,897.—OLIVER SNOW, West Meriden, Conn., assignor to MERIDEN MANUFACTURING COMPANY, same place.—*Punching Machine*.—March 12, 1867.—The wrist of the driving shaft is eccentrically journaled in a revoluble box of the punch shaft. A flange on this box has circumferential projections that enter indentations of the punch shaft. To regulate the downward movement of the punch the box may be drawn forward to release the projections when it is turned partially around and returned to place.

Claim.—The combination of the wrist box D, adjustable center piece E, and endless screw I, operating substantially in the manner and for the purpose specified.

62,898.—ALEXANDER F. and THOS. M. STANSBURY, Lewistown, Ill.—*Cultivator*.—March 12, 1867.

—The power is applied to the rear of the cultivator by draft rods from the singletrees passing through closed staples which are pendant from a doubletree in the usual position to a doubletree in the rear, which is attached to the rectangular frame by two straps. The shovels are secured by bolts to iron bearers behind them.

Claim.—The slotted shoe or bearer F, the doubletrees K and G, the clevis bars H, draft rods I, and pendant staples J, all substantially as and for the uses and purposes hereinbefore set forth.

62,899.—C. B. STANTON, Scott, N. Y.—*Churn*.—March 12, 1867.—The central horizontal shaft and outer spiral frame revolving in contrary directions have radial projections which pass through the intervals between each other.

Claim.—The churn box A, with the eccentric frame *s s c e* and teeth *m*, the shaft W, with its arms *t t t*, operated by the wheels B *yx* and *d*, when constructed and used in the manner substantially as specified.

62,900.—WM. H. STARTZMAN, Big Lick, Va.—*Attaching Hoes to their Handles*.—March 12, 1867.—The handle is attached in the wedge-shaped eye of the hoe by a pole plate held by nuts and bolts.

Claim.—Attaching the handle C, having its lower end wedge-shaped, to the hoe A by means of the wedge-shaped eye B, tongued cap D, nut E, and bolts and nuts F and G, as herein shown and described.

62,901.—ABRAHAM STEERS, New York, N. Y., assignor to himself, HENRY L. ELDER, and S. H. KENNEDY, Philadelphia, Pa.—*Apparatus for Making Extracts*.—March 12, 1867.—The revolving brush cleans the steam coil. The floating rake breaks the scum on the surface of the liquid to allow the vapors to escape.

Claim.—First, the revolving brush F, in combination with the still A and coil C, constructed and operating substantially as and for the purpose described.

Second, the floating rake G, in combination with the still A, constructed and operating substantially as and for the purpose set forth.

62,902.—JAMES STEWART, Bangor, Me.—*Hawse Pipe Stopper*.—March 12, 1867.—Two pivoted plates inside the hawse hole have indentations to fit the chain cable, to prevent the passage of water through the hawse hole onto the deck.

Claim.—The plates *a a*, in combination with hawse pipe B, when arranged to operate in the manner substantially as described and shown.

62,903.—JAMES STEWART, Bangor, Me.—*Revolving Table*.—March 12, 1867.—The table and desk revolve independently. The former revolves round the pillar when the detent catch is released by pressure on the pedal. The desk turns on a pivot on the top of the pillar.

Claim.—The combination of table A, desk D, and arm k, in manner substantially as shown and specified.

62,904.—SVAN SWANSON, Swede Point, Iowa.—*Harrow*.—March 12, 1867.—The rollers have slightly curved teeth and their journals have their bearings at the lower edges of the frame. The latter is rounded at the forward ends of the side pieces, so that by turning it over it can be drawn like a sleigh, keeping the teeth from contact with the ground.

Claim.—The frame *a*, carrying the toothed rollers B B B, adapted to be reversed and drawn along the surface of the ground by the top side becoming the bottom, in the manner and for the purpose specified.

62,905.—HENRY SWARTHOUT, Altay, N. Y.—*Churn Power*.—March 12, 1867.—The driving wheel has rollers and an adjustable lever by which the position of the wheel is changed according to the direction and character of the power attached. A lever and weight binding on the upper roller balances the driving wheel.

Claim.—First, the arrangement of the roller E, lever F, and pivot box C, when applied and used as specified, and for the purpose of changing the inclination of the wheel H, as set forth.

Second, roller I, lever J, and weight K, when made and applied as and for the purpose herein specified.

62,906.—JOSEPH W. THORP, Sanbornton Bridge, N. H.—*Ironing Machine*.—March 12, 1867.—By a succession of levers and slides attached to a tailor's goose, sufficient pressure is obtained by action on the handle at the end of the front lever, which is so arranged that while at rest the goose is raised from the cloth.

Claim.—The compound levers *e h g*, provided with handle *d*, the end of the levers *e*, being pivoted to bar *c*, which is connected to swinging arm D by a swivel joint, and the end of levers *g g* being connected to the guides *a a*, which slide in sleeves *b b*, in combination with the iron E, the whole operating substantially as described and for the purpose specified.

62,907.—GEORGE W. TOLHURST, New York, N. Y.—*Boot and Shoe*.—March 12, 1867.—The counter, heel shank, and side strips are molded in one piece of malleable metal, and the counter and side strips are provided at their top edge with two serrated flanges, which, closing on the leather upper, make a watertight connection.

Claim.—The counter D, heel E, shank F, and slide-flanged strips G, made of one piece of metal, in the manner described, for the purpose specified.

62,908.—ALBERT W. UPTON, Lowell, Mass.—*Knob Latch for Doors*.—March 12, 1867.—The latch is withdrawn by the pressure of the horns of the tumbler against the inclines on the rear end of the latch bolt by an end motion of the tumbler spindle, or by the turning of the handle bringing the horns of the tumbler against a catch at the rear of said inclines. A spiral spring acting against the shoulder of the latch bolt throws it back to its former position.

Claim.—The combination of the inclines *a a* and the projections *c c* on the rear end of the latch bolt B, and the horns *e e* on the tumbler A, with the sliding arbor and knobs, the whole arranged to operate substantially as and for the purpose set forth.

62,909.—C. W. WAILEY, New Orleans, La.—*Life-preserving Raft*.—March 12, 1867.—The barrels are clamped in a frame which has gains to hold the chime.

Claim.—A life-preserving raft, embracing the combination of the bars A A A with the cross-pieces B B B, &c., (so grooved as to receive the chime of a barrel), and mortises *a a a*. The slats D D D, with pin holes and pins, the ropes *f f*, the bolts C C C C, with hand nuts *d d d d*, and the barrels E E E E, all arranged and constructed as specified, for the purpose hereinbefore set forth.

62,910.—W. S. WHEELER and S. E. BICKFORD, Franklin, N. H., assignors to S. E. BICKFORD and F. FLANDERS, same place.—*Miter Box*.—March 12, 1867.—The saw guides are pivoted to a frame so as to allow a vertical inclination, and this frame is so pivoted to the standard as to permit adjustment in a

horizontal plane. Scale disks and pointers indicate the inclination in each case.

Claim.—First, the guide frame E, so hung and pivoted to a standard A, that it can be swung around an axis vertical to the work, and also inclined to the said vertical axis, whereby the proper direction can be given to the saw to cut a miter or a bevel, or both simultaneously, substantially as set forth.

Second, providing the frame E with an index or indices for fixing or adjusting its position around its vertical axis or at the required inclination for a miter or a bevel, in combination with a suitable clamp or clamps, or equivalent mechanical device for locking it, when adjusted substantially as set forth.

62,911.—JOHN WILEY, 2d, South Reading, Mass.—*Car Starter and Brake.*—March 12, 1867.—Underneath the body of the car is a slide, the slotted end of which encloses a friction wheel fixed on the axle, the other end playing in a spiral spring. By a lever and cams operated by chains below, one or the other side of the slotted slide is pressed against the friction wheel, so that the momentum of the car may be accumulated in the spring, and expended to start the car when released.

Claim.—The slide E, provided with the oblong opening a and cylindrical projection b, working through the cross-bar c, spring F, wheel D, upon the axle C, treadle K, eccentrics I I, sliding bar H, chain e, and windlass G, when all are constructed and arranged to operate as herein set forth, for the purpose specified.

62,912.—JOHN H. WILLIAMS, Somerville, N. J.—*Car Brake.*—March 12, 1867.—The brakes are applied by a spring acting on a lever and connecting rods. The brakes are released by means of a hand wheel, shaft, ratchet wheel, and pawl similar to those usual for putting on the brakes. The pawl is withdrawn by drawing a cord in reach of the engineer.

Claim.—First, the drum I, lever K, spring T, chains H, J and N, when all are constructed and arranged as herein set forth, for the purpose specified. Second, the arrangement of the lever e, connecting chains or wires d, and horizontal swinging arm g, in combination with the pawl W, substantially as described, for the purpose specified.

Third, the foot lever y, connected with the brake chain, and arranged substantially as and for the purpose described.

62,913.—ORIN O. WITHERELL, Plaistow, N. H., assignor to himself and J. B. BRACKETT, Lewiston, Me.—*Pen Holder.*—March 12, 1867.—The ink retainer is made adjustable to prevent clogging, and is readily cleaned without removal from the holder.

Claim.—The application of the tongue or ink retainer to the pen and its carrier in manner so that the said retainer may be movable and adjustable with respect to the nib of the pen, as set forth.

Also, the construction of the pen carrier with the depression or notch a and the two terminal slots b b, arranged together and in it, and for the reception and holding of an ink retainer to operate with the pen, as specified.

62,914.—RICHARD WOODCOCK, Joliet, Ill.—*Tile and Pipe Machine.*—March 12, 1867.—The core is attached to a self-revolving core shaft in the hollow main shaft, by which the core is securely held in position. The receiver is a half cylinder of proportions corresponding to the size of the tile, and is also used to carry the tile and place it in position to dry.

Claim.—First, the self-revolving core shaft c in the hollow main shaft b.

Second, the receiver i, answering the double purpose of receiving the tile from the mill and handling the same while in a green state.

Third, a combination of the self-revolving core shaft c, the main shaft b, and the receiver i, when used and operating substantially as described.

62,915.—D. WRIGHT and W. A. KIRBY, Auburn, N. Y.—*Coal Scuttle.*—March 12, 1867.—The movable lip on the mouth of the scuttle is confined to its position by a pivot running in an elongated slot at its lower extremity and by a catch sliding into an open slot above. By pressing a spur, which is attached to the lower part of the lip, against the grate or furnace,

the lip may be raised till the catch leaves the upper slot and the lip falls and forms a chute for the coals.

Claim.—First, the use of a lip or flap as a part of the coal scuttle and in front thereof, so that the coal may be discharged through an aperture, the bottom of which shall be at a level sufficiently below that of the upper edge of the scuttle, substantially in the manner described.

Second, the manner of affixing the said lip to the scuttle, substantially as above described.

62,916.—JOHN ALLEN, New York, N. Y.—*Applying Medicines and Remedial Agents and Apparatus Therefor.*—March 12, 1867.—The air-tight box chamber has a hood to enclose the head of the patient and is connected with a boiler or retort heated by a lamp. The retort is filled with a solution of corrosive sublimate and iodide of potassium, the vapor of which passes into the chamber.

Claim.—First, the peculiar construction and arrangement of the apparatus for administering vapor baths, substantially as hereinbefore described and for the purposes set forth.

Second, the peculiar construction and arrangement of the bath armor No. 1, the frame, flexible, impervious casings and hood, and the armor No. 2, body and hood or head box, with glass front and thermometer, substantially as hereinbefore described, and for the purpose set forth.

Third, the flexible supply and escape pipes, combined and arranged with the apparatus, substantially as described and for the purposes mentioned.

Fourth, the gasoline stove, or other suitable device, the heat of which can be readily graduated, in combination with a boiler or retort for generating vapors for vapor baths, substantially as described.

Fifth, the combination and arrangement of the cup, with water in it, lamp and plate, constituting the sulphur vaporizing apparatus, substantially as described and for the purposes stated.

Sixth, the introduction into a boiler or retort of medicines which are soluble in water, or which may be vaporized by a moderate degree of heat, particularly the perchloride of mercury, (otherwise known as corrosive sublimate,) and iodide of potassium, together or separately, and their compounds or equivalents for converting them into vapor, substantially as hereinbefore described and for the purposes set forth.

62,917.—W. L. AINSWORTH and A. D. WRIGHT, Lowell, Mass.—*Stop Motion for Feeding Mechanism of Carding Engines.*—March 19, 1867.—When a sliver breaks it falls in its traverse to tilt as usual the trimmed lever, whose heavier end is then permitted to fall, bringing its opposite arm in position to be acted upon by a projection of the carriage, and to push the slide and disengage the shipping lever from its notch. The spring is then free to disengage the gears, and so stop the feed.

Claim.—The peculiar stop motion or mechanism for effecting the disengagement of the bevel gears s and x; and also the combination of such a stop motion, or its equivalent, and the laying and feeding mechanism, as described.

Also, the combination of the alarm apparatus, or its equivalent, with the stop motion and the laying and feeding mechanism, applied to or making a part of a carding engine, as described, the whole being substantially as and for operation in manner and for the object or purposes as hereinbefore explained.

62,918.—J. LAMBERT ASAY, Philadelphia, Pa.—*Staple for Artificial Teeth.*—March 19, 1867.—Staples of platinum have the ends embedded in the plastic teeth, which are then baked. The gum, prior to vulcanizing, is forced between the curves of the staples in the rear of the teeth.

Claim.—The use of staples a, with their bent portions projecting from the teeth, as a means of securing the latter to a vulcanizable gum attached to a metal plate, as and for the purpose herein set forth.

62,919.—D. ASHWORTH and R. B. EATON, Woburn, Mass.—*Concentrating Sulphuric Acid.*—March 19, 1867; antedated March 12, 1867.—The series of glass retorts situated over the furnace communicate directly with each other. The upper are connected with the pan from which the acid flows, and from

thence it finds its way successively into each one of the series.

Claim.—Condensing or rectifying oil of vitriol by passing the same through a series of glass retorts, in combination with a heating apparatus, substantially as described.

Second, the combination of a series of glass retorts G with the pan E and furnace A, substantially as and for the purpose specified.

62,920.—HENRY BAILEY, New York, N. Y.—*Steam Engine.*—March 19, 1867.—An extension of the cylinder, formed as required, encloses the connecting rod and crank.

Claim.—First, the combination, with the cylinder and its piston, of the steam or water-tight box or chambered cylinder head, pitman, and revolving crank, all arranged for operation within said head in open communication with the cylinder, substantially as specified.

Second, the chambered cylinder head H, constructed with its internal form corresponding to the course described by the pitman in its action, substantially as shown and described.

62,921.—S. R. and G. W. BALLARD, Coldwater, Mich.—*Carding Engine.*—March 19, 1867.—This machine cards rolls in continuous lengths for hand spinning. The tubes have removable tips, with varying bores to suit different sizes of yarn. The tubes are driven by a single belt, which passes alternately above and below them in the series.

Claim.—First, the rotating tubes *a a a*, having removable tips or points *h*, when the same are constructed and operated as described, for the purpose specified.

Second, we claim the arrangement of driving pulley *d*, single belt *E*, friction-roller belt tightener *r*, and a series of rotating tubes *a a a*, in combination with worm gear *s t*, heart cam *q*, finger *o*, lever and slide *L l*, for moving the guide frame *K*, as described, for the purposes specified.

62,922.—WILLIAM BAUSTIAN, Davenport, Iowa.—*Manufacture of Friction Matches.*—March 19, 1867; antedated March 11, 1867.—The matches are tipped with a composition of glue, 34 lbs., boiled in 4 quarts of water; to which are added, phosphorus, 24 lbs.; white zinc, 24 lbs.; Paris white, 24 lbs.; lampblack, 24 oz.; rosin, 4 lb., primarily dissolved in 1 quart of alcohol; and sulphur, 4 lb.

Claim.—The composition wherein the matches are dipped, as hereinbefore described.

62,923.—ALBERT B. BEAN, New Haven, Conn.—*Machine for Making Nuts.*—March 19, 1867.—One of the dies is upon a hinged support, so that it may be swung out of its working position to afford access to itself and the other dies.

Claim.—The crowner *T*, in combination with the punch *L* and die *A*, and hinged holder *U*, substantially as and for the purpose set forth.

62,924.—WILLIAM BIRCH, Cincinnati, Ohio, assignor to himself and THOMAS BIRCH.—*Steam-engine Slide Valve.*—March 19, 1867.—The sectional packing rings are so arranged that the joints of one are overlapped and closed by the other. An inwardly-opening valve in the balance plate, beneath the oil cup, admits oil and air on occasion of a partial vacuum in the steam chest. Steam is admitted beneath the packing rings to force them to their seat in the chest cap, and spiral springs are also placed beneath them.

Claim.—First, in the rectangular or square frame, the arrangement of the straight and angular packing strips, to be expanded by steam, in the manner described.

Second, the valve in the packing frame, to admit oil to the steam or valve chest, and also to admit air to prevent a vacuum in the cylinder and steam pipe.

62,925.—JOHN A. BLAKE, New Haven, Conn., assignor to BLAKE BROTHERS, same place.—*Ink-well Cover.*—March 19, 1867.—The pintle is formed on the cover, and a hooked shank is placed over the pintle to complete the hinge.

Claim.—The combination of the cover *C* and the shank *D*, when hinged together by a hook formed

upon the one and a corresponding bar on the other, substantially in the manner herein set forth.

62,926.—R. BOEKLEN, Brooklyn, N. Y.—*Explosive Torpedoes in Oil Wells.*—March 19, 1867.—Two insulated wires are carried into the torpedo, and their ends connected by a fine platinum wire, so that when the circuit is completed through the wires the heating of the platinum explodes the torpedo. Several torpedoes may be simultaneously discharged by a similar device to each, the whole having common wires of connection to the battery.

Claim.—The application of two or more torpedoes in an oil well, the same being connected together and exploded simultaneously by one continuous electric current, substantially as and for the purposes herein described.

62,927.—WILLIAM R. BRADFORD, Charlestown, Mass.—*Cover for Kilns of Sugar Refineries.*—March 19, 1867.—The fire brick or soapstone is held by a band of iron cast around it. The fire-resisting mineral is dovetailed into the metallic cover, which it preserves from the heat of the kiln.

Claim.—The construction or formation of a kiln cover by casting the metal upon a fire brick or bricks, or other similar material, and so as to secure the metal and brick together, substantially as set forth.

62,928.—JOHN E. BRASTOW and E. K. INGOLDSBY, Van Buren Centre, N. Y.—*Railroad Pick.*—March 19, 1867.—The strap is bent over the mortised end of the handle, and fastened to it by bolts. The pick is inserted through perforations in the strap corresponding to the mortise, and is secured by a wedge, the strap forming a head for the pick and a guard for the protection of the handle.

Claim.—Attaching the pick to its handle by forming a head of the strap *C*, constructed and applied substantially as and for the purposes herein set forth.

62,929.—S. J. BRIDGE and A. M. CRAIG, Portage City, Wis.—*Water Wheel.*—March 19, 1867.—The turbine wheel has a series of deflecting guides on its upper surface, spiral buckets on its periphery, and a central air chamber beneath.

Claim.—A water wheel, having spiral buckets *b* and the tangential guides *a*, combined and arranged substantially as shown and described.

62,930.—GEORGE M. BRIGGS, Boston, N. Y.—*Wool Press.*—March 19, 1867.—The table has folding leaves and a head, moved by a rope and crank, to compress the fleece into the box at one end. Six balls furnish twine to tie the fleece, and are placed in separate receptacles beneath the table.

Claim.—The separate twine receptacles *1 2 3 4 5 6* and corresponding grooves *a a a* and *b b b*, when combined and arranged with the stationary bed *A A*, fixed compressing box *D D*, and the follower *E*, substantially in the manner and for the purposes described.

62,931.—GEORGE BRILL, Philadelphia, Pa.—*Axle Box.*—March 19, 1867.—The sliding door is held by side grooves of the box, and has an edge groove to hold a packing strip. It is kept down by the collar of a screw which enters a groove of the box. The serow has a section cut away on one side, which, being turned to the groove, the slide may be withdrawn.

Claim.—First, the sliding door *F*, and pin *H* with its collar *h*, the whole being constructed and adapted to an axle box, substantially as and for the purpose herein set forth.

Second, the ribs *y y* and lip *z*, arranged on the box for the retention of the door, as set forth.

Third, the packing strip *G*, adapted to the door and box, as described, for the purpose specified.

62,932.—CHARLES R. BRYANT, Frankfurt, N. Y., assignor to CALVIN EATON, Webster, N. Y.—*Extension Ladder.*—March 19, 1867.—The extension rope revolves round a pulley, while the retractor connects directly with the windlass; this obviates the difficulty from contraction of the rope from moisture, the retractor being left sufficiently slack for any variation.

Claim.—In combination with the extension ladder *A* and *B*, the rope *D* and retracting rope *C*, arranged

and operating substantially in the manner shown and described and for the purposes set forth.

62,933.—JOSEPH H. BUCKLEY, New Haven, Conn.—*Hydrant*.—March 19, 1867.—The valve seat has a leather ring held by an annular nut. A waste pipe is stopped by an additional valve when the main valve is open, but allows the escape of water when it is closed.

Claim.—The combination of the valve C, having its seat formed and packed in the manner described, with the chamber B provided with waste passage or passages I, and with the cone *f* on the valve rod, when the said passage or passages I are united or arranged so as to form a central support for the valve rod, substantially as herein set forth.

62,934.—G. W. BUSS, Boston, Mass.—*Car Spring*.—March 19, 1867.—Improvement on his patent October 28, 1862. An open metallic box is attached to the under surface of the carriage, and has bearings in its side plates for a fulcrum pin, on which hangs a lever connected at its free end with the truck or journal boxes of the carriage. The lever presses on a spring enclosed in the box beneath the carriage.

Claim.—As a new article of manufacture a spring for railway and other carriages, made up of the following combined devices, namely: an open metal box, a lever hung upon a fulcrum in one end of the box, and having its free end projecting out from the opposite end of the box for connection with the truck, and a spring interposed between the lever and the roof of the box, the box serving as a bearing for the fulcrum pin, as a means of connection between and support of the spring and lever, and as a means of applying the spring, lever, and fulcrum to the body of the carriage, the whole being arranged to operate substantially as set forth.

62,935.—HARVEY L. BYRD, Baltimore, Md.—*Kindling Arrangement for Stoves*.—March 19, 1867.—The basket to contain kindlings is hinged beneath the grate, and when elevated in front is in a proper position for the ignition of the fire.

Claim.—A kindling basket beneath the stove grate or furnace grate, substantially as described.

62,936.—JOHN CA FLISCH, Union Mills, Pa.—*Composition for Roofing, Covering Wood, &c.*—March 19, 1867.—Raw coal tar is added to partially slacked lime, and incorporated by stirring. To this is added for roofing purposes sand or clay equal to half the bulk of the other materials. For painting purposes it is liquefied by the addition of varnish.

Claim.—First, the combination of lime with coal tar, in the manner substantially as and for the purpose herein shown.

Second, the composition of coal tar, sand, quicksand, or clay and lime, substantially as and for the purpose herein described.

62,937.—J. B. CAMPBELL, Cincinnati, Ohio.—*Apparatus for Regulating Draft in Steamboat and other Chimneys*.—March 19, 1867.—To the enlarged end of the horizontal smoke pipe are appended wings, which are actuated by side and stern winds, so as to keep a passage open.

Claim.—First, the enlarged end of the smoke pipe B, provided with the wings E E, and with the curbs D D, constructed and used in the manner above described.

Second, the wings E E, hinged and adapted to the purpose described.

62,938.—NATHAN S. CLEMENT, New Britain, Conn.—*Awl Handle*.—March 19, 1867.—The nut is larger at either end than in the middle, and has radiating projections, which fit recesses in the handle. It is of type metal, and cast in place around the screw stem.

Claim.—As a new article of manufacture the awl handle herein described, having a tapering head B, or a movable stem operated by a nut c, locked in the cover C, by being headed or enlarged to match the recesses provided in said cover, as herein set forth.

62,939.—JOHN H. COOPER, Philadelphia, Pa., assignor to E. J. SPANGLER, W. E. LOCKWOOD, and E. D. LOCKWOOD, same place.—*Envelope Machine*.—

March 19, 1867.—Improvement on the patent of S. E. Pettet, March 23, 1859. The paper is fed from the roll, passes between rollers, makes a loose, downward fold, then passes over rollers to the intermittent drawing rollers, where it is acted on by the knives of the cross-head, being automatically guided by lateral spring plates. The blade makes the curved cut, and the folding blade pushes the blank between the folding rolls, other knives making the incisions and removing the superfluous side pieces, succeeded by gumming and folding devices. The cutting and folding blades are arranged only a short distance apart from each other, and on the same cross-head, and perform their respective duties during one motion of the latter.

Claim.—First, knives attached to one cross-head or plate E, and so arranged as to cut or sever the strip of paper at several points simultaneously, substantially in the manner described, during one movement of the said cross-head.

Second, the combination of the said cross-head, its knives, the blade 3 and folding rollers T and T', so that the paper may be cut and folded during one movement of the cross-head.

Third, the stationary arm H, projecting through an opening in the cross-head E, and carrying rollers I, in combination with the rollers J.

Fourth, the combination of the intermittingly-revolving drawing rollers I and J, with the continuously-revolving feed rollers P and Q, the whole being arranged to act on the paper, as set forth.

Fifth, the system of rods $\alpha \alpha'$ and α'' , arranged for maintaining the paper in contact with the table, and imparting proper tension to the paper.

Sixth, the guiding plates *v* and *v'*, connected together by the system of levers herein described, or the equivalents to the same, and arranged for the proper guidance of the paper in a central course, substantially as described.

62,940.—EDMUND L. COUNTISS, Philadelphia, Pa.—*Car Brake Shoe*.—March 19, 1867.—The shoe holder has a central cavity and a catch on the upper side for the lugs of the shoe. The shoe has a square central stop and lugs on each end, and can be reversed when one end is worn.

Claim.—The combination of the shoe with the catches *c c* and the square-headed lug *d*, attached together with the receiver *b*, shaped as shown, with its slotted hole *l*, socket *g*, with its flanges and the double inclined groove, constructed and arranged in the manner described.

62,941.—C. O. CROSBY, New Haven, Conn., assignor to himself and H. KELLOGG, same place.—*Soldering Iron*.—March 19, 1867.—The body is made of cast iron, and has a dovetailed socket into which the shank of the copper is expanded by driving, so as to be retained therein; the point is afterward finished.

Claim.—The body A and point B, when constructed and united by the enlargement of the point within the body, substantially as herein described.

62,942.—FRANCIS CURTIS, Anburdale, Mass., assignor to himself and WILLIAM RUSSELL and SON, Lawrence, Mass.—*Screen Plate for Paper Machinery*.—March 19, 1867.—The material is lasting, forms no burr on the edges of the slots, and resists the action of chemicals.

Claim.—A screen plate for paper machinery, constructed of the material known as hard rubber.

62,943.—WILLIAM DERWENT, Jr., Rockford, Ill.—*Flour Bolt*.—March 19, 1867.—A short return conveyer is inserted between the main conveyer and the lower bolt reel for the purpose of rebolting so much of the meal as is conveyed.

Claim.—The short conveyer interposed between the upper and lower bolts, substantially as and for the purpose set forth.

62,944.—Canceled.

62,945.—PATRICK V. DUNN, Calamus, Wis.—*Holding Edged Tools on Grindstones*.—March 19, 1867.—An additional frame is erected upon the frame of the grindstone, and serves as a guide for clamps, which hold edge tools and scythes to be ground,

The tools are held to the stone by means of a lever and weight, which serve also as a regulator of the pressure to be applied to the tool upon the stone.

Claim.—First, the combination and arrangement of the frame C C C, the clamp D and the scythe device E, substantially as described, for the purposes specified.

Second, the combination of the weight I, lever J and wheel K, as described, for the purposes specified.

62,946.—ROBERT N. EAGLE, Washington, D. C.—*Hopple for Horses.*—March 19, 1867.—Improvement on his patent April 7, 1863. The bands are connected by flexible loops, which slip upon each other as the animal walks, and do not revolve the band upon the leg.

Claim.—A hopple, in which the leg bands are connected by loops, which slip upon each other or upon a device interposed between them or by a single loop connected more directly to another leg band, as in Figs. 5 and 6, substantially as described.

62,947.—CHARLES H. EDDY, Auburn, N. Y., assignor to himself and THEODORE J. DICKERSON, same place.—*Blind and Shutter Fastener.*—March 19, 1867.—The lever has hooks, and is pivoted to the sill so as to engage with corresponding notches on the blinds as they are closed.

Claim.—The shutter or blind fastening, composed of lever G, provided with hooks E F attached to the sill H, in combination with notches C D on the blind, to be operated substantially as and for the purpose set forth.

62,948.—JAMES E. EMERSON, Trenton, N. J.—*Saw-gumming Machine.*—March 19, 1867.—The machine is held in the hand of the operator, and has a revolving burr which cuts the saw plate to the desired shape and is guided by an adjustable handle.

Claim.—First, the thumb screws D D, arranged and operating as pivots, substantially as and for the purpose specified.

Second, the combination of the thumb screws D D and adjustable handle I, for exerting the pressure directly in line with the cutting part, substantially as described and represented.

62,949.—JAMES H. FARLEY, Lowell, Mass.—*Milk Can.*—March 19, 1867.—A metallic ring surrounds the bottom of the can and projects from its sides for the purpose of keeping the cans apart when placed in a car and make them more staunch by extending their base.

Claim.—The ring A, constructed as described, in combination with the bottom part of a milk can, substantially as described, and for the purpose herein set forth.

62,950.—JOSEPH FIRMINICH, Buffalo, N. Y.—*Apparatus for the Manufacture of Vinegar.*—March 19, 1867.—A vinegar mixture is formed of combined alcohol in the form of vapor with the wash or wort, which is slowly and continuously run through the apparatus described, where the combination takes place.

Claim.—The combination with the vessel C of the concave condensing surface N, perforated diaphragm i, and porous stratum j, with the pipe K, provided with perforated head l, constructed substantially in the manner and for the purpose set forth.

Also, in combination therewith, the tempering vessel E, constructed as described, with the pipe d and vapor generator A, arranged and operating substantially as described.

Also, the cooling vessel P, constructed as described, in combination with the water space H, arranged and operating as described.

62,951.—JOHN T. FOSTER, Jersey City, N. J.—*Peat Machine.*—March 19, 1867.—The hopper cylinder contains a series of revolving stirrers attached to a shaft which passes through a revolving plate moving in a direction opposite to that of the shaft. To the said plate are attached three slotted cylinders in the annular space between the stationary cylinder attached to the plate which supports the hopper. A stationary director is secured in the annular space between the outer slotted cylinders, directly opposite the molding tube. This director forces the peat

through the slots into the molding tube, and as the peat passes out it is cut into blocks by a reciprocating knife and deposited in a trough.

Claim.—First, the stirrer or agitator formed of vanes b b and d d, connected with a revolving shaft B, and of a convolute shape or character, inclining as they revolve to press the material downward, for operation in combination with a reversely-moving cylinder D, substantially as specified.

Second, the combination with a revolving stirrer or agitator of reversely-operating concentric cylinders, formed with oblique slots in or through their peripheries, for operation in connection with an intermediate stationary slotted cylinder, substantially as specified.

Third, the combination with the obliquely-slotted revolving outer cylinders F G and forming tube I, of the director J, substantially as shown and described.

Fourth, in combination with the forming tube I the yielding gauge L, operated by the material in its delivery, as described.

Fifth, the combination with the forming tube I and yielding gauge L of the knife M, moved forward to effect the cut by the action of the gauge through mechanism connecting it with the mill, substantially as herein set forth.

Sixth, the side guide K, in combination with the knife M and gauge L, for operation together, essentially as specified.

62,952.—JOHN T. FOSTER, Jersey City, N. J.—*Machine for Making Pastboard Boxes.*—March 19, 1867.—The reciprocating feeding bar takes a blank from the top of an automatically adjustable pile and forces it through a former, which creases, turns up the ends, and then laps them over above to form an open-ended box to hold a drawer for matches, troches, &c. The rectangular finish to the corners is given by grooved setting disks.

Claim.—First, the combination with the reciprocating feeding bar D of a former, so constructed as that, in the one motion of the bar, the blank is creased and bent over the same, and its one edge or end made to overlap the other, substantially as specified.

Second, the combination with the reciprocating feeding bar D and former, operating as described, of setting disks or wheels arranged to act on the bent edges of the box or case, as it is delivered from the former, essentially as herein set forth.

62,953.—JOHN HAFER, Bedford, Pa.—*Steam Generator.*—March 19, 1867.—In the interior flue of a vertical steam generator and over the furnace is a series of alternate cones and frustal flanges, with spaces between them, to compel the products of combustion to pass in a tortuous direction from the furnace to the smoke stack. Pipes pass through the walls of the generator for the introduction of air into the gases at different points of their progress through the flue.

Claim.—First, the combination of the cones and flanges with a steam boiler, arranged and operating substantially as and for the purpose set forth.

Second, the combination of the cones and flanges with a steam boiler, and with the tubes K, arranged and operating substantially in the manner and for the purpose set forth.

62,954.—E. HAMBURGER, Detroit, Mich.—*Caster for Furniture.*—March 19, 1867.—The zone of balls impinges upon the caster ball a little above its equator, and one at its north pole forms a rolling point of impact in that direction.

Claim.—The equatorial balls e, moving round the entire circumference of the grooved chamber d, in combination with the top ball f, operating relatively with the roller ball E, substantially as described, for the purpose specified.

62,955.—A. F. HAMMOND, Houston, Ohio.—*Garden Syringe.*—March 19, 1867.—The water is introduced while the nozzle is temporarily removed and is forcibly ejected by the pressure of the spring piston, which is actuated by a rack and the pinion on the hand-crank shaft.

Claim.—First, the arrangement of the cylinder e, spring piston d, operated by rack and pinion, substantially as described and represented.

Second, in combination with the subject-matter of

the first claim, the movable nozzle, operating as described.

62,956.—THOMAS HANVEY, Lancaster, N. Y.—*Preparing and Preserving Wood.*—March 19, 1867.—The wood is boiled in a solution of salt, saltpeter, or sulphate of copper; subsequently gas tar, petroleum, or other antiseptic substance is added, and the boiling continued until the wood is saturated therewith.

Claim.—The process of preparing wood for preservation, substantially as herein described.

62,957.—JACOB B. HOUGH, Lebanon, Ohio, assignor to himself and SAMUEL BRADEN, same place.—*Doubletree.*—March 19, 1867.—As one horse of the team advances his end of the doubletree, it rocks upon the stay block attached to the hounds of the tongue and becomes practically shortened relatively to the other end, by changing its point of draft upon the fulcrum block. The guides permit its motion in this direction, but sustain it in proper relation to the tongue.

Claim.—First, the combination of the doubletree D with the fulcrum block E and guides *a a*, constructed, arranged, and operating in the manner and for the purpose described.

Second, the stay block F, in combination with the compensating doubletree and its fulcrum block, arranged to operate conjointly with the guide rods *a a*, substantially as and for the purpose set forth.

62,958.—ROBERT L. HOWE, Westbrook, Me.—*Self-adjusting Guide Roll for Paper Mills.*—March 19, 1867.—The dry felt passes between wide rollers. When from any cause it tends to run to either side it becomes jammed slightly in the wedge-shaped space between the ends of the rollers, and thus pulls and swings the roller frame on its pivoted center, correcting its course and releasing itself from the bite of the rollers.

Claim.—The swinging base A set upon the stationary base B, as described, and having the two rollers *a b*, all constructed, arranged, and operating as set forth, and for the purposes specified.

62,959.—P. GENGEMBRE HUBERT, New York, N. Y.—*Carte de Visite Exhibitor.*—March 19, 1867.—The cards are slipped one over another and are viewed through a lens consecutively. Two cards are placed back to back between the elastic bands. The box is tilted, the lens withdrawn to focal distance, and the suspended reflector swings into position. The cards are brought forward consecutively by turning the wheel.

Claim.—First, the herein-described "revolvicon" in which cartes de visite are stored, as in figure 2, and in which they are exhibited, as in figure 1, by dropping in sight, one after the other, by their own gravitation force, arranged and operating as specified.

Second, the combination of the piece H, pins F, and wheel G, with the carte de visite J J', &c.

Third, the combination and arrangement of the leg R with the leg P' of the bottom B, to obtain the two positions of the instrument, as specified.

Fourth, the self-adjusting reflector E, arranged and operating as set forth.

62,960.—WILLIAM JANNEY, Martinsville, Ohio.—*Apparatus for Cooking and Preserving Fruit.*—March 19, 1867.—The fruit is prepared for canning in a fruit pan heated by a water bath or in a chest heated by a connecting pipe carrying steam from a boiler in the stove.

Claim.—First, the fruit pan D, in combination with vessel C, as above described and for the purpose set forth.

Second, the steam chest B, pipe F, and vessel C, in combination with fruit pan D, for the purposes above specified.

62,961.—JOHN H. KEYSER, New York, N. Y.—*Coal Burning Stove.*—March 19, 1867.—Explained by the claims and illustration.

Claim.—First, a stove which is composed of two apartments B E, one arranged below the other, with a removable open-grated fire pot F, which is provided with a grate G, said pot being suspended free from the sides of the lower cylinder B, and sustained by a cast-iron flanged ring C, which is secured permanently

to cylinder B, and which forms the base for and means of attachment of the cast-iron section D of the cylinder E, substantially as described.

Second, in combination with grates or open fire pot F, suspended within a cylinder B by means of a cap ring C, the grate G, when it is sustained independently of the fire pot, and by the cylinder B, substantially as described.

Third, the combination and relative arrangement of the air inlet passages *e*, with a suspended fire pot F, and with the two detachable cast-iron sections C D, substantially as described, and for the purpose of cooling and preventing said sections from warping.

Fourth, An open-grated fire pot F, which is suspended within the cylinder B, and combined with the removable sections D E, outlet *g*, descending flue *h*, and a damper *s*, the latter being located opposite the outlet *g*, substantially as described.

62,962.—JOHN H. KEYSER, New York, N. Y.—*Radiating Attachment for Hot-air Furnaces.*—March 19, 1867.—Explained by the claim and illustration.

Claim.—In the construction of radiators to be applied to hot-air furnaces, the arrangement of a central ascending flue *c*, passing through one or more radiating drums, and leading into the center of an upper drum, in combination with descending flues arranged around said flue *c*, and communicating with the lowermost drum and an exit pipe *g*, so that without the use of a damper the products of combustion rising from the fire chamber of the furnace shall be equally diffused throughout the said drums and pipes, substantially as described.

62,963.—W. M. KOPLIN, Newcastle, Pa.—*Machine for Making Carriage Bolts.*—March 19, 1867.—The machine cuts off a piece of the bar, grasps and points it, upsets it so as to form a square portion between the head and the thread, larger in diameter than the latter, and swages a raised head, completing the bolt blank, which is discharged by a hook.

Claim.—First, the combination, with the dies *a' b b'*, of the dies *c H*, operated as described, to form the square on the bolt.

Second, the die *c*, in combination with the swedge I on the lever F, operated as described.

62,964.—DAVID M. LAWRENCE, Washington, D. C.—*Metal Clasp for Barrel Hoops.*—March 19, 1867.—A substitute fastening for rivets. The ends of the hoop are looped inward over the bars and fitted into the bed between the shoulders before driving.

Claim.—The buckle or plate A, with its slotted or loop opening to receive the iron hoop, and with shoulders *c c*, at each end, together with the tongue or flange, substantially as set forth in the foregoing specification, and for the purposes therein indicated.

62,965.—EUGENE McDONNELL, Baltimore, Md.—*Cotton Press.*—March 19, 1867.—The power levers are pivoted to toggle arms which are hinged to the frame. They are operated by chains which pass around rollers at their lower ends and others in the frame. The follower is suspended by rods from the upper ends of the levers.

Claim.—A cotton-bale compressor provided with the following parts: fulcrum beams C C, power levers I I, toggle arms L L, lifting rods M M, rising follower E, adjustable upper bed G, and the whole driven by means of a pulley chain N and capstan P, or its equivalent, to which the power of horses may be applied, all arranged and operating substantially as and for the purpose herein specified.

Also, the combination of the fulcrum beams C C, arranged between the follower E and power levers I I, through means of the toggle arms L L and lifting arms M M, substantially as herein set forth.

Also, the adjustment of the bed G by means of the blocks or timbers H, and the means described, or the equivalent thereof, for raising and lowering the bed, substantially as described.

Also, the alternate arrangement or interweaving of the fulcrum beams C C and toggle arms L L, as specified.

62,966.—CHRISTOPHER MOEGLING, Milwaukee, Wis.—*Grinding Mill.*—March 19, 1867.—Wings are attached to the periphery of the running stone, and can be adjusted at different angles to regulate the

ventilation. A dust pipe carries off the heated air and has a receptacle for retaining the heavier particles.

Claim.—First, the adjustable wings E, in number more or less, when used upon the periphery of the rotating stone of a grain or flouring-mill for the purposes specified.

Second, the pipe g, the cover h, the elbow k, and the educting pipe I, when provided with the cap J, all combined and arranged substantially as set forth, and to operate in connection with the wings E, for the purposes specified.

62,967.—WALLACE T. MUNGER, Branford, Conn., assignor to THOMAS KENNEDY, same place.—*Attaching Door Knobs to their Shanks.*—March 19, 1867.—The filling material is inserted into a cylinder, and is forced into the handle by means of a plug and adjustable spindle, which are both worked by one handle.

Claim.—First, the combination of the cylinder A and plug C and tube I, constructed and arranged so as to receive and discharge the requisite quantity of filling substance, substantially as herein set forth.

Second, in combination with the above the adjusting spindle F, arranged to gauge the quantity of filling substance, substantially as herein set forth.

62,968.—WALLACE T. MUNGER, Branford, Conn., assignor to BRANFORD LOCK WORKS, same place.—*Adjustable Escutcheon for Night Latches.*—March 19, 1867.—The escutcheon has a cylindrical plate extending inward, which has a slot and a set screw, by which it is adjusted on the lock to accommodate it to the thickness of the door.

Claim.—The escutcheon E, in combination with a lock or latch when made adjustable thereon, substantially in the manner herein set forth.

62,969.—JOHN NESBITT, Northfield, Vt., assignor to himself and LEVI B. TYNG, Lowell, Mass.—*Steam Engine Slide Valve.*—March 19, 1867.—The packing segments of the outer side of the valve are forced against the shield plate by steam admitted beneath them. The steam is exhausted through the center of the valve.

Claim.—First, the arrangement of the valve d, with reference to the packing g g in its ends, substantially as herein described.

Second, the chamber ll over the valve d, constructed in the manner and for the purpose substantially as herein set forth.

Third, the combination and arrangement of the valve d, shield h, chamber ll, and exhaust port k, for the purpose substantially as described.

Fourth, the projections ff on the ends of the valve d, constructed in the manner and for the purpose substantially as herein described and set forth.

62,970.—J. H. PARKER, J. T. HALL, and ISAAC PIERCE, Trenton, N. Y.—*Horse Hay Fork.*—March 19, 1867.—The two independent spiral tines, having a right and a left-hand twist respectively, revolve in opposite directions in the cross-head, which is hoisted by the yoke attached thereto. A pawl engages ratchet wheels on the shanks of the tines to hold them in position while the load is being raised, and is withdrawn to free the tines and allow them to revolve and discharge their load.

Claim.—First, two spiral tines, one having a right-hand, the other a left-hand twist, and so arranged and held with relation to each other when in the hay that it will be bound and held from sliding and slipping off the tines until they are allowed to revolve at the will and pleasure of the operator.

Second, the combination and arrangement of the yoke B, cross-head A, tines C, ratchet wheels e, and pawl f, constructed, arranged, and operating in the manner herein described and for the purpose set forth.

62,971.—LEVI REPP, Tiffin, Ohio.—*Cultivator.*—March 19, 1867.—The three-beam cultivator is expandible laterally, the central portion having a hinged rear section with a shovel thereon. Pivoted clevises connect the points of the side beams to the central. The handle supports rise from the central beam.

Claim.—The construction of the central beam A of a three-beam cultivator with a jointed extension A', having a shovel applied to it, and also a spring g for

keeping it down and staying it laterally, substantially as described.

Second, pivoting the front ends of the three beams A B B to U-shaped clevis plates a a, substantially as described.

Third, the construction of the shovels m m, with narrow and wide wings, and so that they can be reversed at pleasure, substantially as described.

Fourth, in combination with the forward pivot connections of the three beams A B B the lateral extension braces C C, and still standards E, connected to beam A, in front of the joint e by a bolt e, substantially as described.

62,972.—G. B. RICH, Lafayette, Ind.—*Door for Grain Railroad Cars.*—March 19, 1867.—The shutter forms an inner door for the car, having end plates which expand by a toggle and fit closely to the jamb. It is suspended by rods from the ceiling, and is hooked up thereto when not in use.

Claim.—First, the application of the sliding joint plates p to the grain doors of railroad cars, substantially in the manner and for the purposes herein shown and described.

Second, connecting the said joint plates by means of the pivoted levers b and d, substantially as and for the purposes set forth.

Third, suspending the grain doors of railroad cars by jointed rods n, or chains, or any equivalent device, whereby they may be fastened up out of the way when not required for use.

62,973.—J. RICKARD and J. COOK, Philadelphia, Pa.—*Bed Bottom.*—March 19, 1867.—The slats rest on springs which are planted in strips whose dovetailed ends are secured in correspondingly shaped sockets on the bed rails.

Claim.—The strips b and b', having dovetailed ends adapted to dovetailed sockets d, in combination with the springs c c and slats h, substantially as described.

62,974.—BENJ. SHERWOOD and D. FITZGERALD, New York, N. Y.—*Safe.*—March 19, 1867; antedated March 12, 1867.—The interior book case may be drawn out horizontally upon the platform, in front of which is the writing desk. A burglar-proof spherical casket is arranged within the safe, and is closed by a chilled plug.

Claim.—First, the spherical fire and burglar proof casket, constructed substantially as specified.

Second, arranging the said casket within a safe or other receptacle, as set forth, which is otherwise filled by a bookcase or its equivalent, as described.

Third, constructing the safe with the opening of access on the side thereof, in combination with a bookcase inserted therein, and arranged so as to be readily withdrawn therefrom horizontally, all substantially as described.

Fourth, combining with the safe and the bookcase, as above, the platform F, or equivalent support for the bookcase when withdrawn from the safe as aforesaid.

62,975.—A. D. SMITH, Grafton, Ohio.—*Farm Gate.*—March 19, 1867.—The gate rests and moves on the top of the post, being sustained by boxing on the top rails.

Claim.—The gate A, constructed and described, in combination with the posts B C, the post B, being so arranged in relation to the gate that it forms the support fulcrum, and slide combined upon which the gate rests, slides, and turns when being opened and closed, as described.

62,976.—CHARLES SPRING, Dorchester, Mass., and ANDREW SPRING, Weston, Mass.—*Carriage for Children.*—March 19, 1867.—To allow the leading wheel to accommodate itself to a change in direction, it is connected to the frame by a vertical rotary axis in advance of the axis of the wheel, so as to compel the latter to swing in the rear of it when a deviating force is applied.

Claim.—In combination with the body, stationary axle, and two main wheels of a child's carriage, a leader wheel n, whose axis is supported in journals arranged out of line with the shaft i, substantially as shown and described.

Also, the means or mechanism for relative adjustment of the shaft i and axle m, and for changing the position of the axle, substantially as described.

Also, the arrangement of the pole so as to be capable of a vertical swinging movement, when this movement is fixed and determined, substantially as set forth.

Also, combining with the carriage body the crib box *o*, substantially as described.

62,977.—W. X. STEVENS, Worcester, Mass., assignor to J. M. and D. B. KING, Waterford, N. Y.—*Lathe for Chasing and Backing Down Taps.*—March 19, 1867.—The tool receives its "backing-down" motion through a guide bar, which also causes the tool during its feed to follow the taper or profile of the tap. The guide bar is supported on stems which rest on the lifters of a rocking shaft, actuated by a lever extending underneath the mandrel, and governed by a pattern cam, whose projections correspond in number to the depressions in the tap, as viewed in its transverse section, and known as "backing down," to give saliency to the thread by longitudinal depressions.

Claim.—First, operating the guide bar F, which regulates the taper of the tap so as to channel it longitudinally, by mechanism constructed substantially as described.

Second, the arrangement on the mandrel B of the pattern S, acting in combination with and indirectly through the lever G, rock shaft *f*, cams *e*, and guide bar F on the tool stock E for throwing back the tool, essentially as herein set forth.

Third, the combination of the pattern S on the mandrel, the lever G with its rock shaft and lifters, and the bar F, raised by the latter and acting on the lifting end of the tool stock, substantially as and for the purpose or purposes specified.

62,978.—ITHAMAR W. STUART, Jr., Charlottesville, Ind.—*Car Coupling.*—March 19, 1867.—The coupling link catches over the upwardly-projecting hook, which is grooved to admit a guard to prevent the link from accidental uncoupling. The guard is pivoted to an upright movable rod, which has also a projecting arm to lift the link out when necessary.

Claim.—First, the bumper head C, when formed with an upwardly-projecting part or hook grooved upon its inner side, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the bar D, arms *d*¹ and *d*², balance guard E, chain G, and link F, with each other and with the bumper C, draft bar B, and end of the car A, substantially as herein shown and described and for the purposes set forth.

62,979.—A. F. SUMMERS and C. NYE, Peoria, Ill.—*Egg Detector.*—March 19, 1867.—The eggs are placed upright in the holes in the lid of the dark chamber, and viewed beneath through a peep hole, their quality being determined by their translucency as evinced by the transmission of light.

Claim.—The chamber A, provided with eye hole D, the adjustable screen B provided with receptacle for the eggs, reflector C, and ledge E, when all shall be constructed, combined, arranged, and operated as and for the purpose set forth and described.

62,980.—EPHRAIM THOMAS, Middleboro, Mass.—*Horseshoe-nail Machine.*—March 19, 1867.—The bed knife has a depression upon one side to correspond with the previously-rolled plate, which has a ridge upon one edge, to form the heads of the nails. The two cutting dies are arranged in such a position as to cut off the end obliquely, to give a sharp point to the nails.

Claim.—The bed knife, as made with the channel *s*, for receiving and guiding the head projection of the nail plate during its entrance into the machine.

Also, the combination of the point shear O and its fellow shear N with the dies for separating the blank from the nail plate and heading it, as described.

62,981.—THOMAS TRACY, New Britain, Conn.—*Butt Machine.*—March 19, 1867.—The mechanism relates to that part of a butt machine which performs the work of holding, distributing, and driving the wire into the joints of butts. The devices being adapted to prevent it or the driver from kinking.

Claim.—The spring button *f* and tongued bar *c*, or their equivalents, in combination with suitable mechanism for operating said bar, substantially in the manner and for the purpose as described.

62,982.—SAMUEL B. TUCKER, St. Louis, Mo.—*Instrument for Supporting Fractures.*—March 19, 1867.—This support is composed of steel plates, which are relatively adjustable by slots and set screws, and straps whose tension is regulated by buckles. The specific application to varying circumstances cannot be briefly described.

Claim.—The invention of the plates E E and the springs F F F F and G G, making, when put together, the instrument for the support of fractures of the scapula, clavicles, and vertebrae of the cervix and spine.

62,983.—THOMAS VARNEY, San Francisco, Cal.—*Machine for Concentrating Ores.*—March 19, 1867.—The pulp is passed from the hopper to the pan, which is horizontally oscillated by a cam and recoil spring. By the inclination of the disk forming the floor of the pan, the motion, and the flow of the water, the lighter and heavier particles are assembled on the respective sides of the radial strips which divide the disk into sectional compartments. The trough beyond the periphery of the disk is divided in line with the said strips, and has openings on each side of said divisions, which conduct the respective qualities, thus sorted by their relative gravities, by separate channels to their distinct receptacles, the lighter being discharged centrally to the waste pipe, and the heavier particles of one being collected in a circular series of boxes placed one below each discharge.

Claim.—First, the use of the disk A, divided into compartments.

Second, the trough B, all constructed in the manner and for the purposes set forth.

62,984.—W. Y. WARNER, Wilmington, Del.—*Car Coupling.*—March 19, 1867.—The pin has two shoulders, which limit its sliding motions in the bar, which rocks as the pin is pushed by the entering link, and swings back into coupling position. To avoid coupling, the end of the pin is supported on a shelf in the draw head.

Claim.—First, the pin D, arranged to operate within the opening *c* and recess *a* of the block A, and to slide in a cross bar F, which can turn in projections on the said block, all substantially as set forth, for the purpose specified.

Second, the shoulder *m*, arranged as a support for the pin D, substantially as specified.

62,985.—THOMAS WELCH, Churchville, N. Y.—*Harvester Cutter Bar.*—March 19, 1867.—A skeleton head is attached to the cutter bar, and contains the boxes of the pitman journal, which are adjusted and held by means of a set screw and jamb nuts.

Claim.—First, the skeleton or shell head H, constructed as described, in combination with the knife bar of harvesters, substantially as and for the purposes set forth.

Second, the arrangement of the skeleton or shell head H with the boxes B and B', pitman P, and set screw *s*, substantially as and for the purposes set forth.

62,986.—HENRY F. WILSON, Fort Wayne, Ind., assignor to W. G. WILSON, Cleveland, Ohio.—*Sewing Machine.*—March 19, 1867; antedated March 12, 1867.—To avoid the moving of the cloth at improper times by the feeding needle, it plays through a sleeve pivoted to an adjustable vibrating lever operated by a cam. The long throw of the needle allows it to cast its loop over the point of a vertical shuttle without interfering with the length of the stitch.

Claim.—First, a needle bar, receiving an independent vibration from a crank, in combination with an oscillating lever and with a vibrating needle-bar holder, in such a manner as to produce a compensating vibration, substantially as described.

Second, the set screw J, in combination with the eccentric E' and oscillating lever H, for the purpose of affecting the length of the stitch by regulating the throw of the needle to the left, said lever being jointed to the vibrating fulcrum of the needle bar, as described.

Third, the stationary shuttle, constructed and supported substantially as described, in combination with the needle bar and oscillating bar, for the purpose described and set forth.

62,987.—JOHN BROWN ALDEN, Worcester, Mass., assignor to himself and EDWIN C. CLEVELAND, same

place.—*Brush*.—March 19, 1867.—The brush can be reversed when the further end is worn out, by removing the screw from that end and turning the handle on the central pivot.

Claim.—The arrangement and combination of the parts of the brush marked A, B, and C, whereby the parts A B may be reversed or turned end for end, substantially as described, for the purposes herein set forth.

62,988.—DAVID ALTER, Freeport, Pa., assignor to CHARLES W. BODEY, same place.—*Distillation of Bromine and Iodine*.—March 19, 1867.—The close stone still is traversed by an open-ended lead flue. The funnel traversing the top has exit below the surface of the bitters, with which the still is nearly filled, and is used for the introduction of the acid and manganese. Heat is applied through the flue. The bromic vapors escape through an upper pipe bent down through a water tank, and discharge into a receiver containing water. Another pipe is connected to this pipe within the tank, which discharges into a receiver containing an alkaline solution to take up the superfluous vapors.

Claim.—The use of an alkali to absorb the fumes of bromine and hydrobromic acid while in process of distillation, substantially as herein shown and described.

62,989.—JAMES O. ALTICK, Dayton, Ohio, assignor to himself and GEORGE W. HOLGEN, same place.—*Grape and other Arbors*.—March 19, 1867.—The cast elbow has end sockets to receive the vertical and horizontal pieces by which the slats are supported.

Claim.—The metallic casting A, constructed substantially as described, and used for the purposes herein set forth.

62,990.—SHERMAN E. ANTHONY, Stillwater, N. Y.—*Shingle Machine*.—March 19, 1867.—The separate block carriages have friction rollers, which are held in continuous grooves around the inside of the frame, and the blocks are in turn brought to the action of the saw. As the blocks come over the tilting plate the dogs are retracted, and they are allowed to settle upon the same, when the dogs are again driven forward into the block.

Claim.—First, the disconnected bolt carriages B with projections *e*, operating with the toothed wheels *d*, substantially as described, for the purpose specified.

Second, the operating of the sliding dogs through the medium of the T-headed screws H, flanged spring plate G, pin *k*, arm *f*, and lip *g*, substantially as described, for the purpose specified.

Third, the fixed or stationary dogs L, in connection with the sliding bars M and the plates N on the framing, having beveled or diagonal ends, substantially as shown and described.

Fourth, the fixed plate *i*, in combination with the slotted dogs F, substantially as and for the purpose specified.

62,991.—GRINMON AUSTIN, Denmark, N. Y.—*Cheese Vat*.—March 19, 1867.—The water wheel is turned by the waste water from the vat and connects by a series of cranks and rods with the oscillating bar; the latter is attached by rods to the rakes of the vat and keeps them in regular motion.

Claim.—The within-described device for cooling milk, so constructed that the water which passes around the milk receiver to cool the same will act upon a wheel, or equivalent device, operating the parts, which causes continuous agitation to the milk, substantially as specified.

62,992.—ANSON A. AVERY, Cardiff, N. Y.—*Churn Dasher*.—March 19, 1867.—The dasher has a series of fluted and slotted ears which convey the air down into the cream, with which it becomes intermingled as in an atmospheric churn.

Claim.—The slotted and fluted fingers *a* and *e e*, in combination with the cross-head B and the cross-beams D D, arranged and operating substantially as herein described.

62,993.—ANDREW BARCLAY, Kilmarnock, Scotland.—*Injector for Steam Generators*.—March 19, 1867.—The nozzle separating the steam and water has an annular chamber containing non-conductive matter.

Another similar nozzle is placed outside and concentric to the first, increasing the number of annular vents for steam and water. Access is afforded to all parts.

Claim.—First, the combination with the steam and water nozzles of an injector of a fixed casing, containing any non-conducting substance interposed between the said nozzles, as herein shown and specified.

Second, the arrangement of an adjustable air-tight packing between the steam and water inlets, as hereinbefore described.

Third, the arrangement and construction of apparatus for injecting or ejecting fluids and liquids, in which a double set of nozzles is employed in combination with an injecting or water nozzle so as to form annular jets of steam and water, as hereinbefore described.

Fourth, the arrangement and construction of apparatus for injecting or ejecting fluids of different temperatures, whether in immediate contact or not with the steam nozzle, as hereinbefore described.

Fifth, the combination of the exterior main portions of the instrument with the pillars or studs, or equivalent devices, for connecting the same under the arrangement herein specified, so that the stuffing boxes, joints, and packing are rendered accessible and capable of being readily adjusted, as set forth.

Sixth, the application of a set of variable nozzles and throats to apparatus of the kind hereinbefore described, in the manner specified.

62,994.—HENRY C. BASCOM, La Crosse, Wis.—*Gun Worm*.—March 19, 1867.—When the nut is held and the ramrod rotated the thread in the nut advances or retracts the screw, according to the direction of said rotation.

Claim.—The gun wormer, consisting of the thimble C, worm screw *m*, and revolving nut *b*, arranged in such manner that the said screw shall be extended or retracted, substantially as described.

62,995.—O. A. BASSETT and ERASMUS SMITH, Norwich, N. Y.—*Saw Mill*.—March 19, 1867.—The feed motion is communicated from a friction disk on the saw shaft, and its speed is regulated by sliding its friction pinions nearer to or farther from its axis. The "feed" motion is reversed by a lever which changes the connection in the series of friction pulleys.

Claim.—First, the combination of the friction wheels C E F and wheels G I, or equivalent, and the friction wheels K S with each other and with the saw shaft B and feed shaft R, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the toothed sliding bar V, gear wheels W Y and shaft X with each other and with the friction carriage D, substantially as herein shown and described and for the purpose set forth.

62,996.—HIRAM BEADLE, Washington, D. C.—*Automatic Boiler Feeder*.—March 19, 1867.—The water supply chamber is connected by its lower and upper ends to the water and steam spaces respectively of the generator. The fall of water level, and consequently of the float, opens communication between the water tank and supply chamber and closes the communication between the latter and the generator, and the raising of the float has a contrary effect.

Claim.—First, the arrangement of the pipe B, condenser D, valves C, pipes I and N, with reference to the chamber A and float E, substantially as herein set forth.

Second, the combination of the supply pipe B, valve C, and chamber A, with the float E, rod F, and valves K and K', substantially as and for the purpose set forth.

Third, the combination of the rod F, yoke G, rods I, and valves K and K', substantially as and for the purpose set forth.

62,997.—H. C. BECKER, New York, N. Y.—*Starch Sirup*.—March 19, 1867.—Ground corn and starch boiled in water are treated with sulphuric acid after cooling; the free acid is neutralized by chalk. It is then treated by a centrifugal machine. The mass is then mingled with a solution of gum arabic and forced through a fine sieve, then heated by steam, filtered through charcoal and boiled down.

Claim.—A composition which is made of the in-

gredients and substantially in the manner herein set forth and described.

62,998.—HENRY BEHN, New York, N. Y.—*Burglar Alarm.*—March 19, 1867.—The knob of the lock connects with a pendulum, which is released from its horizontal position when the handle is moved, and as it vibrates strikes the alarm bell.

Claim.—First, the arms *G* and *G'*, rods *J J'*, and lever *C*, operating the bell hammer through a lug, adjusted, combined, and arranged substantially as specified.

Second, the arrangement of the pendulum *H* in combination with the stop lever *N*, operated by a projection *w* fast to the lever *C*, in the manner and for the purpose as set forth.

62,999.—WALTER BENNETT, Hunt's Hollow, N. Y.—*Shuttle Carrier for Sewing Machines.*—March 19, 1867.—The wear of the slide against the under side of the table is compensated for by tightening the screws, which thus compress the springs and bring the bearing surface of the shuttle carriage closer to the table.

Claim.—The guide rod *C*, applied to the bed or cloth plate *A* by means of the screws *D D* and springs *e c*, or their equivalents, substantially as and for the purpose specified.

Also, constructing the shuttle carrier *B* with a part or portion *b*, to serve as a bearing surface against the cloth plate *A* when used in combination with the adjustable guide rod *C*, arranged and applied substantially as set forth.

63,000.—HERMANN BERG, Springfield, Mass.—*Rocking Chair.*—March 19, 1867.—The side pieces are connected by removable rods at the top under the seat and back of the rockers. Stops with springs attached prevent the chair rocking over.

Claim.—First, constructing the side frames of a rocking chair of elastic strips *b b' c c'*, substantially as and for the purpose set forth.

Second, the combination of removable cross-bars *a a'* with the elastic side pieces *B C* of a rocking chair, substantially as and for the purpose described.

Third, the flexible back *E*, in combination with the seat *D*, top cross-bar *a'*, and side pieces *B C*, constructed and operating substantially as and for the purpose set forth.

Fourth, the yielding stops *e*, in combination with the runners of a rocking chair, constructed and operating substantially as and for the purpose described.

63,001.—LYMAN BICKFORD, Macedon, N. Y.—*Grain Drill.*—March 19, 1867.—By the construction of the grain wheel foreign substances, such as sticks or straws, are expelled, and by the arrangement of two runs of different sizes upon opposite sides of the wheels the machine is suited for large or small grain.

Claim.—First, the construction of the distributing wheel whereby it is adapted to the discharge or delivery of grain upon its opposite vertical sides or faces, for the purpose specified.

Second, the distributing wheel, provided with the enlarged hub or center and with curved or angular sides or faces, substantially as described.

Third, the starting ribs, formed upon the curved or angular sides or faces of the vertical distributing wheel, substantially as and for the purpose described.

Fourth, the casings upon the opposite sides of and in combination with a double distributing wheel adapted to the delivery of grain upon its opposite vertical sides, substantially as described.

Fifth, providing the lugs or ears, through which the casings of the distributing wheel are fastened to each other, with the interlocking faces, substantially as described.

Sixth, the casings of the distributing wheel, provided with the external flanges and with the side delivery or discharge opening, substantially as described.

Seventh, the employment of the casings, provided with the external flanges and side delivery openings, in combination with the vertical starting ribs or teeth on the side of the distributing wheel, substantially as described.

Eighth, the employment of a slide in combination with the double distributing wheel for closing the seed run upon one side or face thereof, and simulta-

neously opening that upon the opposite side or face, substantially as described.

Ninth, the adjustable block, or its equivalent, at the end of the grain box in combination with the slide, substantially as and for the purpose described.

63,002.—CHAS. F. BLAKSLEE, Brooklyn, N. Y.—*Carpet Bag.*—March 19, 1867.—The frame of the bag has perforations for the passage of the twine by which the cloth or leather is sewn to the frame. Sunken channels between the holes guard the sewing twine from wear.

Claim.—A traveling-bag frame, provided with sunken perforations *a* having a connecting channel *e*, for the purpose described as herein specified.

63,003.—ASA BLOOD, Sr., Janesville, Wis.—*Washing Machine.*—March 19, 1867.—The levers beneath the suds boxes are moved by handles and impart a vibratory motion to the presses through the medium of connecting rods and arms.

Claim.—The pendent or swinging presses *C C*, placed in suds boxes *A A*, which are connected together substantially as shown, and operated through the medium of the arms *h*, rods *j*, and lever frames *D D'*, one or both, substantially as shown and described.

Also, the connecting of the two suds boxes *A A* in such a manner as to allow a space *B* between them for the rods *j* to work in, substantially as set forth.

Also, the combination of the hinges *m*, handles *F*, uprights *E*, and lever frames *D D'*, as and for the purposes specified.

Also, the combination of the two suds boxes *A A*, lever frames *D D'*, presses *C C*, rods *j*, arms *h*, and springs *G*, with the lids or covers *b*, fluted or otherwise, and all arranged to operate in the manner substantially as and for the purpose set forth.

63,004.—ALONZO T. BOON, Galesburg, Ill.—*Gas Heater and Petroleum Stove.*—March 19, 1867; antedated March 1, 1867.—The petroleum passes through a bundle of fine wire previous to its exit from the pipe. The flame is deflected by a plate which protects the feed pipe. The ogee-formed cylinder is enclosed in a cylindrical case with air openings near the bottom.

Claim.—First, the bundle of short fine wire *F*, in combination with the horizontal tube *C*, substantially in the manner and for the purpose as herein set forth.

Second, the solid heater *E*, as constructed and provided with a cone *g*, in combination with the horizontal tube *C*, substantially in the manner and for the purpose as herein set forth.

Third, the ogee cylinder *B*, in combination with the funnel-shaped bottom *a* of the stove, substantially in the manner and for the purpose as herein set forth.

63,005.—JAMES BOWERS, New York, N. Y.—*Corset Fastening.*—March 19, 1867.—The hook plates are hinged to one side, and engage eyelets in the other.

Claim.—A fastening for stays or corsets, composed of eyelets *C* inserted in one of the parts *A*, just behind its hem *b* and plates *d*, formed or provided with hooks *e*, and attached by loops *e* to the front edge of the other part *A*, substantially as herein shown and described.

63,006.—JOHN C. BRIGGS, Ansonia, Conn.—*Reed Musical Instrument.*—March 19, 1867.—A sound chamber is formed below the wind chest, the top of said chamber being a flexible diaphragm, which is also the bottom of the wind chest. The flexible diaphragm communicates the vibration of the air caused by the motion of the reeds to the sound chamber below.

Claim.—The separation of the wind chest of a melodeon by a flexible diaphragm *D*, substantially as described and for the purpose specified.

63,007.—RANSOM BROWN, West Edmeston, N. Y.—*Water Elevator.*—March 19, 1867.—The bucket is raised by the windlass till it engages a hook attached to the discharge spout, is tilted and emptied into the spout. A valve in the bottom of the bucket admits the water. A brake is attached to the frame to govern the descent of the bucket.

Claim.—The arrangement of the windlass *B*, stop

c, pivoted to the bar *d*, bucket *C*, with its valve and curved hook *a*, all constructed and operating as set forth.

63,008.—T. I. BURHYTE, Fond du Lac, Wis.—*Gate*.—March 19, 1867.—The gate is counterbalanced, and is opened by turning it upside down, it being thereby raised sufficiently high to allow persons and teams to pass under it. The vertical rod has a handle, is pivoted to the gate, and connected by wires with a spring catch fitting in a recess of the bar and shutting into a recess on the face of the post.

Claim.—First, a gate constructed with the high posts *B*, provided with the counterbalancing weights, said gate being pivoted to turn in a vertical plane, substantially as described.

Second, the spring catches *f*, connected to the vertical rod *b*, and arranged to operate in connection with the gate, as set forth.

63,009.—GEORGE BURKET and SAM'L M. GASKILL, Bluffton, Ohio.—*Head Block for Saw-mills*.—March 19, 1867.—The log is shifted laterally to the saw by a rack and pawls; the rack being actuated by inclined blocks, clamped to the gauge bar, which act on anti-friction rollers to reciprocate the rack. The distance of the anti-friction rollers, and consequent thickness of the lumber, is determined by a screw. The longitudinal movement of the carriage is reversed by adjustable stops, which actuate the shifter of a straight and crossed belt to bring either of them upon the fast pulley.

Claim.—The bar *G*, provided with the adjustable beveled plates *H H'*, secured by clamps *I I'*, substantially as shown, and connected or arranged with the rack *F*, and also provided with the pendent bars *J J'*, the above parts being used in connection with the stop *K* for operating the rack *F*, substantially as described.

63,010.—WILLIAM BURNS, Chicago, Ill.—*Lantern*.—March 19, 1867.—The various parts of the lamp, as stated, are connected together by screws spun upon annular plates, one of which is permanently attached to the lower end of the chimney.

Claim.—First, the construction and arrangement of a lantern having its cap, globe, and oil cup separately connected and detachable by screws, so that no part of the weight of the lantern is supported by the screws of the globe, substantially as shown and specified.

Second, attaching and supporting the globe of a lantern at the base by means of the screw band *d*, permanently attached to the bottom of the globe, substantially as specified.

Third, the upper rod of a guard detachable from the dome, when made of a spun screw band, substantially as and for the purposes specified.

63,011.—MANLOVE BUTLER, Vernon, Ind.—*Horse Hay Rake*.—March 19, 1867.—Two hooks are attached to a single lever for regulating the rake. The lever swings on a pivot, and will pack beside the head of the rake for transportation or storage.

Claim.—First, the piece *A*, when constructed with the hooks *f f* and bar *g*, and attached to the lever *c*, and arranged to operate in combination therewith, substantially in the manner and for the purpose set forth.

Second, the hinge attachment *d*, which permits the lever to be laid alongside of the head of the rake, all arranged and operating as set forth and described.

63,012.—ALLEN CALKINS and WILLIAM TOWER, Almont, Mich.—*Machine for Forming Eave Troughs*.—March 19, 1867.—Bars are hinged to each other and to the frame, and are adapted for bending over the metallic strips to receive the strengthening wire. By other devices the trough is formed in shape by dies of peculiar conformation, and sliding blocks operated by rope and windlass.

Claim.—First, the combination of the bars *B* and *C* with each other, and with the frame *A* of the machine, substantially as described and for the purpose set forth.

Second, the combination of the bars *D E F* with each other, and with the frame *A* of the machine, substantially as described and for the purpose set forth.

Third, the combination of the die *G*, sliding block *H*, nippers *I*, rope *J*, shaft *L*, gear wheels *M N*, and crank *O* with each other, and with the frame *A* of the machine, substantially as described and for the purpose set forth.

Fourth, the combination of the die *P*, guide *T*, bar *U*, nippers *I*, rope *J*, shaft *L*, gear wheels *M N*, and crank *O* with each other, and with the frame *A* of machine, substantially as described and for the purpose set forth.

63,013.—DAVID CAMMERER, Cincinnati, Ohio.—*Beer Cooler*.—March 19, 1867.—The wort from the boiler issues in a series of jets on each side of the rib above the upper tube and flows in two streams, enveloping the respective sides of the vertical series of tubes, which are cooled by an interior refrigerant. The cooled wort is received in the fermenting tun.

Claim.—The arrangement of the tubos *A B C D*, &c., decreasing in size from the bottom upward, the separate troughs *N N'*, and projecting flange *g*, substantially as and for the purposes set forth.

63,014.—LUTHER W. CAMPBELL, Aurora, Ill.—*Steam Generator*.—March 19, 1867.—Within a strong metallic shell or generator, which is exposed to the direct action of the heat in the furnace, is a receiving chamber, within which the incoming water is converted into common or saturated steam, which then escapes into the outer apartment, where it is reheated and converted into superheated steam.

Claim.—First, the receiver for water or other liquid, constructed and arranged, operating inside of a superheating steam generator, which is exposed directly to the fire, substantially as and for the purpose explained.

Second, a receiver *E*, constructed so as to form two or more parts, combining an inner lining and an outer jacket, the lining having no top and the outer jacket no bottom, with a space between them of suitable capacity to form a steam passage, substantially as described.

Third, the combination of the receiver *E*, the cone or cap *F*, and the feed water pipe *E*, with a superheater, substantially as described.

Fourth, the receiver *E*, with the blow-off pipe *G*, in combination with the superheater *D*, substantially as described.

Fifth, the receiver *E*, in combination with the cup *E'* and the blow-off pipe *I*, substantially as described.

Sixth, in combination with the superheating steam generator, constructed to operate substantially as described, the feed-water regulator, operating substantially as explained.

63,015.—WILLIAM CARLTON, Dunkirk, N. Y.—*Head Block for Saw-mills*.—March 19, 1867.—By turning the shaft the screw is rotated by means of the bevel gears, and the longitudinal motion of the rack and knee sets the log to the saw.

Claim.—The gear which operates the knee of a head block, consisting of the bevel wheels *D E*, worm *F*, rack *L*, sleeve *B*, and lever *G*, arranged and operating substantially as described, for the purpose specified.

63,016.—HENRY W. CASWELL, Yarmouth, Me.—*Post Auger*.—March 19, 1867.—The air tube parallel with the shaft admits the passage of air in withdrawing the loaded auger.

Claim.—Combining with a post auger an air tube, substantially as and for the purposes specified.

63,017.—N. L. CHAMBERLAIN, West Roxbury, Mass.—*Hand Stamp*.—March 19, 1867.—The ribbon is doubled at the end, thrust through the split shaft, and a retaining pin passed through the loop.

Claim.—The manner herein shown and described of attaching the ink ribbon to its shafts.

63,018.—JAMES CHAMBERS, Greensburg, Ind.—*Seed Drill*.—March 19, 1867.—The seed drill has a forward wheel connecting by a crank and rod with the rod shaft, which communicates by rods with the seed slides of the separate hoppers, which discharge into the seed tubes of the shares. The side bars are pivoted to the main frame, and are adjustable laterally by rack bars and a central pinion.

Claim.—First, the arms E E, made in the form described, and connected to the frame A, in the manner and for the purposes herein specified.

Second, the arrangement of the frame A, with the driving wheel C, hoppers D D and D', arms E E, pipes h h and seed pipes k k, substantially in the manner and for the purposes herein set forth.

Third, the adjustable journal boxes a a, when used as and for the purposes specified.

Fourth, the rock shaft d, provided with the uprights e f e, and operating in three perforated wheels s, by means of their rods g g g, in the manner and for the purposes set forth.

Fifth, the arrangement of the rack bars H H, with the cog-wheel w and cog-shaft w', metallic band F, handle G, with spring n for expanding or contracting the arms E E, with their attachments, in the manner as and for the purposes specified.

Sixth, the hoppers D D, when used with their open tubes h h and seed pipes K K, substantially as set forth.

63,019.—ISAAC H. CHAPPELL, Lawrence, Kan.—*Combined Planter and Cultivator.*—March 19, 1867.—The machine is constructed for optional use as a cultivator or a planter by the attachment of the appropriate devices. The plow standards are pivoted to the frame and raised by hand levers and chains. The seeder is mounted on a sled trailed in the rear and actuated by a lever.

Claim.—First, so arranging the crank lever M that when the plows are raised they will be thrown apart, so that, in turning, the plows will not break down the corn.

Second, the standards e, in combination with the bars F F, for the purpose of elevating and lowering the plows without changing their angle.

Third, attaching the bars F F to the standards e e, for the purpose of elevating or lowering the ends of the bars F F, so as to change the line of draft above or below the center of the axle, substantially as shown and described.

63,020.—R. O. CODDING and G. W. PRINGLE, Coldingville, Ohio.—*Wagon Brake.*—March 19, 1867.—The rubbers are placed on rods, which are pivoted to the hounds or brake bar and are thrown in contact with the wheels by pulling back on the neck yoke, which is attached to a bar pivoted on the end of the tongue. The set of the shoe on its shaft is determined by the ratchet, and a spring on the tongue withdraws the brake when the team ceases to hold back.

Claim.—First, the pivoted lever H and rod or bar M, operating the brake bar or shaft I and ratchet wheels n n, substantially as herein shown and described, and for the purposes set forth.

Second, the ratchet wheels n n, operating substantially as shown and described, in combination with the brake bar or shaft I, as and for the purposes set forth.

Third, the spring L and neck yoke G, in combination with pole or tongue E, substantially as shown and described.

63,021.—JOSEPH G. COLLINS, Boston, Mass.—*Washer for Socket Bolts in Steam Boilers.*—March 19, 1867.—The face of the washer toward the plate is made concave so as to hold a quantity of cement to make a water-tight packing around the opening through which the socket bolt passes.

Claim.—A washer, constructed or formed substantially as herein shown and described, for the purpose set forth.

63,022.—WILLISTON CONNER, Rensselaerville, N. Y.—*Back Sight for Fire Arms.*—March 19, 1867.—A graduated spring piece slips within a vertical slot in the small of the stock and is adjusted as required. Its spring retains it in place, or it may be clamped by a set screw or lowered below the line of the hind sight.

Claim.—A spring sight A A', guided in a metal plate B, and constructed and operating substantially as and for the purpose herein shown and described.

63,023.—JAMES J. DAVELIN, Philadelphia, Pa.—*Churn.*—March 19, 1867; antedated March 5, 1867.—The two concentric dashers are arranged axially in the cask churn and are separately revolved by power

applied to their cranks, which are at the respective ends of the churn.

Claim.—The combination of dasher N M and P O, constructed and held together by fastenings A W C and D, with churn B, the whole combined and acting in the manner and for the purpose above described and shown.

63,024.—CHARLES DISSTON, Philadelphia, Pa.—*Saw.*—March 19, 1867.—The tooth has a tapering arm, which is first inserted laterally and then pushed outward in the plane of the saw so as to occupy its socket; a washer is then placed in the opening in the saw plate, its projecting flanges entering at the enlargements of the latter; the washer is then rotated 90° in its own plane, its projections looking against the plate on one side and the tooth on the other.

Claim.—The securing of detachable teeth in saw plates by means of the tapering arm b' of a saw tooth, and the ring or washer D, when both are constructed and adapted to openings in a saw blade, substantially in the manner and for the purpose described.

63,025.—HENRY DISSTON, Philadelphia, Pa.—*Buck-saw Frame.*—March 19, 1867.—The rack and catch used for straining the saw are covered with a guard or shield.

Claim.—The guard F, inclosing a portion of the rack e, and connected to the bar D of the saw frame, all substantially as described, for the purpose specified.

63,026.—WILLIAM ELMER, New York, N. Y.—*Separating Metals.*—March 19, 1867.—The ore in a pulverized condition is placed in a furnace, the hearth being first covered about six inches with quicklime. The gases for the treatment are stored in gas-holders and introduced by tuyeres.

Claim.—The process of treating metallic ores, or other materials containing metals, by the following three operations performed successively upon them, viz: 1st, the oxidation of the oxidizable substances by treating the material while hot with a gaseous substance that supplies oxygen to them. 2d, the reduction of the oxides by treating the oxidized ores while hot with a gaseous substance that has a higher affinity for oxygen than the metals whose oxides are to be reduced. 3d, the fusion of the metals by treating the reduced ores while hot with a gaseous substance that is incapable of oxidizing them. These three operations being performed in the order and substantially as hereinbefore set forth.

Also, the process of treating metallic ores, or other materials containing metals, by the following two operations performed successively upon them, viz: 1st, the reduction of the metallic oxides by treating the material while hot with a gaseous substance that has a higher affinity for oxygen than the metals to be reduced have. 2d, the fusion of the metals by treating the reduced ores while hot with a gaseous substance that is incapable of oxidizing them, these two operations being performed in order and substantially as hereinbefore set forth.

Also, the process of separating the metals from each other by treating their mixtures at progressively increased temperatures with a gaseous substance that has a higher affinity for oxygen than the metals have, so that the metals are fused in a non-oxidizing atmosphere in the order of their fusing temperatures, the process being conducted substantially as hereinbefore set forth.

63,027.—H. H. ETTER, Washington, D. C.—*Burning Fluid.*—March 19, 1867.—To 40 galls. naphtha is added, oil of vitriol, 2 quarts; linsed oil, 1½ pints; ground white oak bark, 2 lbs.; ground hemlock bark, ½ lb.; slippery elm bark, 1½ lb.; sassafras bark, 1 lb.

Claim.—The ingredients, when mixed in the proportions as herein specified, for the purpose of producing a safe and brilliant light.

63,028.—DAVID EVANS, Studley, England.—*Needle Wrapper.*—March 19, 1867.—The needles are stuck in the paper by impaling a strip or by an enclosing band, and their heads and points are covered by flaps made out of the same piece of paper which constitutes the wrapper.

Claim.—Fastening and folding up of the needles in wrappers or papers that have flaps and folds, as herein shown, so that the needles are easy of access from the

outside, without liability to drop or fall from the wrapper or to corrosion from contact with the fingers, as herein described and represented.

63,029.—JOHN L. FINCH, Warwick, N. Y.—*Milk Can.*—March 19, 1867.—The can sets within a sheet-iron pail, whose removable inner bottom section sustains the can.

Claim.—First, the combination of the sheet-iron outer case B with the body of the milk can, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the removable hoop C with the projecting lower end of the sheet-iron outer case B, substantially as herein shown and described and for the purpose set forth.

63,030.—HENRY S. FORNEY, Baltimore, Md.—*Washing Machine.*—March 19, 1867.—The shaft of the vertical dasher is supported by resting on a collar in the lid of the suds box, and is rotated by bevel gearing and a hand crank.

Claim.—In combination with a flanged metallic collar *f* in the lid *E*, the bevel pinion or gear *I*, made, arranged, and operating therewith and with the drive gear and the agitator or stirrer, substantially in the manner and for the purpose described.

63,031.—ANDRÉ FOUBERT, New York, N. Y.—*Apparatus for the Manufacture of Vinegar.*—March 19, 1867.—Steam is admitted to the vessel of wine and the vapors are carried by a pipe to the upper part of the vessels, into which percolate jets of vinegar and water from the vessels above. After passing through the charge of shavings, &c., the liquor is received in vessels below.

Claim.—The manufacture of vinegar from the vapors of wine, condensed and acidified in substantially the manner specified.

63,032.—HERMAN FRITZ, Cleveland, Ohio.—*Galvanic Battery for Remedial Uses.*—March 19, 1867.—The air and water-tight case is charged with a hot acid solution whose chemical action on the zinc maintains the temperature in the chamber. The patient placing his feet upon the foot plates receives the electric current thereat; the application to other parts of the body is by conducting wires, the feet resting upon a non-conductor over the heated case in place of the foot plates.

Claim.—First, the air and water-tight case A, connecting bridge G, rods R, in combination with zincs E and covers B, as arranged and for the purpose set forth.

Second, the insulating washer I, connecting screw F and M, and insulating washer K, as arranged in combination with the arm L and foot plates N, and insulator N', for the purpose and in the manner specified.

Third, the screw M, insulating washer I, as arranged in combination with the screw F, zinc E, and bridge G, for the purpose and in the manner described.

63,033.—H. W. FULLER.—New York, N. Y.—*Sewing Machine Attachment for Marking Tuks.*—March 19, 1867.—The marking nippers and their supporting arm are lifted by the screw on the needle bar acting upon the auxiliary arm. They are forced downward, to pinch and mark, by springs. The screw of the supplementary spring serves to graduate the pressure of the springs. The nippers open slightly when lifted.

Claim.—First, the employment of the nipping fingers, to form ridges or creases in fabrics for the purposes specified, when arranged with respect to and operating upon the fabric, in substantially the manner described.

Second, the combination, with the marking device described, of the plate F, for the purpose specified.

Third, the use of the screw 4, or its equivalent, to adjust the fingers to the fabric, as specified, and to determine the amount to be seized.

Fourth, in combination with the marking device possessing the functions and mode of operation described, the spring B, arm C, and auxiliary arm D, or its equivalent, as specified.

Fifth, in combination, the said marking device, the bed plate E, or equivalent, and a feeding device, for the purposes specified.

Sixth, in combination, the marking device, bed plate, feeding device, and a stitch-forming mechanism, substantially as and for the purpose specified.

Seventh, so constructing and combining the arm C and spring B as to be adjustable for various widths of tuks or plaits, in combination with the marking device.

Eighth, the supplemental spring B' and its screw B', or their equivalent, for the purpose specified.

Ninth, in combination with the aforesaid marking device, a suitable gauge F.

63,034.—E. D. and W. K. GIRD, Cedar Lake, N. Y.—*Bending Machine.*—March 19, 1867.—The disk is fastened to a movable cross-head bar working between two uprights. Two semicircular jaws moving on pivots bend the metal or wood about the disk as it descends. The belt shifter works into two slots on a fly wheel, so as to cause one semi-revolution to open the jaws and another to close them.

Claim.—The disk C and the jaws *a*, in combination with the cross-head bar *b*, substantially as described.

Also, the belt shifter *n*, in combination with the slots *c* in the fly wheel, and the disk C, substantially as and for the purpose herein set forth.

63,035.—H. A. GRAEF, Brooklyn, N. Y.—*Portable Tree Box.*—March 19, 1867.—The tree box is formed of slats conformed to hoops, and secured to the tree by india-rubber bands. The hoops are held together by buttons, and so arranged that an additional section of slats can be added, as required by the tree to accommodate its growth.

Claim.—First, a portable tree box, formed of slats or strips *a* fastened to bands or hoops *b b*, and secured to the tree by lashings *d d*, constructed and arranged substantially as and for the purposes herein described.

Second, the hooks or bands *b b*, fastened by buttons or slats, or their equivalents, in combination with sectional hoops or bands *b' b'* for enlarging the size of the box, substantially as herein set forth.

63,036.—THOMAS GRAY, Union Road, England.—*Manufacture of Bleaching Powder.*—March 19, 1867.—The free acid in ordinary bleaching powder is neutralized by alkali, which may be added before or during the process of manufacture.

Claim.—The application, as before stated, for the purposes of bleaching fabrics or fibers, or other materials, without destroying or injuring them, substantially as described.

63,037.—E. C. GREEN, Plainfield, Ind.—*Hay Elevator.*—March 19, 1867.—The frame on the running gears of the wagon has a hollow central post and an extension shaft carrying the cross-arm, over which passes the rope which leads from the draft animal to the horse hay fork. The shaft is capable of horizontal rotation, and the rope runs over a pulley on a horizontal slide roller, to give it direction when driving a bunch of hay toward the wagon.

Claim.—First, the hoisting apparatus herein described, in combination with the wagon bed A, arranged and operating substantially as and for the purposes herein specified.

Second, the hollow center post B, inclosing the hollow center standard D with its cross-arm E and pulleys *d d*, in combination with the slide roller F with its pulley *s* and spring *l*, connected with the horse rake G, and operated by the rope *e*, constructed, arranged, and operating together substantially as and for the purposes herein described.

Third, the crank *n*, in combination with the slide roller F and the spring *p*, constructed and arranged substantially as and for the purposes set forth.

63,038.—J. DELOS GREEN.—Antrim, Ohio.—*Seed Planter.*—March 19, 1867.—The carriage runs upon spoked wheels without rims, and seeders are attached to each spoke, so as to plant at their points of contact with the ground, the seed being dropped by the hinged spring plate attached to the end of the spoke. The seed slides are worked by cams attached to the frame.

Claim.—First, providing the spokes H H with adjustable supplementary spokes or bars F, which carry

seed boxes and slides, as and for the purpose herein set forth.

Second, the arrangement of the overlapping and adjustable bars C C' with the cams G G' and seed slides e, substantially as and for the purpose specified.

Third, the automatic covers K upon the ends of the supplementary spokes F, for the purpose of discharging the grain, substantially as specified.

63,039.—THOMAS HALL, Bergen, N. J.—*Connecting Rod for Machinery.*—March 19, 1867.—The object is a ready means of adjustment after the bearings have worn loose. The rod is passed through a hole in the hook-shaped plate, and the parts are clamped together by a set screw.

Claim.—The combination of the rod A, the sliding piece B with wedge-shaped bearing, and screw C, when the same are arranged and operate substantially as described.

63,040.—E. HAMBURGER, Detroit, Mich.—*Buckle.*—March 19, 1867.—Explained by the claim and illustration.

Claim.—A buckle constructed of a single piece of wire, the ends of which constitute the tongues, being coiled upon each other in the rear, and bowed thence toward their points, substantially as described.

63,041.—WILLIAM J. HARE, New York, N. Y.—*Trunk Lock.*—March 19, 1867.—The jaws catch into a neck on the stud secured to the door, and are forced apart by the action of a key on the wedges, which enter between the jaws and divide them to release the stud.

Claim.—The spring jaws C, in combination with a stud D, one or more wedges E, and a key K, constructed and operating substantially as and for the purpose described.

63,042.—O. J. HARDGROVE, Canton, Ohio.—*Horse Hay Fork.*—March 19, 1867; antedated March 10, 1867.—The case in which the plunger works has a thimble at its lower end, to which are pivoted four tines. The lower end of the plunger is enlarged, and when forced downward drives the prongs outward. A spring upon the case enters notches in the plunger to hold it in any desired position.

Claim.—The case A, shaft B, thimble d with prongs a, a', and a'', and spring b, when constructed, arranged, and operating in the manner as and for the purposes specified.

63,043.—JAMES R. HASKELL, New York, N. Y.—*Reducing Vegetable Fibrous Substances.*—March 19, 1867.—Vegetable fibrous substances, as cane, corn-stalks, and similar jointed structures, are reduced to fiber by cutting, rolling to break the gummy particles, boiling to soften and open the pores, treating with alkali and rolling to remove mucilage and expose the fibers to receive a caustic alkaline solution, which is removed by pressure.

Claim.—The combined process of treating vegetable fibrous substances consecutively, and by relation of each process to the preceding and following process, in the form and manner and for the purposes substantially as hereinbefore described.

63,044.—JAMES R. HASKELL, New York, N. Y.—*Treating and Separating Vegetable Fibers.*—March 19, 1867.—The boiler has a manhole for filling, a pipe with a stop-cock leading to the boiler, and a pipe to draw the air off. The contents of the boiler are discharged through a valve.

Claim.—First, the mode of producing a vacuum or partial vacuum by first steaming the vegetable fibrous material under pressure and expelling the air, and then condensing the steam with a shower of cold lye, which causes a rapid absorption of the lye in every part of the plant, in the manner and for the purposes substantially as hereinbefore described.

Second, the mode of treating vegetable fibrous substances, in the form and manner and for the purposes substantially as hereinbefore described.

63,045.—MOSES HAWKINS, Birmingham, Conn.—*Steam Engine Oil Cup.*—March 19, 1867.—Steam is admitted through the stand pipe and condenses in the chamber, displacing an equivalent amount of oil,

which overflows into the stand pipe. This is repeated as often as required and the oil lasts, when the cup is removed, the water withdrawn, and the chamber discharged.

Claim.—An oil cup A, provided with a stand pipe D, extending up to near the cap E, and a water cock f, the whole constructed and operating as described.

63,046.—E. M. HENDRICKSON, Brooklyn, N. Y.—*Construction of Safes.*—March 19, 1867.—Coils of wire are placed in the mold and the iron cast around them with a chill. The object is to destroy the homogeneity of the iron and to check and break a drill which is brought to operate upon it.

Claim.—Using for such purpose and in the manner described, wires or rods, bent or coiled spirally, as herein shown and described.

63,047.—CURRAN W. HENKLE, Washington C. H., Ohio.—*Corn Planter.*—March 19, 1867.—The motion of the trigger on the plow handle actuates the valve in the hollow share to drop the corn and at the same time return the cup to the seed hopper. The counterbalance weight then lifts the cup and throws the seed into the tube ready for a repetition of the operation.

Claim.—First, the curved arm J, operated through the medium of the loaded arm L and lever F, in combination with the hopper H, provided with the tube h, and the spout I, all arranged to operate in the manner substantially as and for the purpose set forth.

Second, the valve D in the opening a in the plow C, when arranged to operate in connection with the curved arm J, substantially in the manner as and for the purpose specified.

63,048.—EDWARD HISERODT, Washington, Ill.—*Railroad Crossing.*—March 19, 1867.—A cast-iron chair is used at each angle; the base rests on the timbers and supports the rail, a lip on the chair sustaining the outside of the rail. No lip is on the inside, but free course is afforded for the flanges of the wheels. Horizontal bolts secure the rails to the outer lip.

Claim.—The peculiar form and arrangement of the crossing chair, with the lip outside of the rail holding it to its position, with the omission of the lip on the inner side of the rail and the application of the cleats h, as and for the purpose described.

63,049.—HUMPHREY HOLDEN, Hartford, Conn., assignor to himself and A. S. BARBER, same place.—*Car Coupling.*—March 19, 1867.—The bumper has springs on the four sides of its horizontal opening sustaining a block, which is pressed forward by a spring and has in its forward end an opening to receive the link; the slide acts as a support for the pin and releases it upon the entrance of the link.

Claim.—The combination of the draw head A with the block E, springs G and F, and the link B and pin C, said parts being arranged for use substantially as set forth.

63,050.—HENRY HOWE, Oneonta, N. Y., assignor to himself and E. R. FORD, same place.—*Cultivator.*—March 19, 1867.—The cultivators are separately suspended from the elevated frame of the carriage by rods and chains. The plows are elevated by chains and pivoted levers, which maintain their position by vibrating the centers of suspension past the centers of oscillation. A horse is hitched to each plow.

Claim.—First, the pendants D and the manner of securing them to the plow beams and frames, substantially as and for the purpose shown and described.

Second, the bars E, in combination with the plow beams E and pendants D, substantially as and for the purpose herein shown and described.

Third, the combination with the tongue F and driver's seat G of the plow beams E, swivel braces e, and doubletree H, substantially as and for the purpose herein shown and described.

Fourth, the slotted tongue F, made substantially as and for the purpose herein shown and described.

Fifth, the levers I and chains h, for the purpose of raising the plows out of the ground and retaining them in that position, substantially as herein shown and described.

Sixth, the upright side frames B, as arranged and connected with the horizontal cross-bars C and C',

substantially as and for the purpose herein shown and described.

63,051.—FLEURY HUOT, Perth Amboy, N. J., assignor to himself and JOHN ROGERS, New York, N. Y.—*Refining Petroleum, &c.*—March 19, 1867; antedated September 19, 1866.—The centrifugal filtering apparatus has two thicknesses of woollen material with sheets of filtering paper between them, attached to the wire gauze sides of the apparatus. The oil is mixed with bone black and fed into the apparatus in the ordinary manner.

Claim.—First, separating the bone black and impurities from the oil, by filtering the same through a centrifugal filter, as specified.

Second, the centrifugal filter, formed of two thicknesses of cloth with sheets of filtering paper between them, as and for the purposes set forth.

63,052.—C. B. HUTCHINSON, Auburn, N. Y.—*Machine for Setting Staves in Barrels.*—March 19, 1867.—The chine hoop is suspended by clamps over a concave table which holds the head in position to receive the staves which form the barrel. When the hoop is driven on to hold the staves in place on the head, the clamp is withdrawn and the barrel removed from the table.

Claim.—First, the setting up of barrels, casks, &c., by suspending the chine hoop by means of a clamp, or its equivalent, in such relation with the head, which is placed on a suitable frame or support, that the ends of the staves may be inserted between the head and chine hoop, substantially as shown and described.

Second, the adjustable table D, constructed with a concave upper surface, and of a diameter smaller than that of the barrel, for the purpose described, substantially as specified.

Third, the combination of the clamp frame or support and gauge, when arranged substantially as and for the purpose set forth.

63,053.—SAMUEL JACKSON, Newark, N. J.—*Compensating Brace for the Springs of Vehicles.*—March 19, 1867.—The compensating stay is attached at the foot of the spring by a joint and connects by a pivot to the bar above, bracing the spring from a forward lurch of the vehicle. The bar slides in a guide at its foot.

Claim.—The application to the springs of wheel vehicles of a stay or brace, arranged as shown and described, or in an equivalent way, to compensate for the yielding movement of the spring.

63,054.—W. W. JACOBS, Hagerstown, Md.—*Burning Fluid.*—March 19, 1867.—Composed of gasoline, 40 galls.; pine gum, 1 lb.; ground bark of sasafrafs root, $\frac{1}{2}$ lb.; gamboge, $\frac{1}{2}$ lb.; and galbanum, $\frac{1}{2}$ lb.

Claim.—A fluid composed of the ingredients hereinabove named, mixed together in and about the proportions described, and for the purpose specified.

63,055.—BARTON H. JENKS, Bridesburgh, Pa.—*Treadle cam for Looms.*—March 19, 1867.—Improvement on the patent of Richard Garsed, dated July 20, 1846, and extended July 18, 1860. The diagonal portion of the cam grooves which give sliding movement to the treadle cams are in a removable segment, so as to admit of changing the automatic devices to work more or less treadles.

Claim.—Constructing the grooved hub of a treadle cam C of two parts, substantially in the manner and for the purpose described.

63,056.—SAMUEL KEELER, Lancaster, Pa.—*Seed Drill Teeth.*—March 19, 1867.—The teeth are connected by curved arms to spiral springs which are attached to the drag bars. The recoil of the spring enables them to resume their positions after passing obstructions.

Claim.—The arrangement and combination of the curved arm J with the spiral spring M, operating as herein described and for the purposes set forth.

63,057.—PHILIP H. KELLS, Adrian, Mich.—*Brick Machine.*—March 19, 1867.—The pressure of the two pug mills upon the opposite sides of the mold disk makes a counterbalance. The clay passes beneath inclined throat pieces which pack it into molds and remove the superfluity.

Claim.—First, the combination of the annular mold bed B and the central support C, substantially as described and represented.

Second, the arrangement of the throat piece *d* above the molds, operating to pack in the clay and remove the superfluity, substantially as described.

Third, the arrangement upon the mold wheel of the two pug mills on opposite portions, substantially as described.

63,058.—T. J. KINDLEBERGER, Eaton, Ohio.—*Water Wheel.*—March 19, 1867.—Improvement on his patent July 11, 1865. By the intervention of a spiral spring in the rod which attaches the gate to the annular plate, any particular gate which is obstructed may remain open without preventing the closing of the other gates.

Claim.—First, the wheel, having its plates and their buckets, constructed and arranged as herein described.

Second, the combination and arrangement of the plate C, arm D, worm wheel E, and bevel gear with the hand wheel F, for operating the gates as set forth.

Third, the combination of the rod *a*, box *b*, and spiral spring *m*, with the set screw *o*, arranged to operate as and for the purpose set forth.

Fourth, constructing the crown plate B with the recesses or notches in its periphery, as shown and described, the outer points of said plate being arranged to protrude even with the periphery of the annular rim A, as and for the purpose herein set forth.

Fifth, constructing the gate H with the outwardly projecting arm *r*, for the purpose of attaching the spring box *b* thereto, as shown and described.

63,059.—CHARLES KINKEL, New York, N. Y., assignor to ALEXANDER WEHLE, same place.—*Plow.*—March 19, 1867.—The nose of the beam is adjustable on the wheel frame vertically and longitudinally by devices mentioned in the claims.

Claim.—First, the general construction of the plow, consisting of the plow frame C in connection with the axle D, the plow beam B, screw tree F, and shaft H, substantially as described.

Second, the plow frame C, in combination with the screw tree F and universal joint G, substantially as set forth.

Third, the universal joint G applied to the plow beam B and screw tree F, substantially as described.

Fourth, the movable axle D in combination with the plow frame C, substantially as described.

Fifth, the application of the improvement to plows of the usual construction, by means of the cast-iron shoe R, substantially as described.

63,060.—A. O. LATHAM, Wheeling, W. Va.—*Bookkeepers' Ruler.*—March 19, 1867.—The main ruler has an extended lip on one side to prevent the contact of ink with the paper, and is longitudinally slotted to receive the ruler bar.

Claim.—The combination of the secondary ruler B with the main ruler A, the former swiveling upon a pin at or near the cutter of the latter, substantially as and for the purpose specified.

63,061.—W. H. LAUBACH, Philadelphia, Pa., assignor to himself and W. S. COOPER, same place.—*Low Water Indicator.*—March 19, 1867.—The falling off of the float releases the pawl which supports the weighted lever; this descending, opens the valve and admits steam to the whistle.

Claim.—First, the weighted lever E, controlled by a float or weight *g*, and having a projection adapted to a catch or hook on the end of the lever D, in combination with the pawl *k*, arms *e*, weighted arm *c'*, and whistle H, the whole being arranged and operating substantially as and for the purpose herein set forth.

Second, the weight or float *g* and its projections *y*, arranged to operate in the interior of the glass tube B, as and for the purpose herein described.

63,062.—PETER LAWYER, Richmondville, N. Y.—*Carpenters' Gauge.*—March 19, 1867.—The friction plate is held down by a spring depressed by the cam.

Claim.—The combination of the cam lever E, lever spring D, plate C, flanged and slotted metallic eye B, substantially as described, for the purpose specified.

63,063.—Cancelled.

63,064.—JACOB B. LINDEMAN, Manor Twp., Pa.—*Harness.*—March 19, 1867.—The breeching and its stay strap are attached immediately to the shafts instead of being attached to the other portions of the harness.

Claim.—The combination and application of the breeching A and stay strap B, when affixed to the shafts of a vehicle, in the manner and for the purpose specified.

63,065.—S. C. MAINE, Boston, Mass.—*Wardrobe Bedstead.*—March 19, 1867.—The case containing the bed is attached to a rotary shaft whose spring acts as a counterpoise to the weight of the bed. The upper portions of the molding in front of the case drop by their own weight into position and form legs for the bedstead.

Claim.—The balance spring a, or its equivalent, attached to shaft b by chains, or their equivalent, in combination with frames or cases, as shown in Figs. 1 and 2, and operated substantially as set forth.

63,066.—DAVID MANUEL, Boston, Mass., assignor to himself and WILLARD MANUEL, same place.—*Bed Bottom.*—March 19, 1867.—The springs have a coil at each end and are connected by hooks to the slats; the curved sides first receive the pressure and yield before affecting the coils which are affixed to the rails.

Claim.—The arrangement of the compound wire springs, having spiral ends a a, attached to the frame of the bedstead A and held by the cords b b, and having also long curved sides c c, connected with the slats B by the hooks d, formed, combined, and operating substantially as and for the purposes herein described.

63,067.—JOHN W. MARTIN, Washington, D. C.—*Gate.*—March 19, 1867.—The lower edge of the tubular post resting on a spirally-inclined surface, the gate revolves thereon and shuts by gravity.

Claim.—First, the combination of the tubular portion E with a step F and pintle J, said parts E and F being constructed with spirally-inclined abutting surfaces and applied to a gate post, substantially in the manner and for the purposes described.

Second, in combination with the spirally-inclined tubular portion E and the step F formed of cast or hardened metal, the wrought-metal pin J, substantially as and for the purposes described.

63,068.—H. B. MASSER, Snubury, Pa.—*Ice Cream Freezer.*—March 19, 1867.—The can and the beater may be revolved either together or separately. The perpendicular arms of the beater have rubber strips, which, conforming to the irregularities of the metal can, remove the film which settles thereon.

Claim.—First, the device of a catch k, or its equivalent, for locking and unlocking the beater shaft h in combination with the gear wheel b, by means of which separate or alternate motions may be given to the beater and the freezing can A, or both together, arranged and operating substantially as and for the purposes herein described.

Second, the india-rubber packing m m, fitted on the edge of the beater wing g, arranged and operating substantially as and for the purpose specified.

63,069.—A. S. McCURE, Duncannon, Pa.—*Railway Joint.*—March 19, 1867.—The fish-rail overlaps the joint of the main rails and the outer flange of each is cut off for a short distance and supplied by a projecting flange of the fish-rail. The latter is bolted through longitudinal slots in the main rails to the fish-plates on the opposite side.

Claim.—The construction of the ward rail B, when fitted into the flanges of the main rails A and fastened and supported by the guard plate C, as herein described and for the purposes set forth.

63,070.—BICHARD McDOWELL, Lambertville, N. J.—*Car Axle Box Cover.*—March 19, 1867.—Flanges in counterpart recesses on the opposite parts allow the cover to slip on. A partial rotation interlocks the flanges and the cover is held in position by a weighted handle.

Claim.—First, an axle box having a projecting ring in front, provided with tapering flanges b receiving the cap B, with corresponding flanges c having an

operating weighted handle d, in the manner described, for the purpose specified.

Second, the weighted handle d arranged on the cover B, for the purpose of holding the same in position, substantially as herein shown and described.

63,071.—JAMES P. McLEAN, Brooklyn, N. Y.—*Piston Packing.*—March 19, 1867.—The cork and india-rubber are combined so that the former is brought in contact with the bearing surface and the rubber is used as a follower to expand as the cork is worn away. Radial plates of soft metal separate the packing into sections. For rod packing it may be bound with a ribbon of soft metal.

Claim.—Combining the cork C, rubber R, with or without the mineral coating, and securing the same by means of metallic strips, all substantially as described and for the purpose set forth and shown in the drawing.

63,072.—JAMES P. McLEAN, Brooklyn, N. Y.—*Piston Rod Packing.*—March 19, 1867.—The lower annular plate has an inner inclined surface, and its base is exposed to a pressure of steam from perforations in the cylinder head. The upper annular plate has an outer inclined surface, and an upper plane surface to receive the impact of the follower. Between the inclined surfaces is interposed a sheet of fibrous material.

Claim.—Packing the piston rod or shafting R of a steam engine with the steam by means of the sectional rings N N', pad C C, and steam ports U U, constructed and operated substantially as described and shown in the accompanying drawings.

63,073.—JAMES P. McLEAN, Brooklyn, N. Y.—*Packing for Manholes of Steam Generators.*—March 19, 1867.—The packing consists of layers of cork and rubber coated with asbestos or other incombustible material.

Claim.—The cork diaphragm (or rings) or sections thereof, coated with a non-combustible substance, for the purpose substantially as described and shown in the accompanying drawings.

63,074.—JOHN MEGOWN, New London, Mo.—*Churn.*—March 19, 1867.—Motion is communicated from the belt on the pulley of the hand-crank shaft to a pulley on the dasher-crank shaft, which is adjustable in a slot of the standard, and has two cranks projecting in opposite directions to actuate the two dashers. The frame is attached to the hinged lid, and may be raised and thrown back with it.

Claim.—First, the combination and arrangement of the pulleys F G and band L, or their equivalent, shafts H J, cranks I K, standard E, and hinged lid D, with each other and with the dasher handles P, churn B, and frame C, substantially as described and for the purpose set forth.

Second, the combination of the box or cap M, bolt N, and nut O, with the shaft J and standard E, substantially as described and for the purpose set forth.

63,075.—J. B. J. MIGNON and S. H. ROUART, Paris, France.—*Apparatus for Compressing Air.*—March 19, 1867.—The two receivers for the exhaust or compression of air are mutually connected, and also communicate by pipes with an upper and lower water vessel. The action is by gravity, the column of water above one vessel acting to compress the air, and the pipe leading from the lower one to attenuate the air therein by the weight of its vertical column. Stop-cocks govern the ducts.

Claim.—First, the herein-described apparatus for obtaining the compression or exhaustion of air, the same consisting of one or more reservoirs into and from which the compressing and exhausting agent is conducted, so as to compress or exhaust the air within the same by means of supply and exhaust pipes and regulating valves, arranged and operating substantially as shown and set forth.

Second, the combination with two or more reservoirs, arranged as described, of the air and water supply and exhaust pipes and their operating valves, connected with the said reservoirs, in such manner as to effect the continuous compression or exhaustion of air, substantially as specified.

Third, the combination with one or more air-compressing reservoirs, as described, of a hollow pillar or other tubular receptacle for the despatches, or other

objects to be transmitted through the tubing, under the arrangement and for operation as herein set forth.

63,076.—JOHN MILLER, Buffalo, N. Y.—*Bung for Casks, Barrels, &c.*—March 19, 1867.—The bushing is screwed in the bung hole, and is enlarged at its inner end. A plug surrounded by packing is inserted, and the latter is condensed against the wall of the bush as the plug is partially withdrawn. A socket in the upper end of the plug has an elongated opening and a cavity within. The handle has a T-head which enters the plug, and being turned 90° catches the shoulder and enables the plug to be drawn into the bushing.

Claim.—First, the metallic box A, expanding inwardly to receive the plug B, when employed as a lining for bung holes, and constructed substantially as described.

Second, the plug B, when provided with the head *h* and enlarged end *g*, and combined with the packing ring F and box A, substantially as set forth.

Third, the handle and driver K, constructed and operating with the other parts, as described.

63,077.—RICHARD MONTGOMERY, New York, N. Y.—*Curved Corrugated Steel Plate.*—March 19, 1867.—Explained by the claim.

Claim.—As an article of manufacture curved corrugated steel for the construction of steam chimneys, furnace and flues for steam boilers, and for other purposes, substantially as described.

63,078.—JOHN MORTON, Winchester, Ind.—*Rail-road Track Lifter.*—March 19, 1867.—The frame has wheels for removal on the track. The claws take under the rails, and are raised by the compound levers.

Claim.—First, a combination of levers E and G, fulcrum D¹ and D², and hooks F, constructed and arranged to operate substantially in the manner and for the purpose set forth.

Second, the combination of the crossed levers E and slotted adjustable hooks F, substantially in the manner and for the purpose set forth.

63,079.—JOHN I. MUNROE, Burlington, Mass.—*Hay Rake.*—March 19, 1867.—The divider clears a space in front of the teeth onto which they descend after discharging the hay, preventing the dragging of scattered hay behind the rake.

Claim.—The combination of the divider J K L M N, chain R, or equivalent lever P, teeth E, and frame of the rake with each other, substantially as herein shown and described and for the purpose set forth.

63,080.—ISAAC H. NEWTON, Oakfield, Mich.—*Saw Mill.*—March 19, 1867.—A pendent toggle lever has a timber hook to take under the log and turn it. The tilting blocks act as abutment slides to the log in turning, and are raised by cams on a rocker shaft, which is put in motion by a clutch. A pulley on this shaft has a cord which operates the toggle lever. The claw of a slide bar engages the lower side of the log, and acts simultaneously with the other devices.

Claim.—First, the hook M, suspended from the bent or loaded lever L, in combination with the operating mechanism for turning the log upon the carriage, substantially as herein set forth.

Second, the tilting blocks D, furnished with inclined or cam-shaped ends *d*, and combined in relation with the sliding blocks E and frame J, substantially as herein set forth for the purpose specified.

Third, the rock shaft H and cams G, in combination with the sliding blocks E and tilting blocks D, and frame J, substantially as herein set forth for the purpose specified.

Fourth, the arrangement of the bent lever L, hook M, and cord N, with reference to each other and with the wheel P, and rock-shaft H, substantially as herein set forth for the purpose specified.

63,081.—MILTON V. NOBLES, Elmira, N. Y.—*Boat Detaching Tackle.*—March 19, 1867.—The triangular jointed frame by which the boat is steadily supported is hinged to fall on the deck when out of use.

Claim.—First, in combination with a boat-detaching apparatus, a bail, bar or brace connected to the sides of the boat, so as to prevent the boat from tipping when unevenly loaded, substantially as described.

Second, hinging the bails by which the boat is steadied, at the sides, so that when let go or disconnected they will drop and lie upon the decks, and thus not incommode or endanger the passengers or crew, as described.

63,082.—MILTON V. NOBLES, Elmira, N. Y.—*Boat Detaching Tackle.*—March 19, 1867.—The boat is suspended on jointed rods that extend a distance above the level of the gunwale, and have lateral brace rods to insure steadiness. The ends of the boat are simultaneously detached from the davits by withdraw ing sister bolts attached to a common rock-shaft amid ships.

Claim.—The combination of the detaching apparatus with the brace, and with the central suspension of the boat, as and for the purpose herein described and represented.

63,083.—BENEDICT OTT, La Crosse, Wis.—*Clothes Tongs.*—March 19, 1867.—The tongs are used for handling clothes in lifting from the wash boiler or rinsing. The spring tends to open them, and the jaws are closed by the grasp upon the divided handle.

Claim.—The legs A and handle B, with blades formed at right angles to them, pivoted together at *a*, and provided with the spring *b*, which holds the legs A open, constructed and arranged as herein set forth.

63,084.—ALFRED PARAF, Mulhouse, France.—*Dyeing and Printing Textile Fabrics, and Com-pounds therefor.*—March 19, 1867.—A compound is formed by dissolving arsenious acid in glycerine, and is used in connection with acetate of alumina, &c., in fixing the aniline colors in dyeing.

Claim.—First, as a new article of manufacture, the arsenite of glycerine, hereinabove described.

Second, the combination, in the operation of dyeing or printing on textile fabrics or yarns, of the arsenite of glycerine, coal-tar color, and acetate of alumina, magnesia, or other metallic oxide, substantially as and for the purpose hereinabove set forth.

63,085.—FRANCIS R. PEARSON, Germantown, Pa.—*Spinning Jack.*—March 19, 1867.—The friction motion is made subsidiary in assisting the operator in working the jack by allowing the said motion to operate without moving the twist gearing. The shifter bar is not positively connected to the levers which actuate it, but the usual slot in the bar is dispensed with and a spring forces the bar in one direction, a pin thereon being thus caused to actuate the lever connecting with the twist gearing.

Claim.—First, actuating the belt-shifter bar *f* in one direction by means of the twist gearing, and in the other direction by the spiral spring, the whole combined and arranged substantially as described and for the purpose set forth.

Second, the combination and arrangement of the catch *e*, loop *p*, and faller *n*, constructed as described and operated from the front of the carriage, substantially as described and for the purpose set forth.

Third, the combination of the rod *r*, lug *o*, catch *e*, stand *h*, and nut *t*, when constructed as described for the purpose set forth.

63,086.—CARY PEEBLES, Santa Clara, Cal.—*A d-justable Handle for Fruit Boxes.*—March 19, 1867.—The adjustable handle of wire, has prongs and points turned inward to fit the box, which is held by the elastic clasp of the same. It is intended for holding boxes while being filled with berries as they are picked, and then detached; the boxes being shipped.

Claim.—A handle A, constructed with the arms *b b*, and the prongs *c c*, similar to that herein described, substantially as and for the purpose set forth.

63,087.—ANTONIO PELLETIER, Parkersburg, W. Va.—*Composition for Coating Wood, Cloth, Metals, and for Forming Various Articles.*—March 19, 1867.—A fire and water-proof coating for application to wood and other perishable articles.

Claim.—First, the compound, consisting of vegetable fiber, soapstone, silicate of soda, or its equivalent, red lead and litharge, substantially as described and for the purposes set forth.

Second, the compound, consisting of vegetable fiber, soapstone, silicate of soda, or its equivalent, red lead

and litharge, when coated on wood, cloth, leather, brick, stone, iron or other fibrous, porous, or solid substances, and treated with a solution of muriatic acid consisting of one part of the acid to three parts of water, substantially as described and for the purposes set forth.

Third, as a new article of manufacture, the composition substantially as herein described and for the uses and purposes set forth.

63,088.—DAN. PERRY and EDWIN PERRY, Pawtucket, R. I., assignors to ORRIN F. PERRY, North Providence, R. I.—*Hooping Casks.*—March 19, 1867.—The iron band is bent so as to expose both sharpened edges to the parallel circumferential kerfs in the cask, into which it is driven and fastened at the lap.

Claim.—The concave hoop B, fitted permanently in channels or grooves on the outer face of the barrel, tub, pail, or other article made of wood and hooped, substantially as described for the purpose specified.

63,089.—JOHN PHILLIPS, Jr., Chicago, Ill.—*Wood Turning Lathe.*—March 19, 1867.—The hollow fixed mandrel contains a cutting tool which turns the stuff as it is passed through the mandrel. A tool attached to a sliding frame finishes and gives shape to the article turned.

Claim.—First, the cylindrical bearing or holder B, or its equivalent, in combination with the cutters E, arranged and operating substantially as specified.

Second, the arrangement of the cutter G with the cylindrical bearing B, or its equivalent, operating as and for the purposes set forth.

63,090.—JOHN E. PHILLIPS, Philadelphia, Pa.—*Press Strainer.*—March 19, 1867.—The base plate is fastened to a bench, the lower portion of the cylinder is perforated and has a movable cylindrical shield. Strainers of a fineness appropriate to the use are placed within, and the charge is forced through by a hand or screw plunger.

Claim.—The perforated cylinder *d* and band cover *e*, in combination with the disk strainers and a screw plunger and base plate *a*, operated substantially as described for the purposes specified.

63,091.—WILLIAM POMEROY, New York, N. Y.—*Truss.*—March 19, 1867.—From its spring attachment to the main spring of the truss the pad derives an independent upward and inward pressure, which is adjustable in degree and direction.

Claim.—The construction, combination and arrangement of the pad spring F with the pad E and main spring B of the truss, substantially as herein described and for the purpose set forth.

63,092.—THOMAS POWELL, Milroy, Ind.—*Sleeve Supporter.*—March 19, 1867.—Explained by the claim and illustration.

Claim.—The elastic band B, provided at one end with the ring C, through which it passes after encircling the arm above the elbow and having at its lower end the hook D, adapted to catch it in the slit of sleeve as herein described and represented.

63,093.—SEYMOUR RAYMOND, Middletown Pa., assignor to himself and J. CAMPBELL, same place.—*Stove Cover for Cooking Stoves.*—March 19, 1867.—The plates are reversible, so as to expose the sides to the fire alternately, to equalize the warping action of heat thereupon.

Claim.—The reversible pot-hole division plates in the upper plate of a cook stove, constructed and operating substantially as and for the purpose herein described.

63,094.—JOHN T. REESE, Baltimore, Md.—*Stall for Roasting Ores Containing Sulphur, &c.*—March 19, 1867.—The fumes of sulphur, arsenic, &c., from the ores in the furnace are conducted to sinuous and interrupted passages, whose obstructions precipitate the metallic vapor for subsequent uses.

Claim.—An ore stall, with a roof *a* by arch or otherwise; a closed front by doors *b b*; the arrangement of draft ports *d d*, the arrangement of fume ports *e e* and *f f*; the connection of stack *s*, and culvert *h*, with culvert *i*, and main culvert and stack; this process of confined roasting; a long and crooked main culvert;

and the process of securing sediment by the bends, the rough walls or the obstructions in the culverts.

63,095.—ADAM H. RENNIE, Binghamton, N. Y.—*Bedstead Fastening.*—March 19, 1867.—The ends of the rails have pins projecting obliquely downward, which engage counterpart holes in the face of the post. An eccentric pivoted to the latter binds on a pin in the rails, and forms a latch to hold the parts together.

Claim.—The mode of constructing, arranging, and combining oblique dowelled pin joints with the eccentric clasp D, substantially in the manner herein described and represented.

63,096.—ASA R. REYNOLDS, Auburn, N. Y.—*Tempering Steel after being Welded to Iron for Cutting Tools.*—March 19, 1867.—Explained by the claim.

Claim.—Tempering steel that is welded on iron, such as shear blades, plane irons, chisels, axes, or hatchets, and other cutting tools, by means of a reactionary blow, produced by a drop die or hammer, substantially as herein described and represented.

63,097.—ASA R. REYNOLDS, Auburn, N. Y.—*Welding Steel to Malleable Iron and Tempering the Steel by one Operation.*—March 19, 1867.—Explained by the claim.

Claim.—Welding steel to malleable or wrought iron, and tempering the steel by one and the same process or operation, viz: by submitting the two metals in a properly heated condition to the action of a drop die, and the reaction thereof, with the under or anvil die, and the metal held between them, substantially as described.

63,098.—ISRAEL I. RICHARDSON, Delaware, Ohio.—*Fireplace.*—March 19, 1867.—The calorific current passes through lateral reverting flues in chambers formed by recesses in the jambs, whose fronts have perforated doors nearly flush with the other finish of the front of the grate.

Claim.—The arrangement of the open grate A, chambers E recessed in the jamb, and with perforated front doors and reverberating flues D D, as described and represented.

63,099.—JOHN ROSS, Greenville, Mich.—*Fountain.*—March 19, 1867.—The pressure of the descending column of water causes the jet, and the water is raised again to repeat the duty by means of the pump attached.

Claim.—The combination and arrangement of the receiver D, chambers A and B, jet pipe *b*, pipe *c*, air pipe *d*, pipe *e*, pump E, pipe *f*, stop cocks *g h* and *i*, substantially as described for the purpose specified.

63,100.—JOHN H. ROWLEY, Fabius, N. Y.—*Fence.*—March 19, 1867.—The panels are connected in line by a sliding bar, and are laterally braced by a hinged bar, which is set on either side of the fence, as required, and at any inclination.

Claim.—The arrangement of the panels A A with the braces E E, adjustably hinged to the said panels and the sliding bar D, the several parts being constructed and used substantially in the manner and for the purpose herein specified.

63,101.—C. W. ROYSE, Peterborough, N. H.—*Towel Rack.*—March 19, 1867.—The rectangular rack is hung in legs projecting from a plate fastened to the side of a room. The arm and set screw hold it in position.

Claim.—The frame C, hung in projecting pieces E of a block or plate F, in combination with the arm G, having set or thumb screw H, substantially as and for the purpose described.

63,102.—JOHN A. RUSS, Springfield, Mass.—*Pocket Implement.*—March 19, 1867.—The checks form a rasp and tweezers, and pivoted between them are pieces which form a knife blade, screwdriver, rule, ear spoon, calipers, crochet hook, and dividers.

Claim.—As a new article of manufacture, the instrument herein described, consisting of the various tools mentioned, combined and arranged substantially as herein set forth.

63,103.—M. L. SALYARDS, Troy Grove, Ill.—*Fence Gate.*—March 19, 1867.—The gate is double, the parts are opened or closed simultaneously by pulling on the cords on either side of the gate.

Claim.—First, the peculiar arrangement of the ropes D D, in combination with the gates B B, substantially as and for the purpose described in the foregoing specification.

Second, the peculiar arrangement of the ropes H H and I I, in combination with the gates B B, substantially as and for the purpose described.

Third, the posts G G and weights M M M M, in combination with the gates B B, substantially as and for the purpose described.

Fourth, the rollers C C C C, in combination with the gates B B, substantially as and for the purpose described in the foregoing specification.

63,104.—LOUIS SCHOERKEN, Köln, Prussia.—*Match Box.*—March 19, 1867.—The drawer slides out of its open-ended case, and strains the cord which opens the lid of the drawer as soon as the latter has been sufficiently retracted. It is shut again by contact with the case as the drawer is returned.

Claim.—Connecting the hinged part D of the cover C of an inner sliding box with the back a of an outer case by means of an elastic band or strap, substantially as and for the purposes described.

63,105.—DANIEL M. SECHLER, Cincinnati, Ohio.—*Cotton Bale Tie.*—March 19, 1867.—One end of the hoop is looped around one side of the buckle, and the other end around one side of the guard of the smaller quadrilateral piece; the latter is then passed through the wider gap in the buckle, and being slipped underneath is retained by the latter.

Claim.—The arrangement of the buckle A, constructed with notched slot 4 5, and the loop B, adapted and proportioned to engage with the buckle, substantially as described and represented.

Also, the loop B for attachment to one end of the hoop, and adapted to lock within a buckle or equivalent device on the other end of the hoop.

63,106.—GEORGE SELSOR, Philadelphia, Pa.—*Nail Hammer.*—March 19, 1867.—Between the "pein" and the claws is a recess, in which a nail may be held to start it in the lumber; the other parts are effective for their specific duties.

Claim.—First, the combination, substantially as described, of the claws c, with the "pein" of a hammer, for the purpose specified.

Second, the groove x in the "pein" beneath the claws, for the purpose described.

63,107.—IRA W. SHALER, Brooklyn, N. Y.—*Clothes Sprinkler.*—March 19, 1867.—One side of the chamber has a relatively large hole for admitting water, and the other has smaller holes, which emit it in fine jets.

Claim.—As a new article of manufacture the dampener described, when constructed substantially as set forth.

63,108.—P. SHAW and E. S. DAWSON, Syracuse, N. Y.—*Pad Plate for Harness.*—March 19, 1867.—The screw shank of the check-rein hook and the terrets pass through the steel cover and the strengthening plate, which are riveted together, and furnished with perforations for attachment to the leather accessories.

Claim.—As an article of manufacture the pad plate herein described, the same consisting of the struck-up plate of steel A, strengthening plate of malleable iron B, combined and provided with the loop G, substantially as and for the purpose specified.

63,109.—JULIUS SHELTON, New York, N. Y., assignor to himself and W. C. GRISWOLD, same place.—*Hat Blocking Machine.*—March 19, 1867.—Improvement on the patent of Joseph De Lamar, in respect of making the parts of the machine adjustable to the size and depth of the hat under treatment; in the apparatus for opening, closing, and giving the proper pressure to the clamps which perform the stretching of the brim. The hat body is placed on the machine; the ring is raised which closes the clamps; the ring which determines the size of the hat

is brought down upon the hat body; the clamps are raised, flattening out the brim; and lastly, the crown is stretched.

Claim.—First, the bars f, provided with notches g', for the purpose of adjusting said bars to all depths of hats, substantially as described.

Second, the slides l, provided at one end with pins g, which act as the fulcra of bars f, and having their inner ends so arranged with the cone n as to be adjustable, substantially as described.

Third, the ring k, provided with a surrounding elastic cushion to adapt it to the two functions of breaking the band and giving the pressure to the clamps, substantially as described.

Fourth, the ring p, disconnected from but arranged to operate the clamps i, substantially as and for the purpose specified.

63,110.—AMOS SHEPARD, Plantsville, Conn.—*Stove Cover Lifter.*—March 19, 1867.—The lifter has a skeleton socket to receive the end of the wooden handle, which is secured by a screw.

Claim.—First, a cast metal stove-cover lifter with the perforated hollow and notched socket or ferrule, substantially as described.

Second, casting the herein-described perforated hollow socket or ferrule in the manner and by means substantially as described, for the reception of wood handles.

63,111.—JAMES SHOBE, Principio, Md.—*Corn Harvester.*—March 19, 1867.—The machine is designed to be drawn by one horse and to cut two rows at a time, delivering them in vertical gavels upon a platform, from which they are liberated by the driver. The corn is guided to the rotary cutters, conveyed back in a vertical position between parallel, toothed endless bands, the butts sliding in troughs, and is lodged against the arms, which revolve 90° to release the gavel when sufficient has accumulated.

Claim.—The combination of the revolving cutters I I, receiving guides f h, gathering belts m g, standards k b, and cross-arm K K, for holding the gavels, the forked hook catch M, and foot lever R, for liberating, as herein specified.

63,112.—ISAAC B. SIDDLER, Caswell Co. N. C.—*Corn Sheller.*—March 19, 1867.—The ear of corn is held in the hand and brought in contact with the studs on the plate with a longitudinal and rotary movement.

Claim.—The improved corn sheller herein described, composed of the plate A, with teeth b, or their equivalent, the whole arranged to operate substantially as described.

Also, the tooth plate A, in combination with the blocks M N, and base B, or their equivalents.

63,113.—J. D. SMITH, Naugatuck, Conn.—*Window Fastening.*—March 19, 1867.—The metallic thimbles have exterior screw-threads by which they are set in the edges of the sash stile. They form bearings for the spiral spring and sockets for the spring bolt which engages the stop in the window jamb.

Claim.—The combination of the slide bolt C, with the thimbles D D', provided with screw-threads on their exterior surfaces, substantially as and for the purpose herein set forth.

63,114.—JOSEPHINE STEWART, Owosso, Mich., administratrix of the estate of R. L. Stewart, dec'd.—*Saw Mill.*—March 19, 1867.—Improvement on the patent of R. L. Stewart, February 9, 1864. An arm is pivoted to a horizontally working lever which is attached to the top end and center of the pitman so that the saw in its upward reciprocation will be forced back from the timber and avoid friction, being drawn forward to the timber in its effective stroke.

Claim.—The pitman F, pivoted at its center to the pivoted arms G, at its outer end, to the arm d, and at its inner end to the pitman D, constructed and operating substantially as described, for the purpose specified.

63,115.—A. H. TAIT and JOSEPH W. AVIS, New York, N. Y.—*Apparatus for Distilling Petroleum.*—March 19, 1867.—The still is divided by partitions, pierced by communicating openings guarded by gates. The first and last compartments of the still are immediately connected by a pipe which serves to equalize

the gravity of their contents when required. The intercommunicating apertures are below for liquid and above for vapor; the latter passes to condensers and the heavy residuum of the former to coking retorts.

Claim.—First, the arrangement of partitions *a*, in the still *A*, said partitions being provided with apertures *c* at or near their bottoms, and with apertures *d* at or near their tops, substantially as and for the purpose described.

Second, placing the apertures *c* at or near the bottoms of the partitions *a*, in a zigzag position, substantially as and for the purpose set forth.

Third, the arrangement of valves *e e'*, in the top parts of the partitions *a*, substantially as and for the purpose described.

Fourth, the arrangement of two or more condensers *C C'*, in combination with the compartments *b b' b'' b'''*, of the still *A*, and with valves *e e'*, regulating the communication between said compartments, substantially as and for the purpose set forth.

Fifth, the equalizing pipe *n*, in combination with the compartments *b b'*, of the still *A*, substantially as and for the purpose described.

Sixth, the gates *i i'*, in combination with the compartments *b b' b''*, of the still *A*, substantially as and for the purpose set forth.

Seventh, the combination of coking or tar retorts *E E'*, with a still *A*, divided into a number of compartments *b b' b'' b'''*, substantially as and for the purpose described.

63,116.—A. H. TAIT and JOSEPH W. AVIS, New York, N. Y.—*Process and Apparatus for the Fermentation of Saccharine Liquids.*—March 19, 1867.—The hot mash is forced into a tun by a pump. A current of cold air is forced through a refrigerator and into the mash by an air pump. When the mash has been cooled the air is exhausted from the tun and the mash is allowed to ferment. A current of steam is let into the tun to distil off the low wines.

Claim.—First, effecting the fermentation of saccharine solutions or liquids in vacuo.

Second, the arrangement of the force pump or fan blower, in combination with a suitable refrigerator and with the fermenting tun for the purpose of cooling the wort, as set forth.

Third, the arrangement of a steam pipe, in combination with the tun *A*, refrigerator or condenser *C*, and receiver *D*, substantially as and for the purposes described.

63,117.—JOSEPH THOMAS, New York, N. Y.—*Braiding Attachment for Sewing Machines.*—March 19, 1867.—The plate through which the braid is passed is attached to the top surface of the table and directly under the needle. The frame lies loosely on the table and may be turned in all directions for stitching the braid to the cloth as the pattern may demand; the cloth is stretched upon rollers.

Claim.—First, the arrangement of the plate *m*, forming part of the braiding plate *A*, and capable of opening and shutting to facilitate the passing in of the braid, and provided with a groove *s*, on its underside to guide the braid, the whole being constructed in the manner and for the purpose set forth.

Second, the arrangement and use of the frame *D*, with rollers *B* and *B'*, or their equivalent, at the ends, and the manner of stretching the material upon the same, for the purpose substantially as described and set forth.

63,118.—H. TYLER, Gaines, N. Y.—*Pump Valve.*—March 19, 1867.—The valve stem is guided by a cross-rod and bridge piece, through both of which it passes. The valve has a certain liberty of play on the rod which allows it to adjust itself to its seat.

Claim.—The valve *N*, attached to the end of the sliding rod *L*, by means of the nut *d*, so as to permit the said valve to play on the rod as herein described, piece *M*, and guides *b b'*, when all are constructed and arranged as herein set forth.

63,119.—JACOB B. VAN DERWERKER, Cobleskill, N. Y.—*Hop Frame.*—March 19, 1867.—To the posts are pivoted arms which are inclined against the neighboring post to conduct the bines thereto.

Claim.—A hop frame, composed of the vertical stakes or poles *A*, and inclined bars *B*, the latter

being connected to the former and arranged relatively therewith, substantially as shown and described.

63,120.—RICHARD VOSE, New York, N. Y.—*Window Sash Supporter.*—March 19, 1867.—The sash stop engages a rack in the jamb and is withdrawn either by a pin projecting through a slot in the face of the sash, or by the turning of the thumbscrew, to which it is connected by rod and crank.

Claim.—A thumb piece and crank united to form one piece, when supported by a simple divided plate *C* upon a window sash and combined with a spring catch upon the edge or side of said sash by means of a connecting cord or wire, all substantially in the manner and for the purpose herein set forth.

Also, the combination of a pin *r* with a spring catch *e*, as herein described, when said pin is made to project in or through a slot cut in the sash, all substantially as and for the purpose herein set forth.

63,121.—JAMES WALKER, Cincinnati, Ohio.—*Boot Jack.*—March 19, 1867.—The jaws slide inward when force is applied and bite the boot.

Claim.—A self-adjusting boot jack composed of the two jaws *D D'*, with the curvilinear slots *E E'*, sliding between two plates *A* and *B*, so as to be closed by the action of withdrawing the foot from the boot, substantially as set forth.

63,122.—THEODORE WALLIS, A. B. MATTOON, and CHAUNCEY E. TUTLER, Auburn, N. Y.—*Attaching Thills to Wagons.*—March 19, 1867.—The thill iron slips into its socket, entering downward and forward, and the slide block which prevents its retraction is fastened by a screw-bolt.

Claim.—The shackle *A*, when provided with a receptacle as described, in combination with slide *C*, as constructed, and both being employed in the manner and for the purpose set forth.

63,123.—AARON WARR, Lockport, N. Y.—*Instrument for Drawing Ellipses.*—March 19, 1867.—The pair of dividers has an adjustable bifurcated brace to steady one foot, while on the other foot is a jointed pen or pencil carrier whose sleeve slips upon the leg as the pencil revolves around the leg and traces the line of the ellipse, the foot setting in the intersection of the transverse and conjugate diameters.

Claim.—The combination with a pair of dividers of the pen and pencil carrier *f*, jointed to a sleeve *e*, or equivalent, which enables the device to slide up and down and turn upon the inclined bar or leg *B* of the dividers, arranged and operating substantially as set forth.

Also, in combination therewith, the double brace *C*, consisting of the legs *h h'*, collar *z*, and set screw *n*, substantially as and for the purpose specified.

63,124.—C. WATERMAN, New York, N. Y.—*Burglar Alarm.*—March 19, 1867.—The trigger is pivoted to an arm on the door and on the opening of the latter is disengaged from the hammer, which makes an alarm by rapid strokes upon the bell. The trigger falls, so that in closing the door again it does not arrest the alarm.

Claim.—First, the rod *G*, connected by a pivot or any suitable joint, to the arm *F*, on the door *A*, and arranged in relation with the hammer rod *B* of an ordinary bell alarm, to operate in the manner substantially as and for the purpose set forth.

Second, the hook or fastening *C*, in combination with the hammer rod *B*, and the other rod *G*, substantially as and for the purpose specified.

63,125.—DAVID N. WILLIAMS, Chicago, Ill.—*Apparatus for Drawing Iron from the Fire.*—March 19, 1867.—The windlass has a pulley and transversely-movable support secured in the floor. Its object is to operate tongs to draw heated iron from the furnace.

Claim.—The sliding drum *G* in combination with the traveler *C*, chain *E*, and tongs *F*, all arranged to operate substantially in the manner as and for the purpose set forth.

63,126.—JOHN WILCOX, Thompsonville, Conn.—*Valve.*—March 19, 1867.—The seat is a section of a tube and has exterior grooves for attachment of the

elastic tube of an inflatable life-preserver. One of the threads in the double-threaded upper portion is cut away and a stop piece on the valve stem works therein and is arrested to prevent its being drawn entirely out.

Claim.—A valve, constructed, arranged, and operating substantially as herein shown and described.

Also, the stop arrangement *a b*, substantially as herein set forth, in combination with a screw valve.

63,127.—JOHN WILCOX, Thompsonville, Conn.—*Faucet.*—March 19, 1867.—The down-turned flange around the stem packs against a ring around the thimble in the partition, and the rim of the thimble packs against a ring in a recess of the stem, so as to make a double joint at this part. The upper and lower edges of the shell pack against rings in the cap and socket respectively.

Claim.—The faucet, consisting of the shell *A*, stem *C*, socket *D*, thimble *a*, valve joint *B*, and packing recesses *p*, constructed as herein set forth, for the purpose specified.

63,128.—JOHN B. WILSON, New York, N. Y.—*Veneer Cutter.*—March 19, 1867.—The veneers are cut from straight-grained wood with a knife having a corrugated cutting face, so that the veneer will show a difference of shade when pressed flat.

Claim.—Cutting a crimped or corrugated veneer, substantially as described, for the purpose set forth.

63,129.—PARKER WINEMAN, Chicago, Ill.—*Steam Engine Slide Valve.*—March 19, 1867.—A cup on the back of the valve has a ring which is thrust by a spring against the roof of the chest. A peripheral groove in the ring has a packing which is expanded by steam against the inner wall of the cup.

Claim.—First, the application of a laterally-expandible packing to a ring which is applied within a cup *B* upon the back of a slide valve, said ring being held against the valve chest back by the pressure of a spring alone, while the packing is expanded by the pressure of steam, substantially as described.

Second, the detachable ring *a*, grooved on its circumference and fitted with expansible packing, in combination with the cup *B*, for the purpose of packing a slide valve, substantially as herein set forth.

Third, the combination of the flanged ring *a* and its spring *b*, with the expansible packing and its spring *h*, applied within a cup *B*, and operating substantially as described.

63,130.—HENRY R. FOOTE, Oil City, Pa., assignor to himself, STILLMAN B. ALLEN, and J. H. WINSOR.—*Vapor Generator and Burner for Heating Purposes.*—March 19, 1867.—Improvement on his patent September 18, 1866. A hydro-carbon is supplied from a tank to the retort, which is also supplied with air by means of a force pump and with the gaseous results of steam decomposed by heated iron filings. The combined results are supplied to burners for use in steam generators.

Claim.—First, a retort or vessel *a*.
Second, a tank or means of supporting the retort, with the hydro-carbon oil or liquid.

Third, an apparatus for decomposing steam and introducing its gaseous constituents into the retort.

Fourth, an air pump, or means of forcing air into the retort.

Fifth, means of discharging from the retort and burning the mixture of air, hydro-carbon vapor, and the gaseous constituents resulting from the decomposition of steam, as set forth.

Also, the combination of such combination, and the reservoir *b*, applied thereto and for use substantially as described.

Also, the employment of the vapors of a light and volatile hydro-carbon, as set forth, with the heavier oil, the air and gaseous constituents of steam introduced into the retort, substantially as described, such light and volatile hydro-carbon being placed in the air reservoir *b*, so as to be vaporized therein by the air forced into and through it, or by any other proper means, the vapors of such hydro-carbon being carried by the air from the reservoir into the retort.

Also, the admixture of gas of a hydro-carbon fluid, air, and the gaseous constituents of steam, and their combustion by the means, in the manner, and for the purposes set forth.

Also, the deflector or radiator *g*, constructed as described, and arranged in relation to pipes *f* and elbow *f'*, as and for the purposes set forth.

Also, the combination of the heating coil of pipes *p'*, or its equivalent, with the tank *c*, the retort *a*, a steam-decomposing apparatus, and an air-forcing apparatus, the whole being to operate substantially as set forth.

Also, the arrangement of the oil tank *c*, surrounded with the water jacket *t*, with the retort *a*, a steam-decomposing apparatus, and an air-forcing apparatus, substantially as specified.

Also, the combination of the drain pipe *k* with the retort *a*, the tank *c*, a steam-decomposing apparatus, and an air-forcing apparatus, when combined for use as specified.

63,131.—SAMUEL W. ADAMS, Providence, R. I., assignor to AMERICAN EYELET COMPANY, same place.—*Machine for Making Eyelets.*—March 26, 1867; antedated March 12, 1867.—Improvement on the patent of Jesse F. Richards, October 4, 1864. The strip of metal from which the eyelets are formed is carried on two reels and intermittently fed to the compound punches between them. The "former" die is traversed by a clearing punch to drive out any eyelet accidentally remaining therein. A finger is swung around to discharge the eyelet from the punch on its backward movement. When using a strip of metal wide enough for more than one course of blanks, the perforated portion is trimmed from the side by a cutter during the passage of said strip.

Claim.—First, the improved mode of constructing and operating the compound male cutter 3, former 2, and punch 1, as described, for the purpose specified.

Second, a pair of reels *C*, for holding and delivering, and for taking up the metal strip, in combination with the eyelet-forming instruments, for forming eyelets therefrom, substantially as described.

Third, a pair of sliding clamping jaws, constructed and operating as described, in combination with suitable instruments for forming eyelets from a metal strip, as described, for the purpose specified.

Fourth, in combination with the eyelet-forming instruments, constructed substantially as described, a clipping or trimming mechanism for trimming off the perforated portion of the stock as it passes through the machine, substantially as described.

Fifth, the clearing punch *V*, in combination with the compound female cutter and forming die, substantially as described, for the purpose specified.

Sixth, the clearer *t*, substantially as described, for the purpose specified.

63,132.—FRANK ARMSTRONG, Waterbury, Conn.—*Sewing Machine.*—March 26, 1867.—For attachment to the Wheeler and Wilson machines to render them capable of making the Grover and Baker stitch. The under spool support is beneath the table. The down-curved edge of the cloth plate is not cut away for the looper; the looper curving upward close to the under side of the cloth plate. By the use of this attachment without the bobbin thread a double-thread loop stitch is made, and the bobbin thread may be used in addition to make a three-thread stitch.

Claim.—First, constructing the plate *A* of the attachment with the slot or aperture *B*, whereby the said attachment can be readily adjusted and secured upon the machine and removed therefrom, substantially in the manner set forth.

Second, the combination and arrangement of the under spool support with the said attachment, so that when secured upon a Wheeler and Wilson sewing machine the under thread spool *Y* will be entirely under the front edge of the cloth plate of the machine, substantially as and for the purpose set forth.

Third, the employment, in combination with the slotted plate *A*, of the adjustable slotted plates *E*, substantially in the manner and for the purposes described.

Fourth, the employment of the guide *C'*, in combination with the under thread carrier, tension device, and spool, to allow the latter to be arranged under the cloth plate *d*, and in the position relatively to said thread carrier and tension device, all substantially in the manner and for the purpose herein set forth.

63,133.—GEORGE B. ATWOOD, Philadelphia, Pa., assignor to ALFRED A. OAT, same place.—*Permuta-*

tion Lock.—March 26, 1867.—An improvement on the patent of Alfred A. Oat, July 31, 1866, (No. 56,790.) The bolts are connected by pivoted bars to a central disk upon a shaft which has a diametric slot at its outer end to receive the end rib of a key by which it is rotated to retract the bolts. This disk has concavities at its periphery to receive the edges of four disks, which have each a concavity to allow the rotation of the former disk when they are in the proper position therefor. Each one of this series of four disks is adjustable on a shaft which has an index disk at the outer side of the door, and an adjustable cam by which the bolts that lock the keyhole plug are withdrawn. The bolts are connected to the central disk and are simultaneously retracted by its rotation.

Claim.—First, making the plug B cylindrical and with an annular groove b^2 therein, substantially as and for the purposes described.

Second, the employment of the recessed central disk H for controlling the bolts G, the said disk being constructed and arranged to operate substantially as described.

Third, the employment of the surrounding recessed disks D for the purpose of locking the central disk H, the said surrounding disks D being constructed and operated substantially as described.

Fourth, moving the slides A by means of the respective cams C, substantially in the manner described.

Fifth, operating the inclosed or invisible disks D and cams C by means of the exposed or visible indicating disks E, or their equivalents, substantially in the manner described.

Sixth, the employment of the combination consisting of the recessed disk H, with the four recessed disks D, whereby they reciprocate with each other, in the manner and for the purposes described.

63,134.—WILLIAM J. M. BATCHELDER, Dayton, Ohio.—*Shovel-plow Guard*.—March 26, 1867.—The guard is attached to the post of the shovel plow for raising the lower leaves of tobacco out of the way of the shovel.

Claim.—The shovel-plow guard E, when constructed substantially as herein described and for the purpose specified.

63,135.—JAMES M. BEEBE, Casadaga, N. Y.—*Bee Feeder*.—March 26, 1867.—The feeder is above the hive, and communicates therewith to be warmed thereby. It has two separate compartments with receptacles for water, saccharine solution, and rye flour. A glass pane gives light, and a gate confines the bees when the trays are moved.

Claim.—First, the construction of a bee feeder, with an apartment for sugar liquid and an apartment for water, provided with racks or floats E, and an apartment for flour or other food, with a central passage way C and door H, all combined substantially as described.

Second, a bee feeder, having a central passage way C for the entrance of the bees, slide door H, and glass cover B, for the purpose substantially as described.

63,136.—JOHN B. BRACKETT and WYMAN DEARBORN, Boston, Mass.—*Cotton Gin*.—March 26, 1867.—The cotton passes between the two bars of the clearer and is carried between the pressure plate and the endless belt. The seeds are doffed off by the clearer, which is reciprocated by the oscillation of the pivoted levers from which it depends. The boxes of the lower roller have downward extensions traversed by a rod which extends outside them to engage an adjustable lever at each end, for the purpose of adjusting the tightness of the belt.

Claim.—First, the rolls C C', constructed as described, as arranged with the belt D, in combination with the sliding bearing J and levers j with their variable fulera, substantially as and for the purpose described.

Second, the rolls C C', constructed as described, in combination with the convex pressure bar E and endless belt D, arranged and operating as and for the purpose described.

Third, the arrangement of pressure roll, in combination with belt D, when arranged as described, in connection with rollers C C', and pressure bar E, as and for the purpose described.

Fourth, the arrangement of slotted levers G in combination with clearer F and crank shaft H, and fur-

ther combination of said clearer, levers and crank shaft with rods m, as and for the purpose described.

63,137.—W. BUCHANAN, New York, N. Y., and J. M. TOUCEY, Poughkeepsie, N. Y.—*Steam Generator*.—March 26, 1867.—The fire box is divided into two sections by an inclined water partition, with an aperture through it for the passage of the caloric current. This aperture is surrounded on its upper side by concentric circular pipes with inwardly projecting nozzles to inject air and steam into the gases passing through the opening. The lower section of the box with the lower plate of the partition may be removed without interference with other parts.

Claim.—First, the divided fire box B C, when constructed and arranged substantially as and for the purposes herein set forth.

Second, the arrangement of the fire box by which we are enabled to readily disconnect, remove, and replace the lower portion, as herein set forth and described.

Third, the hollow ring H and its connections, protected from the direct radiant heat of the fire and adapted to throw fresh air and steam into the gases rising through the hole D, or its equivalent, substantially in the manner and for the purpose herein set forth.

Fourth, the steam blow pipe M, with its nozzles m, connection N, arranged as represented relatively to the air pipe H and nozzles h, substantially as and for the purpose herein specified.

63,138.—EDGAR T. CHAPMAN, Middlebury, Ohio.—*Manufacture of Stone Ware*.—March 26, 1867.—The crocks have curved sides, deep cylindrical rims, and nest compactly.

Claim.—A crock constructed as hereinbefore described, being a new article of manufacture.

63,139.—FAYETTE CLARK, Marcellus, N. Y.—*Grain Shovel Handle*.—March 26, 1867.—The swinging handles are attached in positions to bring the weight of grain evenly on both hands to facilitate the shoveling of the same.

Claim.—The principle of putting the labor of handling grain equally upon both hands, it being in shape like the accompanying drawing or any other shape substantially the same, and which will produce the same effect, namely, the placing of the weight of grain equally on both hands.

63,140.—ROBERT COOK, Franklin, Ohio.—*Fender for Corns Plows*.—March 26, 1867.—The fender which keeps clods from the corn is connected to the beam through two serrated disks, which are operated on by a spring attached to the beam.

Claim.—First, the yielding and adjustable fender D, attached to a plow beam by mechanism, substantially as and for the purpose specified.

Second, the construction of the disks C and C' for holding the fender D, operating substantially as and for the purpose described.

Third, the combination of the fender D, disks C and C', with the beam plate A and spring B, arranged substantially as and for the purpose described.

63,141.—J. M. COOMBS, Boston, Mass.—*Combined Name Plate and Letter Slide*.—March 26, 1867.—The name plate is pivoted to flanges on the face of the letter slide, securing it from draft and wet when closed; it is fastened by a spring latch.

Claim.—The combined arrangement, as and for the purposes set forth, of a name plate pivoted to a flange which has a metallic chute fixed thereunto, by which the flange and plate are held to the surface with which the back of said flange is in contact.

Also, constructing the metallic chute in two pieces, each with an exterior flange, and uniting and holding them in their place by means of the spring latch f.

63,142.—CHARLES CROW, Onarga, Ill.—*Scaffold*.—March 26, 1867.—The standards in which the supporting racks slide and the racks themselves are jointed so that the tops of the standards and the bottoms of the racks may be folded to permit the low descent of the platform. The racks are engaged by cog wheels actuated by winches and retained by ratchet wheels and pawls.

Claim.—First, the combination of the jointed rack

H, jointed standards F, and bars *v*, when constructed to operate the platforms L, substantially as set forth.

Second, the combination of the sliding bars T U V, platforms L, and frames A B, substantially as set forth.

63,143.—J. M. DEEN, W. B. BOLDING, and H. PERRY, Dayton, Iowa, assignors to themselves and E. G. WHEATSTONE.—*Hand Power Loom.*—March 26, 1867.—The harness, shuttles and cloth beam are automatically actuated by the movement of the cloth beam. The claim enumerates the devices which are employed for operating the treadles and for driving the picker staffs.

Claim.—First, operating the treadles H H by means of the levers F and G, jointed connecting rod E, the feed hand *b*, and ratchet *c*, with the wipers *d*, arranged and combined with the batten B, in the manner and for the purposes set forth.

Second, the levers L, feed hand *i*, shaft M, and arms N, in combination with the tumblers K, picker staffs I I, and batten B, substantially as and for the purpose set forth.

63,144.—THOMAS B. DE FOREST, Birmingham, Conn.—*Hoop for Skirts.*—March 26, 1867.—Elastic metallic warps are introduced in the manufacture to give additional stability and pliability to the hoop.

Claim.—Hoops for skirts, formed by the introduction of elastic metallic warps in the fabrication of the hoop, substantially as described, as a new article of manufacture.

63,145.—THOMAS B. DE FOREST, Birmingham, Conn.—*Hoop Skirt.*—March 26, 1867.—The lateral movement of the tape on the hoop is avoided by the indentation or enlargement of the hoop at or near the ends of the pocket.

Claim.—Securing the hoop and tape by one or more indentations or enlargements of the hoops, substantially as herein set forth.

63,146.—PETER DEGIVE, New York, N. Y.—*Apparatus for Hatching Eggs.*—March 26, 1867.—A thermostatic rod in the incubator by its contraction or expansion actuates a train of wheels, which govern the damper in the passage, admitting the heat. The object is uniformity of temperature in the incubator.

Claim.—The screw C and rod D, or its equivalent, in combination with the train of gears E, the door or damper G and hatching box K, substantially as and for the purposes described and set forth.

63,147.—JAMES EDGE, Acquackanonk, N. J.—*Seed Planter.*—March 26, 1867.—The seeder is hinged to a barrow, whose wheel actuates the operative mechanism. The seeds are supplied periodically by a revolving perforated disk, which takes the seed from the throat of the hopper. The disk and throat are changeable to vary capacity and rapidity of sowing for different seeds.

Claim.—First, the movable throat *s* at the base of the seed hopper, in combination with the seed-measuring disk *o* (made changeable) and with the seed tube *d*, as and for the purposes specified.

Second, the frame *k*, hinged to a frame *a* and detachable, as shown, in combination with the hopper *v*, wheels *l* and *c*, miter wheels *m* and *n*, and seed-measuring disk *o*, as and for the purposes set forth.

63,148.—PHILIP ELY, New York, N. Y., assignor to J. M. KEEP & Co., same place.—*Steam Motor for Toys.*—March 26, 1867.—A steam engine on the principle of Hero's aeolipile, and revolving with its boiler on a central vertical pivot, is connected by a band with the shaft, on whose platform the toys are displayed.

Claim.—The revolving boiler C, provided at the center of its concave bottom with a conical projection *b*, which is fitted on the rod B, forming the bearing for the boiler, and having at its upper end the arms D, and adapted to bear the strap or band F, by which motion is communicated to the toy E, as and for the purpose described.

63,149.—GEORGE A. FAIRFIELD, Hartford, Conn.—*Feeding Mechanism for Sewing Machines.*—March 26, 1867.—The arrangement is for giving a four-motion feed, and regulating the length of the stitch.

Claim.—The combination of the eccentric H, operating upon a regulating lever K, rocking shaft L, cam M, and feed bar N, or their equivalents, to produce a four-motion feed, substantially as described.

Also, cam M, having an eccentric surface whereby the feed bar is raised and dropped, and hooks or stops for producing horizontal motion in the feed bar.

63,150.—MOSES P. FARNHAM, Janesville, Wis., assignor to himself and DANIEL P. FARNHAM.—*Grate for Stoves.*—March 26, 1867.—The movable fire box is suspended in the fire chamber of the stove, entering at the boiler hole, and its flange resting on the stove top. Its tilting gate is vertically adjustable to change the capacity and to vary the height of the fire.

Claim.—First, the supplemental fire box A, for stoves and furnaces, having a movable bottom or grate D that may be placed on different bearings B, substantially as and for the purposes described.

Second, the general arrangement of a supplemental stove fire-box with grate D, bearings B, flue G, fire grate E, when the whole are constructed and arranged substantially as and for the purposes described.

63,151.—JOSEPH FOWLER, Hartland, Wis.—*Plow.*—March 26, 1867.—A wedge driven beneath a cross pin of the standard above the beam varies the angle formed by the two, and regulates the depth of furrow. A screw bolt passing horizontally through the standard and beam adjusts the end of the latter to and from the land, and regulates the width of furrow slice.

Claim.—First, adjusting the draft vertically by the wedge *n*, beneath the cross pin or T-front end of the plow standard, in combination with the wedge *l* to clamp the standard in the beam, as set forth.

Second, the screw bolt *i*, or its equivalent, fitted as specified, in combination with the standard *e*, introduced in a mortise of the beams, so as to adjust the draft horizontally, as set forth.

63,152.—ANDREW FULLER and FRANCIS J. BRAY, Buffalo, N. Y.—*Pump.*—March 26, 1867.—The rim of the sucker is attached to the pump shaft by elastic strips, which by their elongation allow the sucker to come in contact more effectively with the pump barrel.

Claim.—The elastic strips C B and D, in combination with the staff A and sucker H, substantially as described.

63,153.—GEORGE L. GERARD, New Haven, Conn.—*Bed Bottom.*—March 26, 1867.—The U-shaped spring is rooted to the rail by a clamp bolt, and the slot rests on its free end.

Claim.—The combination of the clamp bolt D with the slotted spring A and the bar C, constructed so as to operate in the manner described.

63,154.—BENJAMIN F. GLADDING, Providence, R. I.—*Rake.*—March 26, 1867; antedated March 10, 1867.—The rake head is formed of two separate pieces of iron, with the teeth riveted through it and through the forked shank.

Claim.—First, constructing the rake head double or of two pieces of metal secured together, substantially in the manner described, for the purpose specified.

Second, the combination of a rake head, constructed as described, and a forked shank, the two parts being united, substantially as described.

63,155.—JOSEPH A. HARRIS, Philadelphia, Pa.—*Apparatus for Regulating the Exhauster in Gas Works.*—March 26, 1867.—For regulating the speed of the exhausting engine. An excessive draft raises the water in the annular space, and depresses it in the central space, whose float is thereby dropped, the motion being communicated to the throttle valve to decrease the speed of the engine. If the exhaust is interrupted the gas will flow through the hand pipe, which has a gravitating valve in its enlarged portion.

Claim.—First, the within-described regulator, consisting of a vessel inclosing two chambers partly filled with water communicating with each other, and one chamber communicating with the main pipes, through which gas is exhausted from the retorts, while the other chamber has a float connected to the throttle valve of the steam engine, which drives the

fan or other exhausting device, all substantially as set forth.

Second, the branch pipe J, its enlargement X and valve I, arranged in respect to the exhausting main and discharging pipe, substantially as described for the purpose specified.

63,156.—WILLIAM B. HAYDEN, Columbus, Ohio.—*Bridle Bit.*—March 26, 1867.—The rein rings, cheek pieces and jointed bars are made in separate parts, and are connected by passing the cheek pieces through eyes, which are formed on the mouth pieces and rings, and securing the whole together by bands or collars applied to the cheek pieces.

Claim.—First, a bridle or harness bit, which has its rein rings attached to the mouth piece by passing the cheek pieces through solid eyes formed on said parts, substantially as described.

Second, a bit, which is composed of separately formed parts A B C and d, put together substantially as described.

63,157.—GUSTAVE FRANZ HEDRICH, Buffalo, N. Y.—*Sash Fastener.*—March 26, 1867.—A pin projected through the lower sash is made to prevent the motion of either. It is attached to a plate pivoted to the face of the sash, on which it may be rotated to allow the withdrawal of the pin, except when it is locked by a slide bolt.

Claim.—The improved fastener, consisting of the combination of the sliding knob H, or its equivalent, pivoted lever C, provided with the bolt g and spring e, arranged and operating substantially as set forth.

63,158.—EDWIN HOLMES, New York, N. Y.—*Electric Circuit Breaking Clock.*—March 26, 1867.—The purpose is to effect the breaking of an electro-magnetic circuit at a definite time, and to keep it broken for a determinate time thereafter, if desired, or close and keep it closed. An alarm may be thereby given, indicating a duty to be performed, unless the alarm be anticipated by the previous performance of the duty.

Claim.—The combination as well as the arrangement of the circuit breaker B, its adjuster C, and the spring D, with a clock or time-piece A, and an electric or electro-magnetic circuit, the whole being substantially as and for the purpose hereinbefore specified.

63,159.—JOHN HOLT, Lowell, Mass.—*Making Dies for Figures in Press-dyed Fabrics.*—March 26, 1867.—The mold for casting the dies for producing the figures in press-dyed fabrics is formed by inclosing in frames a skeleton core, containing in a series of grooves the figures to be printed. The metal to form the dies is cast in this frame.

Claim.—The method, substantially as herein described, of making the impression dies which produce the figures in press-dyed fabrics.

63,160.—BENNET HOTCHKISS and S. C. GOODSELL, New Haven, Conn.—*Ore Crusher.*—March 26, 1867.—The hammer shaft is connected by two straps to the respective cranks, which are set at 180° to each other on the same shaft. One slacks as the other pulls, and conversely, so that between them the hammer receives a positive vertical reciprocation. Quartz is fed to the mortar through a tube, and the descending hammer so nearly fits the mortar as to expel the powdered quartz. The treadle works a brake to modify the speed of the pulley.

Claim.—First, the shaft F, with double cranks I I, straps L and L', hammer C, box O, when constructed and arranged to operate together, substantially as described.

Second, the tubes S and T, when constructed as described and used in connection with the box O, for the purposes substantially as specified.

Third, controlling the force and rapidity of the blows of the hammer by means of the treadle m, cord h, spring e, pulley f, and plate d, when operating as and for the purposes set forth.

63,161.—B. B. HOTCHKISS, New York, N. Y.—*Railway Track.*—March 26, 1867.—Cellular sections contain blocks and have marginal seats for the rails, which are laid therein.

Claim.—The construction and arrangement of a

street railway track in sections, consisting of the cast-iron cellular base plates, in which are inserted blocks of wood fitting therein, with the rails arranged upon the outer sides of said track, and held in position as herein described, the whole being so constructed and arranged as herein set forth.

63,162.—B. B. HOTCHKISS, New York, N. Y.—*Pavement.*—March 26, 1867.—Each cell has its block, which is packed therein by ramming rubble in the intervals; a lower layer of sawdust keeps the rubble from working under the block.

Claim.—First, fitting wood blocks in cast-iron cells or cavities by employing blocks of less size than the cells, and driving a packing H into the spaces between the blocks and the sides of the cell, substantially as and for the purpose herein specified.

Second, in connection with the above, the stopping material G, introduced in the bases of the cells opposite the bottoms of the blocks, and adapted to prevent the working of any of the packing under the wood, substantially as herein specified.

63,163.—GEORGE L. JOHNSON, Fairfield, N. Y.—*Extension Ladder.*—March 26, 1867; antedated March 15, 1867.—The upper section of an extended ladder is supported by a hook pivoted thereto and catching upon the rounds of the lower sections. A slide on the hook holds it in position. A guard on the slide prevents the hook clasping a ring as the ladder is being extended.

Claim.—The combination with the hook A, of the slide B and socket C, all constructed, arranged and operating in the manner and for the purpose specified.

63,164.—GEORGE A. KEENE, Boston, Mass., assignor to himself and JOSEPH E. MANNING, same place.—*Neck Tie.*—March 26, 1867.—The elastic loop for fastening on the neck tie is secured to a bar of the staple, by which the parts are elinched together.

Claim.—Fastening wing piece, knob band and tie strip together, and attaching the elastic ring by means of the clinch bar, as shown, illustrated and described.

63,165.—S. G. LADD and G. W. CROWN, Lowell, Mass.—*Machine for Grinding Cards.*—March 26, 1867.—The grinding cylinder is fastened on two hubs or sleeved upon shafts rotating at different velocities. One of the hubs has longitudinal motion on its shaft, and communicates rotary motion to the cylinder. The other hub has a pin traversing a cam groove on its shaft, and gives the longitudinal reciprocating movement as it slips on its shaft.

Claim.—The two central shafts A and C, revolving at different velocities, causing the grinding cylinder to revolve by means of the hub d, and to reciprocate longitudinally by means of the hub k, groove g, pin h, slot f, and pin e, in the manner and for the purpose substantially as described.

63,166.—OSBORNE MACDANIEL, New York, N. Y.—*Wire Bale Tie.*—March 26, 1867.—The ends of the hoop are bent around the respective pieces of the fastening, which are hooked together.

Claim.—The construction of a wire bale tie fastened with hooks and eyes, substantially as herein described.

63,167.—R. McMURRAY, Washington, D. C.—*Trunk.*—March 26, 1867.—The stay is coiled around the boxing of a spiral spring as the lid is shut, keeping it from being caught under the lid when closing.

Claim.—The stay A, in combination with a coiling device B, substantially as and for the purposes set forth.

Also, constructing and applying a trunk-stay so that one end shall be drawn into the trunk frame, substantially as and for the purposes set forth.

63,168.—Canceled.

63,169.—PURCHASE MILES, New York, N. Y.—*Curtain Fixture.*—March 26, 1867; antedated March 15, 1867.—The knotted cord passes through the enlarged end of the staple, but is held in position when slipped between parallel slides.

Claim.—The cord holder g, in combination with a cord for curtain fixtures, upon which cords are knots or projections, substantially as and for the purposes specified.

63,170.—CHARLES F. MYER, Troy, N. Y.—*Ash Sifter*.—March 26, 1867.—While the revolving drum is sifting ashes a reversible guide plate delivers into the ash box. By shifting the plate and opening a trap in the drum, the coals are conveyed to another box.

Claim.—First, in combination with a revolving drum sifter D and right and left inclined fixed guide plates H and H¹, the reversing or shifting guide plate E, constructed and arranged substantially as described, and operating in manner and for the purpose as set forth.

Second, in combination with a drum sifter D, right and left fixed guide plates H and H¹, and a shifting guide plate E, the employment of two ash pans or boxes G and G¹, arranged in manner and for the purpose as described.

Third, in combination with a revolving drum sifter D, right and left fixed inclined guide plates H and H¹, and two ash pans or boxes G and G¹, arranged as shown, placing the journals of the shifting guide plate E eccentrically, to operate in manner and for the purpose as herein shown.

63,171.—E. Q. NORTON, Bangor, Me., assignor to himself and ALPHEUS PATTEN, same place.—*Knife and Watch Key Combined*.—March 26, 1867; antedated March 13, 1867.—A watch key is substituted in place of one of the blades.

Claim.—As a new article of manufacture, the aggregation of the pen knife blade and watch key in one handle, as set forth.

63,172.—EDWARD C. H. NYE, Ascushnet, Mass.—*Cross Bow*.—March 26, 1867.—The magazine is moved forward by the bent lever engaging the notch of the cord slot with the cord. The backward movement of the lever draws back the magazine, leaves an arrow in the groove, and retracts ready for discharge by the tripper.

Claim.—The combination of the cross bow, the arrow magazine, and a mechanism for setting and discharging the cord of the spring of the bow, the whole being substantially as hereinbefore described.

63,173.—STARR POLLEY, Brooklyn, N. Y., assignor to AMBROSE HILL, same place.—*Rounding Jack for Trimming Brims of Hats*.—March 26, 1867.—The described devices refer to means for adjustment of the cutter as to the breadth of the brim and the depth of cut. A guard prevents the mutilation of the brim-supporting board.

Claim.—First, the cutter *b*, the head *b*¹, adjusting screw C, removable bearings M, and confining means D, combined and arranged for joint operation on the sliding block B of the brim-cutting instrument, substantially in the manner and for the purpose herein set forth.

Second, the radial adjusting screw G, arranged to operate relatively to the sliding block B and adjustable cutter *b*, in the brim-cutting instrument, substantially in the manner and for the purpose herein set forth.

Third, the shield E, arranged in combination with the brim cutter, and adapted to serve relatively to the adjustable cutter *b*, substantially in the manner and for the purpose herein set forth.

63,174.—E. F. PRENTISS, Philadelphia, Pa., and C. C. PARSONS, Boston, Mass.—*Treating Indian Corn*.—March 26, 1867; antedated March 15, 1867.—The grain is crushed between rollers and placed in the tank above the usual proportion of malt which lies on the perforated false bottom. Water at 165° Fah. is forced upward through it till the grain is saturated; the wash is strained off and successive saturations at higher temperatures are obtained and the saccharine solutions removed, the water increasing in temperature to 195° at the end of the operation. The wort is fermented for distillation. The residual grain may be dried and used for feeding cattle.

Claim.—The process of treating Indian corn in the manner and for the purposes as described.

63,175.—E. F. PRENTISS, Philadelphia, Pa., and C. C. PARSONS, Boston, Mass.—*Preparation from Indian Corn*.—March 26, 1867; antedated March 15, 1867.—The residuum of the process described in the foregoing is dried and used as food for cattle.

Claim.—The preparation from Indian corn, made substantially in the manner described.

63,176.—KOSCIUSKO PUCKETT, Parish of Morehouse, La.—*Cotton Chopper*.—March 26, 1867.—The chopping hoes are revolved in a transverse plane by a bevel wheel on their shaft, which engages a gear on one of the ground wheels.

Claim.—The combination of the driving wheel A, the balance wheel G, pinion B, shaft C, and hoe D, with the frame E and its appurtenances when their several parts are arranged and constructed as described for the purpose set forth.

63,177.—GEORGE W. RAY, Springfield, Mass.—*Machine for Embossing Articles of Wearing Apparel*.—March 26, 1867.—The rolls have their bearings in adjustable sliding boxes, the upper roll being covered with the fabric whose reticulated pattern is to be impressed on the paper; a metallic plate is covered with fabric which produces its negative on passing between the rollers.

Claim.—First, the roll *c*, covered or partially covered with a woven fabric in combination with the roll *d*, substantially as described and for the purpose set forth.

Second, the plate *p*, in combination with the roll *c* and roll *d*, one or more of these parts being covered, all substantially as described and for the purpose set forth.

63,178.—E. A. G. ROULSTONE, Roxbury, Mass.—*Carpet Bag*.—March 26, 1867.—The turned down side is cut at the corners, the ends lapped and riveted; a hollow bead at the angle of the frame gives rigidity thereto. The material is secured by a U-shaped piece which overlaps the edge of the turned down side and is riveted thereto.

Claim.—In combination with the corners *d*, made by lapping the metal, the bead *c*, extending around these corners and along the angle of the frame, substantially as set forth.

Also, the manner of applying the flexible bag forming material to the frame, by means of the metal strip *g*, folded over the folded edge of the cloth or leather, and the edge of the frame, and secured to the frame by rivets or other fastening devices, substantially as set forth.

63,179.—E. A. G. ROULSTONE, Roxbury, Mass.—*Carpet Bag*.—March 26, 1867.—The edge of the material, in connection with a strip, is placed in a returned groove of one side of the angular frame, and then riveted to the flat portion thereof. Instead of cutting out the corner it is turned under to form a reinforce.

Claim.—The manner of connecting the flexible bag material to the frame by means of the strip *d* and the frame groove *b*, the strip and cloth or leather being first united and then connected to the frame, as herein set forth and described.

Also, the reinforcement of the corner by leaving the goring piece *g* in the frame, and turning it down against and so as to form part of the wall piece *f*, as herein set forth and described.

63,180.—SAMUEL C. RUNDLETT, Portland, Me.—*Sifter for Sand, &c.*—March 26, 1867.—The crank shaft connects with the suspended sifter by a rod, crank, and arm, and projects it laterally against the side of the frame.

Claim.—The sieve *j*, when suspended by the four chains *i*, and so operated by the means hereinbefore described as to swing from side to side and at each motion to strike the inner side of the frame A, as and for the purposes specified.

63,181.—SAMUEL C. RUNDLETT and R. DODGE, Portland, Me., assignors to themselves and JOHN L. MESERVE, same place.—*Scrubbing Brush*.—March 26, 1867.—The handle is attached to the brush with a socket joint and is vertically adjustable. The head of the brush is surrounded by a band of rubber or other soft material to prevent injury to the foot boards.

Claim.—A scrubbing brush having the arrangement of the jointed handle *c* and rubber band *f*, as and for the purposes set forth.

63,182.—SILAS C. SCHOFIELD, Chicago, Ill.—*Shaft Coupling*.—March 26, 1867.—At the end of each rod is a head with outwardly-displayed gudgeons, which catch within chambers on the inside of the ring into which they are laterally introduced.

Claim.—First, providing the coupling forks or heads B with gudgeons, or their equivalents D, substantially as and for the purposes specified.

Second, constructing the ring A with two chambers *a*, provided with lateral opening *b*, substantially in the manner and for the purposes set forth and shown.

Third, the combination of the forks or heads B, provided with the gudgeons D, or their equivalents, with the chambered ring A, arranged and operating substantially as specified and for the purposes described.

63,183.—SIMEON SHERMAN, Weston, Mo.—*Hemp Brake*.—March 26, 1867.—The hemp is passed between braking rollers and thence is carried forward by and between endless slatted carriers, where it is broken by the action of oscillating beaters above and below, whose teeth strike it in concert between the bars of the carriers.

Claim.—The endless chains provided with bars or slats, and operating in connection with the reciprocating rotary beaters, substantially as described.

Also, the arrangement of the beaters whereby the upward blow of the lower set of knives and the downward blow of the upper set are made to conjoin their actions upon the interlying hemp, substantially as described.

Also, the combination with an endless carrier and reciprocating rotary breaker of a preliminary series of toothed rollers.

63,184.—GREENLEAF STACKPOLE, New York, N. Y., assignor to himself, NATHANIEL T. SPEAR, Jersey City, N. J., and CYRUS and DARIUS COBB, Boston, Mass.—*Propelling Canal Boats*.—March 26, 1867; antedated March 13, 1867.—A continuous rail is supported by posts upon the bank, and its upper and lower surfaces are traversed by wheels upon an arm extending from the boat, the wheel being rotated by a motor on board.

Claim.—The wheels *g i* and clamp *k l*, in combination with the radius arm *b*, horizontal driving shaft *a*, boat A, and rail *h*, constructed and operating substantially as and for the purpose described.

63,185.—THEODORE THURBER, Auburn, N. Y.—*Piston Packing*.—March 26, 1867.—The recessed ring contains the sectional packing ring and double-seated valve for admitting steam therein to expand the packing rings. A quantity of steam is admitted to the piston when it is first introduced into the cylinder and is there shut off. The pressure within the piston being below that within the cylinder the too tight packing of the piston is prevented.

Claim.—First, the construction of the internal ring plate A with ring caps B fitted, leaving a steam chamber or recess *a* between them and the metal ring packing C, so that it can be put in its place without opening or expanding, substantially as described.

Second, the valves *e e*, as constructed in combination with the ring plate A and cap B, operating from both sides or faces of the piston, they being supported by the spring *d*, so that steam, gas or water forced into the chamber *a* is not exhausted or liberated at each stroke, the internal force being retained, thereby producing the result substantially as herein specified.

Third, the combination of the skeleton frame and plate E, flange plate A, ring cap B, face plate F, metal packing ring C, valves *e e*, and spiral spring *d*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

63,186.—WILLIAM M. TOBEY, New London, Conn.—*Ironing Machine*.—March 26, 1867.—The bosom is laid on the platform, the polisher having a quick reciprocating motion given to it; by pressing the treadle the platform is raised till the bosom is brought in contact with the polisher. By lateral adjustments, in connection with manipulation, the bosom is moved under the polisher.

Claim.—The shirt bosom ironing-machine made substantially as, and to operate as described, viz: of

the chambered polisher, (to be heated as described,) the mechanism to operate or move such polisher, the platform for supporting the work, the mechanism for moving such platform laterally and vertically, in manner as specified, the whole being applied to a frame, and so as to operate substantially as hereinbefore explained.

63,187.—L. W. TURNER, Yalesville, Conn., assignor to himself and G. S. WILCOX, same place.—*Weather Strip*.—March 26, 1867.—The strip is jointed to conform to the worn condition of a threshold, and has a strip of rubber projecting below it. It is depressed by a lever whose end engages the jamb, and is raised by a spiral spring.

Claim.—The combination of the lever D with two sections A B, spring E, when the two sections are arranged so as to be operated simultaneously, substantially in the manner described.

63,188.—CALVIN G. UDELL, Chicago, Ill.—*Extension Ladder*.—March 26, 1867.—A band near the top of the lower section clamps the ladders at their upper junction; a pivoted catch at the lower junction slides over the projecting rings while extending, and catches to the one next beneath, when reversed.

Claim.—First, in combination with a section or sections of an extension ladder, the pivoted catches D, arranged and operating substantially as and for the purposes specified.

Second, the combination of the sections A B, the catches D, and bar C, arranged and operating substantially as described.

63,189.—JOSEPH D. WEST, New York, N. Y.—*Sand Trap for Water Pipes*.—March 26, 1867.—The diaphragm of wire gauze is placed between a hollow disk above and an annular receiver underneath. The latter has a central induction pipe with a covered valve at top, to obstruct the flow of water which discharges laterally into said receiver; the debris is detained by the diaphragm and settles in the receiver.

Claim.—The gauze or perforated diaphragm check A, or its equivalent, receiver C, hollow disk B, or its equivalent, and induction pipe D, whether provided with a valve cover or not, when all combined and arranged together so as to operate substantially in the manner and for the purpose described.

63,190.—LEVI H. WEST, Cambridge, Mass.—*Car Truck and Spring*.—March 26, 1867.—The wheel box is suspended from the platform and has side brackets supporting the shorter ends of levers having fulcrums beneath the platform sills and a bolt passing through their longer ends bearing on the upper sides of the said sills. Springs are placed beneath all the bearings of the levers.

Claim.—The combination as well as the arrangement of the additional levers D' D'', their springs F' F'', and supporting rods e' e'', with the platform A, the wheel boxes *a a* and the levers D' D'', rods c' c', and springs F' F'.

Also, the combination as well as the arrangement of the springs *f e* F' and the suspension rod *c'* with the lever D', the wheel box *a*, and the platform A.

Also, the combination as well as the arrangement of the hanger *l* and the staple *h* with the platform A, the wheel box *a*, and the supporting levers D' or D' D'', applied to such box and platform.

Also, the combination as well as the arrangement of the springs *i* with the hanger *l*, the box *a*, the platform A, and the supporting levers applied to such platform and the wheel box or boxes, the whole being substantially as hereinbefore specified.

63,191.—T. F. WESTON, Salem, Mass.—*Machine for Shaving Hides*.—March 26, 1867.—A circular tool is attached to a shaft to which a reciprocating motion is given by means of a wheel. A rotary motion is imparted to the tool by means of a band. The hide is secured to an inclined bed plate.

Claim.—The use of the cutting, shaving, or scraping tool having such motions imparted to it by any suitable arrangement of mechanical devices as to produce a drawing cut upon the surface of the leather, as hereinbefore set forth and for the purpose specified.

63,192.—WILLIAM N. WHITELEY, Jr., Springfield, Ohio.—*Harvester*.—March 26, 1867.—The reciprocating

ing sweep rake is lifted from the platform on its return movement by a latch which is attached to a guide bar. The latter is supported by a frame mounted on the inner shoe, one foot standing in front of the finger bar and the other at the rear; the platform not being connected to the guide frame. The pitman that drives the rake is connected to and meshes with a driving pinion on the main pinion shaft, bringing the center of the crank up to the level of the rake guide and equalizing the movements. The sector standard guides and supports the free end of the sector plate, on which the main wheel is mounted and is supported at its upper end by a curved brace that also forms an attachment for the reel post.

Claim.—First, the rake guide rail N' and arch S' when attached to the main frame by a bolt in front of the cutting apparatus and another bolt behind the said cutting apparatus, and without any connection with the platform, substantially as described and shown.

Second, in combination with the internal gear wheel J and its driving pinion M, the pitman K, and rake Q', substantially as and for the purpose set forth.

Third, the combination and arrangement of the sector plate C, curved standard D, and standard E, substantially as described.

63,193.—B. B. WILCOX, New Haven, Conn.—*Fruit Jar*.—March 26, 1867.—The yoke connects the lugs of a divided ring beneath the shoulder and swings over the cover to clamp it upon the packing beneath.

Claim.—The yoke D and divided ring C in combination with a jar A and cover B, when constructed and arranged so as to operate substantially in the manner herein set forth.

63,194.—GILMAN K. WINCHESTER, Providence, R. I.—*Take-up for Brading Machines*.—March 26, 1867.—The object of the adjustment described is to regulate the rate of feed.

Claim.—An adjustable feed or take-up stand so constructed as to be readily moved forward and backward to allow a larger or smaller worm wheel to be placed upon the feed-roll shaft to connect with the worm upon the worm shaft, substantially as and for the purpose set forth.

63,195.—JOHN ALTHOUSE, East Coacalico Township, Pa.—*Compound for the Cure of Glanders, &c., in Horses*.—March 26, 1867.—For the treatment of glanders and farcy. Composed of convolvulus panduratus or wild potato and wild carrot roots, both dried and pulverized and mixed with black pepper in equal quantities.

Claim.—The composition of my powder for the cure of glanders and farcy in horses, when combined and administered substantially in the manner specified.

63,196.—T. K. ANDERSON, Hornellsville, N. Y.—*Stove Pipe Damper*.—March 26, 1867.—The elliptical damper is pivoted a little above its center and is counterbalanced by a hanging arm; the increased draft from a hot fire partially closing the damper damps the fire. To one end of the pivoted rod is attached a short tube in which works an adjustable weighted lever by which the damper can be regulated to the right angle.

Claim.—The pivoted damper B, stop D, tube E, and weighted lever F, or its equivalent, combined to operate together and arranged with the stove pipe A, substantially as described for the purpose specified.

63,197.—EMERY ANDREWS and WM. TUCKER, Fiskdale, Mass.—*Manufacture of Matches*.—March 26, 1867.—By leaving the matches in notched cards or sheets until dipped the necessity of placing them in racks is avoided. The sheets are then separated into matches by a series of knives which enter the notches.

Claim.—Notching and dipping the cards preparatory to the cutting the matches therefrom, substantially as and for the purpose specified.

63,198.—JOHN B. ATWATER, Chicago, Ill.—*Combined Steam and Air Engine*.—March 26, 1867.—Air is forced into the flaring end of a pipe which communicates with the desiccating chamber in the upper portion of the generator, into which chamber steam is admitted through another pipe. The combined fluids

are superheated preparatory to use in the cylinder of the engine.

Claim.—First, a desiccating or superheating chamber E, which is combined with a steam boiler and adapted for receiving and desiccating steam mixed with air, substantially as described.

Second, the combustion chamber D when arranged in a steam boiler and supplied with air, substantially as shown, so as to effect the combustion of the gases after they have escaped from the fire box or chamber, substantially as described.

Third, the air injector operating upon the principle specified in combination with a desiccating chamber E, substantially as described and for the purposes explained.

Fourth, the arrangement of the steam generators C C' with steam communication B leading into generator C above the water level therein with respect to the desiccator E, substantially as and for the purpose described.

Fifth, the desiccator E constructed as described, arranged within the circle of tubes for the purpose set forth.

Sixth, the valve L on the end of pipe Z in combination with apparatus constructed and operating substantially as described.

Seventh, the combination of air chamber G and cock P with an apparatus constructed and operating substantially as described.

63,199.—CALEB BATES, Kingston, Mass.—*Rotary Harrow*.—March 26, 1867.—The harrows are made to rotate by hinged blades which are suspended from the arms and present themselves at one side in opposition to the line of draft.

Claim.—The combination and arrangement of the arms b, axis d, perforated rear bars e, curved bar E, and swinging blades F, constructed and operating substantially as described for the purpose specified.

63,200.—JOSEPH H. BLACK, East Windsor, N. J., assignor to WM. GILBERT.—*Tree Digger*.—March 26, 1867.—The blade that connects the beams of the plow has a suitable angle and depth for cutting the vertical and lateral roots of the trees and is sharpened in front with two plow points at its lower corners. The beams pass on either side of the row of trees simultaneously.

Claim.—The employment of the plate C constructed substantially as represented and used in combination with the beams A A, as and for the purpose set forth.

63,201.—JOHN BLACKIE, New York, N. Y.—*Electro-Magnetic Apparatus for Registering Votes*.—March 26, 1867.—The balls are deposited in tubes, from which they are ejected by the completion of the circuit when the key is actuated by the voter. A yea and a nay key for each voter operate the corresponding balls, and the latter collect in a graduated and numbered tube which shows the total at a glance.

Claim.—First, the combination of a series of hollow magnets for ejecting the balls, as described, with the receiving troughs e and tubes B, arranged to operate substantially as shown and described.

Second, in combination with the tubes B open at their lower ends, the drawer D provided with the stop n, when arranged to operate as herein described.

63,202.—STEPHEN BOURNE, Headstone Drive, Harrow, England.—*Vent Peg and Valve for Beer Casks*.—March 26, 1867.—The vent pegs are made of rubber and have perforations or slits which are closed in their normal position and are opened by extension as the air presses into the casks of ale, &c., to which they are applied.

Claim.—A valve made of india-rubber or other elastic or suitable material, whether in the form of a disk cone cylinder or any other proper shape, when said valve is provided with one or more perforations, slits, or other openings, in such a manner that by the distension of the valve its perforations will be opened, but closed by its elasticity, substantially as and for the purposes described.

63,203.—N. P. BOWLER, Cleveland, Ohio, assignor to himself, THOMAS MAHER, WM. BOWLER, and J. W. LUNT, same place.—*Railroad Frog*.—March 26, 1867.—The frog is made of hard cast iron and the chill has a longitudinally concave face to insure straightness in the face of rails when cooled.

Claim.—Making railroad frogs by the method and in the manner substantially as specified.

63,204.—EDWARD W. BRETTELL, Newark, N. J.—*Door Lock.*—March 26, 1867.—The tumblers have vertical adjustment by a key plate pushed beneath them and have side slots, which, when they are properly adjusted, receive the dog of the lever and allow its oscillations to shoot the bolt.

Claim.—First, the encasing of a series of self-acting vertical-sliding tumblers with their operating dog within an independent detachable case, substantially as herein shown and described.

Second, the dog *d* attached to the lever *B* so as to act independently of both the bolt and the lock case, substantially as herein shown and described.

63,205.—CHARLES BROMBACHER, New York, N. Y.—*Shears for Brushes.*—March 26, 1867.—The wedge-shaped throat holds the bristles as the blade clamps and divides them.

Claim.—The triangular opening in the bed shear *a* in combination with the swinging blade or shear *b* hinged directly to the shear *a* and acting as a clamp and cutter, as specified.

63,206.—DAVID BROOKS, Philadelphia, Pa.—*Insulator for Telegraph Wires.*—March 26, 1867.—The wire holder is inserted in an insulating plug confined in a case. If an excessive charge of electricity be thrown on the wire, it will pass to an adjacent conductor without rupturing the insulators.

Claim.—The metal casing *A*, insulating block *B* and stem *C*, arranged and constructed as described, when the same are combined with arms or holders *b b*, so arranged that the distance between the holders and the case is less than that between the stem and case.

63,207.—JAMES H. BROWN, Berea, Ohio.—*Rest for Grinding Tools.*—March 26, 1867.—The central bar has a point at the lower end for securing it to the floor; two swinging arms jointed to the cross-bar and moving on the segment guide are adjusted to the tool to be ground.

Claim.—The stem *A*, adjustable sides *D*, pivoted to the arms *C*, in combination with the arm *B*, hooks *G* and staple *b*, provided with screws, as and for the purpose set forth.

63,208.—JABEZ BURNS, New York, N. Y.—*Powder Mixer.*—March 26, 1867.—The spiral flanges running in opposite directions are attached to the movable head, and act as counter buffs for mixing granulated substances.

Claim.—The spiral flanges *f f*, running in opposite directions, in combination with the movable head *c*, drum *A* and standards *B*, with band and friction rollers, constructed and operating substantially as and for the purpose set forth.

63,209.—DANIEL CARPENTER, Peekskill, N. Y.—*Air Pump.*—March 26, 1867.—The lower valve is raised by a positive motion, communicated from the lever, which operates the piston, and held elevated till nearly the end of the down stroke; it is then released, and the air passes out through the upper valve, and the water above it during the up stroke. A strong air-tight box is connected with the lower chamber of the air pump.

Claim.—First, the mechanism herein shown and described of operating the valve *E*, automatically by the same power which operates the piston, so that the valve is opened and closed, and the piston raised and lowered, substantially in the manner herein set forth.

Second, the piston *F* and valve *E*, when so constructed that the piston fits perfectly over the valve, so that all the air is completely forced out of the cylinder *A* at each stroke of the piston through the valves *c c*, substantially as herein shown and described.

Third, the perforated piston *F*, in combination with the ring *d* and conical plugs *c c*, all made and operating substantially as herein shown and described.

Fourth, the arrangement in the chamber *B*, below the valve *E* of the valve operating parts, substantially as and for the purposes herein shown and described.

Fifth, the box *G*, when constructed as herein shown and described, and when provided with braces *H I* and *K*, all made as set forth, in combination with the pipe *f* and air pump *A B*, the latter being made and operating substantially as herein shown and described.

63,210.—C. L. CARTER, Union, Ind.—*Washing Machine.*—March 26, 1867.—The perforated box is placed in a tube, and the washing takes place therein. A lever is pivoted to a clamp on the side of the tube, and the clothes are attached thereto by a strap, being alternately raised from the water to drain and compressed between the follower and bottom boards as the lever descends.

Claim.—The arrangement of the perforated box *C* and compressor *D K* and the strap *G*, constructed and operating in the manner and for the purpose herein specified.

63,211.—ORLANDO L. CASTLE, Upper Alton, Ill.—*Broom Head.*—March 26, 1867.—The forked spring enters the corners of the oblate flattened sheath, and passing through it and through a trapezoidal wedge, is secured with nuts. The wedge is armed with teeth to secure the butts of the straw within the sheath.

Claim.—First, the use and employment of a spring *B* for the purpose, and operating substantially after the manner herein set forth.

Second, a combination of the spring *B*, the wedge *C*, and the nuts *n n* with the sheath *A*, arranged and operating substantially as herein described and for the purpose herein set forth.

63,212.—JOHN H. CHAPMAN, Utica, N. Y.—*Elevating Hay Forks.*—March 26, 1867.—The draft rope is run round a pulley on top of a post in front of the barn, and from that descending to a ground pulley, ascends to the pulley from which the hay is suspended. A casting-off plate on the first-mentioned pulley detaches the rope, and the hay then descends by its own gravity.

Claim.—First, in a hay fork elevating apparatus or the like, the post *A*, in combination with the draft rope *G* and ground pulley *H*.

Second, the pulley *E*, and the casting-off plate *F*, constructed and operating in combination substantially as described.

63,213.—JAMES CHASE, Rochester, N. Y.—*Wood-turning Lathe.*—March 26, 1867.—The stuff after subtraction to the roughing and plain work tools is shaped by the pattern head, whose rest has a longitudinal sliding motion, while the head has an equal rotation to leave its counterpart pattern on the stuff. It is intended for turning bead-work, or molding of given form upon the wood, the pattern being repeated at each revolution.

Claim.—First, the employment of a pattern knife or cutter in wood-turning lathes, rotating upon an axis, arranged at right angles or nearly so to that of the stick or timber which is being turned, and so geared to the frame of the lathe as to leave its pattern upon the stick, substantially in the manner and for the purposes set forth.

Second, the employment of the pivoted box *M*, which constitutes the axial bearing for the knife journal or shaft *N*, when the parts are arranged and operate substantially in the manner and for the purposes herein shown and described.

63,214.—S. L. CHASE, New York, N. Y.—*Door Lock.*—March 26, 1867.—The rotating disk has a lug upon its periphery, by which the bolt is thrown. The lock plate has a vertical series of spring pins, which engage holes in the disk, and prevent its rotation, and these pins are driven back the requisite distance to free the disk for said rotation, by pins which rest upon the ends of the former, and project from the outer side of the disk to be pressed in by the key. The disk has a circular plate, which prevents access to the bolt. The tumblers are raised by the key.

Claim.—First, the circular ward *e* on the disk *b*, substantially as and for the purpose described.

Second, the bridge *h* in the circular ward, substantially as and for the purpose set forth.

Third, the partition *i* in the circular ward, as and for the purpose described.

Fourth, the nose *f* on the disk *b*, in combination with the key, the pins *c*, stops *d*, tumblers *B*, and

with the bolt, all constructed and operating substantially as and for the purpose set forth.

63,215.—WILLIAM H. CLARKE, St. Anthony's Falls, Minn.—*Apparatus for Carburetted Air, &c.*—March 26, 1867.—The concentric cylinders are united at the bottom, forming an annular water vessel into which the bell dips. The blast pipe passes through the diaphragms, which are arranged in vertical series in the cylinder, forming compartments which communicate with each other by pipes.

Claim.—First, the arrangement of the plates I I in the cylinder B, and providing the same with air pipes *b b*, supply pipes M M, discharge pipes L L, and gas transmitting pipes J J, substantially as and for the purpose specified.

Second, the combination of the cylinders A and B, float C, bellows T, and tank O, provided with lime and cotton, as and for the purpose specified.

Third, the arrangement of the pipe H with the pipe P, for supplying heat to the machine from its own gas, substantially as specified.

63,216.—JOSEPH C. CLYMER, Galion, Ohio.—*Churn.*—March 26, 1867.—The lever connects by a vibrating link with the dasher shaft, which passes through a stuffing box in the lid. The cream deflected by the dasher against the channel in the cover is precipitated again on the dasher.

Claim.—In a churn the cover F and its channel *c*, arranged and operating as described and set forth, in combination with the stuffing box G, key H, stirrups I, and adjustable lever E, substantially as and for the purpose set forth.

Also, the channel *c* in a churn cover, arranged and operating as and for the purpose described.

63,217.—J. W. COCHRAN, New York, N. Y.—*Breech-loading Fire-arm.*—March 26, 1867.—These devices are applicable in the conversion of muzzle loaders. The movable breech is jointed to the brace piece, and is opened by lifting the rear end of the latter, and sliding them backward. The movement of the breech operates the shell extractor. The rubber packing prevents the escape of gases on discharge, and the jarring of the parts in manipulation. The cartridge is exploded by a pin acted on by the hammer through the intermediate rod.

Claim.—First, the sliding breech piece A and swinging brace B, jointed together at *a*, and arranged for operation substantially as shown and described.

Second, the arrangement of the elastic packing D, with or in the movable breech at its forward end, operating not only to hold said breech when closed and make tight its joint in front, but serving without restraining the self-adjustment of the breech piece to prevent concussion of the latter against the gun chamber on closing the breech, essentially as specified.

Third, the cartridge shell extractor E, constructed with its rear end inclined or beveled on its upper and lower sides, as at *i h*, operating in connection with the inclined recess *j* in the rear end of the receiver *c*, substantially as and for the purpose set forth.

Fourth, the sliding rod H, with its forward lip *n* and rear projection or head *k*, hung and arranged for operation, in combination with the brace B, hammer G, and detonating pin I, substantially as specified.

63,218.—GILBERT M. COLE, Folsom City, Cal.—*Operating Railroad Switches.*—March 26, 1867.—The levers are placed so that a wheel flange of the locomotive on either of the tracks will depress the switch lever, and set the switch to connect that track with the single track toward which they converge.

Claim.—First, the mechanism herein described for rendering a railroad switch absolutely self-adjusting as the train approaches it on either branch of the double track, in combination with the mechanism herein described, by which the engineer can render the switch self-adjusting as the train approaches in opposite direction.

Second, the levers *b b'*, the pinion *a**, the sector *d*, shaft *c* and crank *c'*, in combination with the levers *a'*, pinion *a*, sector *d'*, and the loose wheel *b** on the shaft of the locomotive truck, all constructed, arranged, and operating substantially as described.

63,219.—A. M. CORBIT, Bethlehem, Iowa.—*Corn Planter.*—March 26, 1867.—An oscillating motion is

given by levers to the slides in the seed boxes, regulating the passage of the seed and preventing clogging. It is adjustable to wide or close planting, as desired.

Claim.—First, the combination of the plate K, with the plate L and set screw M, for the purpose of regulating the amount of seed through the holes *c c*, all made and operating substantially as herein shown and described.

Second, the cross bars D T and G, which are so made and provided with holes that the scrapers E, plates K, and seed boxes R, may be moved more or less apart, so as to permit the planting of the corn in rows of suitable distances from each other, substantially as herein shown and described.

63,220.—EDWARD T. COVELL, Brooklyn, N. Y.—*Machine for Soldering Metal Cans.*—March 26, 1867.—The bottom of the vessel to be soldered is placed on its protecting depressible pan, and with it immersed in the solder in the pan below sufficiently to cover its lower joint.

Claim.—The improved soldering apparatus, consisting of a supporting plate B, combined with a suitable soldering pan A, constructed and arranged substantially in the manner and for the purpose herein set forth.

63,221.—FRANCIS W. CROSBY, N. Y.—*Amalgamator.*—March 26, 1867; antedated March 19, 1867.—The bulbous vessel contains a lead bath and is supported in the furnace. The tubular conductor has a disk on its lower end against which rotates a grinding plate attached to the vertical axial shaft. The ore passes down the tube, is associated with lead which flows through openings in the side of the ladle, and the combined mineral and metal are triturated together between the grinding surfaces, the precious metals becoming amalgamated with the lead while the refuse mineral rises to the top and is skimmed off.

Claim.—Grinding or triturating pulverized ores when submerged in a bath of quicksilver or molten lead, substantially in the manner and for the purpose herein set forth.

Also, the combination of one or more grinding plates or surfaces with the bottom of an ore-supplying chamber and an enclosing bath of quicksilver or molten lead, substantially in the manner and for the purpose herein specified.

Also, the combination of a hollow column or pillar O, with the bottom of an amalgamating vessel B, and an enclosing furnace H, substantially in the manner and for the purpose herein set forth.

63,222.—A. M. CULVER, Bedford, Ohio.—*Combined Sheep Holder and Wool Tyer.*—March 26, 1867.—Adjustable shackle heads are attached to pivoted bars which hold them in position, the movable head being adjusted to the length of the sheep, and the shackles turning as required. A lever and strap, in connection with the folding table, after the fleece has been folded, packs it ready for tying.

Claim.—First, the sides of the table C L, as arranged in combination with the strap K' and lever S, for the purpose and in the manner described.

Second, the arrangement of the sides C L and strap K, in combination with the table C', shackle J, bar H, and lever I, as and for the purpose herein set forth.

63,223.—JOHN CURTIS, Cincinnati, Ohio.—*Carriage.*—March 26, 1867.—The spring bars are bent around and their ends form the sills, dispensing with body loops. The perches are connected together in a curve in front to form part of the fifth wheel. The lower metallic bar of the fifth wheel has a strap beneath it attached to the upper portion and has a set screw by which wear may be compensated for. A pad of leather or rubber is placed between this bar and the screw follower.

Claim.—First, the bent strip B C D E of elastic timber forming the sills of the body proper and to take the place of the spring bar and body loops, as and for the purpose set forth.

Second, the bent and rebated strip of timber L L N N', discharging the functions of the double perch and of the upper member of the fifth wheel as set forth.

Third, the arrangement of strap P, screw Q, and gland R, to enable the members of a fifth wheel to be set up as they were, in the manner explained.

Fourth, in the described combination with the elements of claim third, the pad or cushion S, for the purpose stated.

63,224.—JOHN CUSTER, Corsica, Ohio.—*Roller for Pulverizing Soil and Clods.*—March 26, 1867.—Improvement on his patent, June 26, 1866. The equidistant, annular, metallic cutters have projections from their inner surface which prevent rotation on the rollers. A corrugated metal plate attached to the back bar of the frame cleans the cutters as they revolve.

Claim.—First, the continuous single ring cutters *s s*, secured by projections *a a*, in grooves *e e*, upon the periphery of the rollers *D D*, arranged as and for the purposes herein described.

Second, the cleaners or scrapers formed of a corrugated metal plate secured to the cross bar *F*, with the corrugations or volutes *c c*, placed between the cutters *s s*, in the manner and for the purpose herein described.

63,225.—J. DAVIS and S. W. FOSTER, Lowell, Mass.—*Spinning Bobbin.*—March 26, 1867.—A slit is sawn in the slightly enlarged lower end of the quill, which is thrust into the taper hole, through the head, pressing the slit together, and making a tight fit.

Claim.—Removing a portion of the lower end of the quill and slitting the end as shown at *g*, thereby forming the annular space *c*, and the parts *d d*, which act against the surface of the spindle, all substantially as and for the purpose set forth.

63,226.—R. W. DAVIS and D. DAVIS, Long Island City, N. Y.—*Steam Generator.*—March 26, 1867.—Explained by the claims and illustration.

Claim.—First, the arrangement, over the body of the boiler and within the smoke box, of a series or circle of superheating spheres *G*, connected and applied to circulate or pass the steam received from the boiler successively through them, substantially as specified.

Second, the combination with a steam drying chamber or dome *E* of a series or circle of superheating spheres *G*, both arranged within the smoke box of a vertical boiler for operation in connection with each other and with a steam generating space or chamber below, essentially as described.

Third, the combination with the smoke box and body of the boiler of an inner and outer series of smoke tubes and combustion or heating chambers, the inner series having their draft contracted relatively to the outer series, essentially as and for the purpose or purposes herein set forth.

Fourth, the combination of the superheating spheres *G*, arranged as described, smoke box *D*, and outer row or series of smoke tubes *C*, arranged relatively to the spheres, substantially as specified.

63,227.—HENRY O. DEMAREST, New York, N. Y.—*Automatic Boiler Feeder.*—March 26, 1867.—The two water cylinders have a steam-tight connection between their faces and the end plates, through which their connecting pipes pass to the supply tank and the boiler. Either cylinder when in the upper position communicates with the supply tank, and becoming filled, its weight depresses it until it is thrown in communication with the boiler, and the other cylinder with the water tank. An injector is placed in the supply pipe. A steam pipe whose mouth is at the required water level supplies steam to the cylinders, to take the place of water and enable their discharge, which only takes place when the water is below the proper level.

Claim.—The oscillating chambers *C C'*, with apertures *c c'*, in combination with the seats *B B'*, apertures *d d'*, pipes *e g*, and injector *h j k*, all constructed and operating substantially as and for the purpose described.

63,228.—ROBERT DEVEREAUX, Buffalo, N. Y.—*Hammer.*—March 26, 1867.—The metallic strap forms a dovetail in the eye of the hammer and extends along each side of the handle, to which it is riveted.

Claim.—Attaching a hammer or analogous tool to its handle by means of the plate *A*, when said plate is constructed and applied to the handle as described, in combination with the recess *d'*, in the eye of the hammer to receive the plate, substantially as set forth.

63,229.—HENRY C. DEWITT, St. Louis, Mo.—*Burning Oil.*—March 26, 1867.—Composed of gasoline, 40 galls.; powdered alum, 4 lbs.; cut potatoes, 2 qts.; pure carbon oil, 2 galls.; alcohol, 1 qt.; gum camphor, 2 oz.; oil of sassafras, 8 oz.; acetate of potash, 1 lb.; and sal soda, 2 lbs.

Claim.—First, the mixture formed from and by the action of the ingredients *A B C F H* and *I*, substantially as set forth and described.

Second, the mixture formed from and by the action of the ingredients *A B C D E F G H* and *I*, substantially as set forth.

63,230.—WALTER DICKSON, Albany, N. Y.—*Lock.*—March 26, 1867.—The spindle is tubular, and contains at midlength a tumbler which has a side groove permitting the traverse of the stump when in one position, but acting as a tumbler to stop the stump when turned 90° from said position. This tumbler is acted upon by a key having a spiral shank, which, traversing a similar passage in a cylindrical block, rotates freely in the spindle. The handles have a central longitudinal hole to admit the key.

Claim.—First, the arrangement of the tumbler *H*, to operate within the hollow spindle *E*, substantially as herein specified.

Second, the combination of the tumbler *H* within the hollow spindle, and the key inserted into the end of the said spindle and penetrating into the end of the said tumbler, substantially as herein specified.

Third, the stump *G*, arranged in connection with the bolt *C*, and in relation with the hollow spindle and the tumbler *H*, within the spindle, substantially as herein described.

Fourth, the application to a lock of a key having its body formed of a true spiral twist like that of a screw auger, with a matrix corresponding thereto formed within a movable block or blocks, the key passing through said matrix to act upon the follower in the manner and for the purpose specified.

63,231.—WILLIAM M. DOTY, New York, N. Y.—*Clothes Pin.*—March 26, 1867.—The bent wire has a coil spring and is crooked at the points at which it encloses the line. The legs are restrained from opening too far by a cross attachment.

Claim.—The wire clothes pin *A*, having the arm *b*, doubled and secured thereto as at *b'*, forming a loop, the arm *a* passing through said loop and resting upon cross piece *b'*, whereby any lateral movement is prevented, as herein set forth.

63,232.—J. E. EMERSON, Trenton, N. J.—*Saw.*—March 26, 1867.—The teeth are set within their sockets in saw plates and there held by springs.

Claim.—First, the springs as shown at *B* or *E*, either as a part of the saw plate itself, or made separate and firmly attached and fastened to the saw plate or cutter disk, when used for holding the teeth or cutters as herein described.

Second, the combination of the saw plate and the springs as shown at *B* or *E*, when made separate from said plate with the tooth *C*, when fitted and arranged substantially as described and for the purposes set forth.

63,233.—AUGUST FELLHEIMER, New York, N. Y.—*Hoop Skirt.*—March 26, 1867.—Improvement on the Bardwell patent, May 22, 1866. A loop is formed at each end of the hoop which is bent over and secured to the main portion by a clasp.

Claim.—The looped ends to the hoops of the skirt, of that class hereinabove referred to and substantially as and for the purpose specified.

63,234.—LOUIS FELLHEIMER, New York, N. Y.—*Hoop Skirt.*—March 26, 1867.—The hoops at the lower front portion of the skirt are dispensed with, so as to avoid the entanglement of the feet. A gathering in the waistband regulates its size. The skirt is projected to the rear by an inner band attached to its sides and passing behind the person.

Claim.—The skirt with the lower hoops passing entirely around the skirt and the upper ones secured to the stay *a'*, and provided with the gathering *b'* attached to the waistband, and having at its rear the trailing device, *c'*, consisting of the bands *C*, strings *d*, and band *d'*, when all parts are combined and arranged in the manner herein represented and described.

63,235.—ELI FLANEGIN and A. B. SMITH, Pittsburg, Pa.—*Pump.*—March 26, 1867.—To regulate the action of the pump to varying depths of water a float in the well is made to move a sliding weight on the rocking lever, to which the pump rod is attached, so that a uniform counterpoise is maintained.

Claim.—The floating weight P, counter weight Q, pinion pulley N, rack bar M, and balance weight L, arranged and operating together, substantially as and for the purpose herein specified.

63,236.—ALBERT M. FORCE, Norwich, Conn., assignor to himself and A. H. VAUGHN, same place.—*Meat Slicer.*—March 26, 1867.—The blade is set in the holder like a plane bit in its stock, and is adjustable toward and from the lip which forms the throat, to vary the thickness of the slice.

Claim.—First, the outwardly-flaring bar F, secured to the holder A, operating in combination with the adjustable slotted knife E, substantially as and for the purpose specified.

Second, the slicer, the parts of which consist of the handle B, holder A, outwardly-flaring bar F, slotted knife E, set screw b, set screws F, substantially as described.

63,237.—JOB FROGGETT, Youngstown, Ohio.—*Hot Blast Apparatus for Furnaces.*—March 26, 1867.—The heating cylinders are placed transversely across the furnace. The communicating pipes of the consecutive air chambers are on the outside.

Claim.—A hot blast arrangement whereby the air is heated by passing through cylinders which are connected together on the outside of the heating chamber, substantially as herein shown and described.

63,238.—MERRITT GALLEY, Marion, N. Y.—*Everer for Whiffletrees, &c.*—March 26, 1867.—The links to which the respective horses are attached are pivoted to the central block, which has a capacity for horizontal oscillation on the wagon hammer. If one horse pull ahead of the other he shortens the leverage of his connection and gives the other the advantage.

Claim.—The body of the everer A, with stops E E', the projecting levers C C', and pivoted bars B B' B', combined and constructed as herein set forth, and for the purposes mentioned.

63,239.—J. B. GERMAN, Walnut Hills, Ohio.—*Car Coupling.*—March 26, 1867.—The hook bar has projections on each side, which come in contact with the saws of the draw head when a car is displaced and pry the hook away from the coupling pins.

Claim.—First, the self-releasing car coupling, composed of the draw head A, reversely-hooked bar B, formed with shoulders c c', the spring D, and coupling pin E, combined and adapted to operate in the manner set forth.

Second, the combination of the lever F, hooked bar B, spring D, and coupling pin E, constructed and arranged to operate substantially as set forth.

Third, the connecting bar B, having reversely-directed hooks b b' and shoulders c c', and capable of instant release when in direct line by withdrawal of the coupling pin E, or by advance of the lever F, or when out of direct line by the automatic action of the parts in the manner set forth.

63,240.—JACOB GREEN, Norristown, Pa.—*Melting and Smelting Furnace.*—March 26, 1867.—Blasts of steam and air maintain a pressure inside of the furnace, and a blast in the latter directs the calorific current on to the hearth. The final reduction takes place on the reverberatory hearth and the metal is collected in the basin.

Claim.—First, subjecting ores to the action of the products of combustion in a furnace where the gases are confined under pressure, substantially as and for the purpose described.

Second, the combination with a smelting furnace of pipes, through which currents of steam and air can be introduced among the products of combustion previous to the latter being brought into contact with the ore, for the purpose specified.

Third, a blast pipe, so arranged in respect to the hearth and the fireplace of a smelting furnace as to direct the products of combustion in a blast on to the hearth, for the purpose set forth.

Fourth, a chamber or chambers H, through which

the ore is admitted to the furnace, when the said chambers are arranged in respect to the bed and to the fireplace, substantially as specified.

Fifth, the fireplace D, bed F, stack G, inclined passage H, with its openings C c, and reservoir E, all constructed and arranged substantially as and for the purpose set forth.

Sixth, the combination of the two fireplaces D D', stacks G G', passages H H', beds F F', and the basin E, the whole being constructed and arranged substantially as specified.

63,241.—JACOB GREEN, Norristown, Pa.—*Glass Furnace.*—March 26, 1867.—A pressure is maintained within the furnace. Blasts of air and steam are admitted below the grate, and air through side openings into the furnace; these direct the calorific current around the pots and then over them to the exit openings.

Claim.—First, subjecting the materials of which glass is to be formed to the action of the products of combustion under air pressure by blasts within a furnace, as set forth.

Second, the combination of a glass furnace with pipes so arranged that blasts of air and steam can be introduced among the products of combustion before the latter are brought into contact with the contents of the pots or crucibles, for the purpose specified.

Third, the combination with a glass furnace of a blast pipe and openings so arranged as to direct the products of combustion around the pots, substantially as set forth.

Fourth, the within-described furnace consisting of the walls A A' B B', with their openings, the top C, "siege" a, and fireplace E, the whole being constructed and arranged as described.

63,242.—CHARLES GSCHWIND and CHARLES REICHAUDT, Union Hill, N. J.—*Lock for Trunks, &c.*—March 26, 1867.—The key is first inserted with the spindle reversed, in which position alone can the bit reach the dog to free the bolt; being then withdrawn, it is inserted in the usual manner and actuates the bolt as usual.

Claim.—First, the application to a lock of the dog D, and its combination with the notched spring-catch B and bolt C, substantially as herein shown and described.

Second, a lock which is so constructed that it can only be opened by reversing the position of the key in the key-hole, substantially as and for the purpose herein shown and described.

63,243.—N. B. HADLEY, Providence, R. I., assignor to the INTERNATIONAL SCREW COMPANY.—*Machinery for Nicking Screws.*—March 26, 1867.—The two parts of the mandrel meet within the hub of the driving wheel, where a clutch connection is maintained by a spiral spring. A rod passes axially through one of the parts of the mandrel and bears against the spring to unclutch the parts of the mandrel. The rod is operated by levers which are actuated by cams on the driving shaft of the machine.

Claim.—Uniting the spindle D with its driving power by means of the movable latch connection e, or its equivalent, arranged and operating substantially as described, for the purposes specified.

63,244.—GEORGE W. HEATH, Burlington, Pa.—*Horse Hay Fork.*—March 26, 1867.—The flukes are so pivoted to the bars as to be projected when the two movable bars are thrust downward, and retracted by their upward motion so as to be in suitable condition for entering the hay as a harpoon. The motions are obtained by a trigger worked by ropes.

Claim.—In combination with the bars A D and G the curved handle E and points or flukes C and F, when the same shall be constructed and operated substantially as shown.

63,245.—WILLIAM HELFFRICHT, Philadelphia, Pa.—*Passenger Register.*—March 26, 1867.—Improvement on his patent, January 8, 1867. A paper strip, printed for tickets, is wound upon the pulley and the end pressed through the slot of the plate, and thence between the feed rollers to the slit in the front of the case. The pins maintain the paper as well as the two portions of the case in the proper lateral position.

Claim.—First, the plates h and h', arranged within

the case in respect to the rollers C and C' and slit *y* in front of the case, substantially as described.

Second, the combination of the roller C with the spring b, for the purpose described.

Third, the plate E, with its transverse slot *f*, arranged within the case in respect to the rollers C and C', as set forth, for the purpose specified.

Fourth, the steadying and guiding pins *i* *i*, secured to one portion of the case and adapted to holes in the other portion, as and for the purpose herein set forth.

63,246.—RICHARD B. HENDERSON, Warren Co., N. C.—*Cotton Cultivator*.—March 26, 1867.—The machine travels on two wheels between the rows and has an oscillating hoe on each side, which are actuated by bevel gearing and rod connections to a crank revolving on a shaft arranged longitudinally of the machine. The action is to chop gaps in the rows and leave the plants in hills. The machine is adjustable in width and has a cultivator in the rear.

Claim.—First, the frame A, running on wheels B, and operating in combination with the hoes, substantially as and for the purposes set forth.

Second, the crank G, in combination with the handles M and hoes N and O, substantially as and for the purposes set forth.

Third, the hoe N, when constructed and operating substantially as and for the purposes set forth.

Fourth, the hoe O, when constructed and operating substantially as and for the purposes set forth.

Fifth, the hoe P, when constructed and operating substantially as and for the purposes set forth.

Sixth, the extension frame H, when constructed and operating substantially as and for the purposes set forth.

Seventh, the cultivator Q, in combination with the machine herein set forth.

63,247.—W. H. H. HEYDRICK, Chestnut Hill, Pa.—*Steam Gang Plow*.—March 26, 1867.—The plows are dropped consecutively to their duty so as to enter the ground on a given line at right angles to the course of the machine, and are withdrawn from the ground in a similar manner; the ends of the land are thus left square. Each plow is connected by a chain to a pivoted lever, which is dropped or raised seriatim with its fellows, the actuating agents in each case being shafts with spiral sets of cams.

Claim.—First, the shaft *k*, rotated by the clutch connection or by hand, as desired, and operating by means of a spiral series of cams, to elevate the plow consecutively from the ground, substantially as described.

Second, the shaft *o*, rotated by the clutch connection or by hand, as desired, and operating by a spiral series of cams, to trip the dogs, or their equivalents, consecutively to lower the plows to the ground, substantially as described.

Third, the combination with the cam shafts *k* *o* of the levers *g* and spring dogs *t*, operating substantially as described.

Fourth, the director wheel *b'*, shaft *a'*, and bar *z*, constructed and operating substantially as described.

Fifth, the bar *e'*, supporting the cord pulleys and adjustable by devices, substantially as described.

63,248.—EDWARD HICKS, North Hempstead, N. Y.—*Elevator*.—March 26, 1867.—The movable car has apparatus to raise and support the load and travels on ways to different parts of the building. It is so arranged that the lifting device operates till a certain height is attained, and then the power is directed to the transportation of the car and its suspended load.

Claim.—First, the application and use of the movable side plates *h* *i*, arranged and operating substantially as and for the purposes set forth.

Second, supporting one truck of the car, so that it can rise and fall in respect to the car, substantially as and for the purposes set forth.

Third, the arrangement of the cross-bar *k*, or its equivalent, for supporting the end of the car, substantially as and for the purposes set forth.

Fourth, the combination and arrangement of the pulley *f* and block *g*, or their equivalent, for elevating the bearing wheels *b* *b* and releasing the car, operating substantially as set forth.

Fifth, the combination and arrangement of the block *g*, spool *d*, and supporting brace *l*, or their

equivalents, for holding and releasing the fork and load, and operating substantially as set forth.

63,249.—DAUPHIN S. HINES, Brooklyn, N. Y., assignor to JOHN J. CROOKE, New York, N. Y.—*Manufacture of Lead Foil Coated with Tin*.—March 26, 1867.—Explained by the claim.

Claim.—The process, substantially as described, for making foil of lead coated with tin on both sides by inserting a plug of lead within a pipe made of tin, and then rolling the compound ingot thus formed, as set forth.

63,250.—PETER HOFFMAN, Jersey City, N. J.—*Tool for Cutting off Boiler Tubes*.—March 26, 1867.—The cutter bar is inserted in the tube, the wedge occupying the slotted end; the points are driven outward as the wedge is driven.

Claim.—A tool for cutting boiler tubes which is composed of a split or sectional bar A, provided at one end with a boss *a* and at the opposite end with teeth *c*, to operate in combination with a wedge B, substantially as and for the purpose set forth.

63,251.—GEORGE L. and WILLIAM M. HOWLAND, Topsham, Me.—*Hoisting Apparatus*.—March 26, 1867.—Improvement on the patent of G. L. Howland, September 18, 1866. A third pawl can be thrown in when required by which the notched bar may be raised two teeth at a time. The lower pawls are flexibly connected by links to render their motion more free.

Claim.—First, the pawls G and I, arms *g'* and *i'*, and links *i* and J, in combination with the spring lever H, bars A and B, and lever D, all made and operating substantially as herein shown and described.

Second, the pawl *m*, in combination with the pawls G and I and with the bar B, substantially as and for the purpose herein shown and described.

Third, the pin *l* and pawl *m*, in combination with the band *n*, arm *g*, and spring *p*, all made and operating substantially as set forth.

63,252.—ELIAS HONIE, Montezuma, N. Y.—*Carriage Clip*.—March 26, 1867.—The ears of the axle clip are bent over the pins of the block, which is then ready to receive the square socket in the thill iron; a nut on the threaded upper end of the block maintains the connection.

Claim.—First, the joint, when formed by bending the two external joint pieces C C onto the solid stand D, as above set forth.

Second, in combination with the above, the thill iron A, when used as and for the purpose above described.

63,253.—GEORGE W. HUBBELL, Birmingham, Conn., assignor to himself, W. E. HOUSTON, and J. R. LATTIN, same place.—*Skirt Wire*.—March 26, 1867.—A fabricated edge is formed upon the wire by the mode of interweaving the braiding material to whose projecting portion the tapes are stitched.

Claim.—A cord or edge formed upon the wire from the same material with which the wire is covered, substantially as herein set forth.

63,254.—WILLIAM H. HURLBUT, Elgin, Ill.—*Converting Motion*.—March 26, 1867.—The edge of the double spiral flanged cam is engaged by pins projecting from the cross-head slide, and by the reciprocating motion of the latter is caused to revolve continuously.

Claim.—The spiral flanged cam B, having its ends constructed as described, in combination with the cross-head A and pins *a* *a* of a steam engine, or with an equivalent part of any other motor, and with the shaft C, the whole being constructed, arranged, and operated substantially in the manner and for the purpose set forth.

63,255.—JOHN ALLCOCK JONES, Middlesboro' on Tees, England.—*Non-conducting Composition for Covering Boilers, &c.*—March 26, 1867.—Composed of peat or silt alone, or the following: peat or silt, 100 lbs.; Roman or Portland cement, 20 lbs.; oxide of iron, 15 lbs.; lime, 10 lbs.; sand, 10 lbs.; cow hair, 4 lbs.; gypsum, 2 lbs.; and mineral oil, 4 lbs.

Claim.—First, the application and use, for the purpose of impeding the passage of heat or caloric, of peat, turf, bog, silt, or other similar accumulations

of vegetable, or partly vegetable and partly earthy matter, either alone or in combination with other ingredients, substantially as hereinbefore described.

Second, the molding of the said material or composition into cakes and bricks, and the subsequent application of the same, in that form, for the purpose specified.

63,256.—GERHARD KAMPS, Pittsburg, Pa.—*Manufacture of Vinegar.*—March 26, 1867.—The distillate of the fermented vegetable matter passes from the still to a perforated wooden box supported within the generator, which has sufficient water in it to cover the end of the pipe. Blocks of wood soaked in vinegar surround the box. A hydrometer floats in a tube on the side of the generator for testing the specific gravity of the vinegar.

Claim.—The mode of manufacturing vinegar from any vegetable substance containing saccharine or farinaceous qualities.

63,257.—HEINRICH KESSLER, Caub City, Duchy of Nassau.—*Steam Engine Lubricator.*—March 26, 1867.—The oil is conducted from the annular reservoir by a wick of fibrous material into the tubular valve stem. This stem has radial holes at its lower end for the discharge of oil, and wire gauze to arrest impurities. Between the upper and lower valves is a spiral spring. When the engine is running the valves are closed by steam and spring pressure; when stopped, the upper valve is closed by the spring, and when running without steam, both valves are sucked open and the oil flows.

Claim.—The combination and arrangement of the tube C, vessel A, network in the tube C, valves D and E, and the spring G, substantially in the manner and upon the principle as herein set forth.

63,258.—DAVID KING, Aberdeen, Ohio.—*Press.*—March 26, 1867.—The nut of the screw shaft is made in two sections, which being opened by a lever, the shaft can be raised at increased speed by a rack and pinion.

Claim.—First, the rack O, gear wheels J and K, in combination with the screw shaft I and sash G, substantially as shown and described and for the purposes set forth.

Second, the nut P, made in sections, as herein shown and described, in combination with the shaft I, sash G, and posts A and B, substantially as and for the purposes herein set forth.

63,259.—ROBERT T. KNIGHT, Philadelphia, Pa.—*Apparatus for Drying Straw Boards, Sheets of Paper, &c.*—March 26, 1867.—The throat of the oblong chamber has a series of deflecting partitions to cause equal distribution of air from the fan. The sheets of paper are hung upon the upper series of removable slats and pass between the slats of the lower series, whose sides are cut away at intervals to allow passage of air.

Claim.—First, a chamber communicating with a fan or other blowing or exhausting apparatus, and having any desired number of bars D D', or their equivalents, for the reception of detachable slats F, or their equivalents.

Second, the construction and arrangement, substantially as described, of the lower slats G, for the purpose specified.

63,260.—H. P. KYNETT, Lisbon, Iowa.—*Gang Plow.*—March 26, 1867.—Two adjustable plows are on each side of the cultivator which straddles one row of corn. The plow beams are adjusted by clevises and pendants to raise or lower the plows. The pendants are also adjustable laterally and secured by bolts in slots.

Claim.—The combination of the slotted cross piece E, side pieces S, bolts f, pendants e, adjustable clevises d, and beams F, substantially as described, for the purpose specified.

63,261.—JOHN L. LADIAUX, Newark, N. J., assignor to himself, C. COURTOIS, P. W. VAIL, and WILLIAM C. GRISWOLD, Newark, N. J., and N. B. DAY and JULIUS SHELTON, New York, N. Y.—*Machine for Pouncing Hats.*—March 26, 1867.—Improvement in the patents of E. Nougaret, February 20, 1866, and September 18, 1866. The two heads have

oscillatory movement by radial arms, and the shafts of the hat block and pouncing block have longitudinal movement by levers at their rear ends. The shafts have rotary motion by pulleys between their journal bearings. A longitudinal key enters a groove in the pouncing block to clamp the edges of the sand paper used therein.

Claim.—First, the combination of the levers e e', respectively, with the shafts E E', spiral springs g g, block G, or roller H, substantially as and for the purposes herein shown and described.

Second, the combination of the disks C or C' and handle I or I' with the pin i and flange b or b' on the posts B or B', all made and operating substantially as herein shown and described.

Third, the combination of the metal pouncing roller H with the wedge l, ring n, and shaft E', arranged to operate substantially as and for the purposes herein shown and described.

63,262.—EBENEZER G. LAMSON, Shelburne Falls, Mass.—*Drill Spring for Quarrying Stone, &c.*—March 26, 1867.—The drill rod is adjustably secured in a head which occupies a position at midlength of the metallic strap which forms the bow of the spring.

Claim.—First, in combination with stone drilling or quarrying machines, a metal bow spring and metal strap or cord for carrying and sustaining a drill, substantially as described.

Second, constructing the metal strap or cord of the spring to a central, divided, and adjustable head, substantially as and for the purpose described.

Third, the combination of the spring, strap, drill stock, and drill, substantially as and for the purpose described.

63,263.—CHARLES LANG, New York, N. Y.—*Machine for Embossing and Perforating Paper, &c.*—March 26, 1867.—The paper passes between cameo and intaglio dies, by which it is embossed or perforated; a third roller is used for a cutter, and the last one is a wheel brush for removing stray fragments from the embossing roller above it.

Claim.—The new mode of manufacturing embossed and perforated goods out of paper linen, cotton-lined paper, paper mixed with cotton threads or linen threads, cotton cloth, linen cloth, or similar material, by means of the machine, substantially as described; the principal parts of which said machine consist of three rollers, two of which contain the design, depressed and raised, and the third acting, by its pressure, as perforator, between which said rollers a strip of paper or other material is passed, and is embossed, perforated, and cut during its passage, substantially for the purpose set forth.

63,264.—HENRY S. LANSDALE, New York, N. Y.—*Water Ejector.*—March 26, 1867.—Two or more water inlets discharge into a chamber, and a central jet of steam unites them. In the steam induction pipe is a valve opening upward, which is kept closed by the steam pressure, and is opened when relieved by a spring to allow collected water to escape.

Claim.—First, the arrangement of the two or more water inlet pipes or nozzles m m, in relation with the nozzle s of the jet pipe and liquid-receiving chamber, substantially as and for the purpose specified.

Second, the combination with a steam siphon or ejector of an escape valve p, applied to the jet pipe G for operation, substantially in the manner and for the purpose specified.

63,265.—B. B. LEHMAN, Lebanon, Pa.—*Machine for Making Paper Alumettes.*—March 26, 1867.—One edge of the sheet of paper is placed beneath the feeding slide, which is then pushed forward. The strip is formed by the rotary cutter and relieved by the upward incline of the guide. The paper passes between the folding rollers, and the slide is thrown back by a spring.

Claim.—First, the circular saw or cutter B, having knife-edged teeth, operating substantially as and for the purpose herein described.

Second, in combination with the above, the carrier F, substantially as and for the purpose herein specified.

Third, the creasing or pressing rollers, operating substantially as and for the purpose herein set forth.

Fourth, the folder D, in combination with the creasing and pressing rollers, substantially as and for the purpose herein set forth.

Fifth, the inclined plane H, operating substantially as and for the purpose herein specified.

63,266.—MOSES LEWIS and SAMUEL MILLER, Greenville, Conn.—*Pulleys for Belting.*—March 26, 1867.—The pulleys of shafts that are at right angles to each other are tapered to suit the twisted belt.

Claim.—The tapering or conical pulleys B E, over which the twisted belt F circulates, arranged on shafts A D at right angles to each other, for the purpose described, in the manner specified.

63,267.—NATHANIEL and FRIEND LEWIS, Adams, N. Y.—*Cheese Box.*—March 26, 1867.—The sides of the box are cut serrated at the bottom edge, and the angular pieces are bent over inward and secured between two disks to form the box bottom, which has an enveloping hoop.

Claim.—As a new article of manufacture, a cheese box constructed of paper provided with a removable head B', and a head B permanently secured to the lugs C, which are made in one piece with the side of the box, and secured between disks D, substantially as described.

63,268.—JOHANN A. LIBERTZ, Hamburg, Germany.—*Boat Detaching Tackle.*—March 26, 1867.—The metallic base plate is bolted to one of the thwarts, and has two lugs whose pivoted arms press upon the davit fall ropes. The arms are clamped upon the ropes by a screw-bolt, and simultaneously released by a backward rotation.

Claim.—The vertical shaft H, provided with the nut J, lever I, and the slide K, having lateral arms d, in combination with the arms G G, pivoted in the ears or lugs F F on the plate E, all arranged to operate in the manner substantially as and for the purposes set forth.

63,269.—JOHN S. LIGHTNER, Westford, Wis.—*Liniment.*—March 26, 1867.—Composed of vinegar, 1 qt.; spirits of turpentine, $\frac{1}{2}$ pt.; sugar of lead, $\frac{2}{3}$ oz.; salt, 1 oz.; white of 3 eggs, and 1 oz. sulphuric acid.

Claim.—The liniment compounded as above set forth and described.

63,270.—JOHN LOCKWOOD, Wilton, Conn., assignor to himself and EDWIN GILBERT, Redding, Conn.—*Wire Pointing Machine.*—March 26, 1867.—The end of the wire is inserted in the socket of the revolving cutter head, and is pointed by the obliquely set serrated cutter.

Claim.—The improved wire-pointing machine herein described, consisting of the frame-shaft pulley, cutter head, and cutter, all constructed, arranged, and operating substantially as described.

63,271.—C. E. LOMBARD, Springfield, Mass., assignor to himself, A. O. SINCLAIR and C. C. MERRITT, same place.—*Key.*—March 26, 1867.—Grooves in the handle clasp the shaft of the key, which is turned on the pivot at their junction to reverse it in the handle, bringing it into convenient form for the pocket.

Claim.—As a new article of manufacture, a key formed of two parts A and B, constructed and arranged so that the handle B shall close over the opening in the shaft A, substantially as set forth.

63,272.—DAVID LYMAN, Middlefield, Conn.—*Clothes Wringer.*—March 26, 1867.—The movable roll shaft is accommodated by an adjustable clutch connection, preventing wear from change of position in the upper roll. The frame is grooved to accommodate the varying position of the upper roll.

Claim.—First, in clothes wringers the within-described construction and arrangement of the grooves M N, and intermediate piece E X Y, combined and arranged relatively to the shafts B A and D, so as to communicate the motion and withstand the wear, substantially in the manner and for the purpose herein set forth.

Second, the piece C C', constructed and arranged as represented, to hold both the shafts A and B, so as to transmit the motion as represented, and to maintain the shafts at a uniform distance apart, however much the other parts may move relatively thereto,

substantially in the manner and for the purpose herein specified.

63,273.—DAVID LYMAN, Middlefield, Conn.—*Clothes Wringer.*—March 26, 1867.—The jaws which give motion bearing to the rollers are hinged together at their rear ends, and pressed together in front by the wooden spring bars. The rear clamp is adjustably pivoted and of bell-crank form, one arm engaging the tub and the other traversed by the clamping thumb-screw. Each roller has two end cranks set at a right angle to each other. Pins sliding freely in a horizontal slot of the frame form pivots to rods connecting them to the cranks of the rollers to insure an equal rotation. The jaws have links connecting them to a cross-bar on a central shaft, which oscillates freely with the movement of the jaws on their pivot, and insures their equal distance from the said shaft.

Claim.—First, in combination with the shafts c d, crank e' d', and connecting rod G G', a swiveling guide H, operated so as to retain the central position, during the greater or less divergence of the shafts, substantially as and for the purpose herein set forth.

Second, in a clothes wringer having diverging jaws, a spring operating on both pairs of jaws, and acting as both spring and brace therefor, substantially as herein set forth.

Third, in a clothes-wringing machine, substantially as herein described, the gripping arm L and spring K, operating substantially as herein set forth.

63,274.—JOHN A. MACKINNON, Reading, Pa.—*Table-leaf Support.*—March 26, 1867.—The brace is hinged to the leaf and fits into a slot in the leg. The lower end of the brace is attached to a spiral spring, which keeps it from falling when out of the slot.

Claim.—The straight levers A, hinged at one end and notched at the other, when constructed, combined, arranged, and operated by the lever catch G, spiral spring H and button K, as herein described and for the purposes set forth.

63,275.—ELI J. MANVILLE, Waterbury, Conn., assignor to TURNER, SEYMOUR & JUDDS, Wolcottville, Conn.—*Metal Case for Spring Bolts.*—March 26, 1867.—The blank is placed between the mandrel and the lower die, and bent in a U-form by a side pressure of the die. It is then made cylindrical by descent of the upper die. The inner and outer flanges on the opposite ends are formed by the simultaneously operating end dies, and the mandrel retracted within its sleeve to free the case.

Claim.—The combination of the mandrel a, and dies b c d and e, to which movements are communicated in substantially the manner specified for bending up a sheet-metal case with flanges at its ends, as set forth.

63,276.—SETH MARCH, Norfolk, Va.—*Plow.*—March 26, 1867.—The mold board is cast separately from the standard and the heel from the landside, and being attached by bolts can be replaced separately. The weeder is bolted to a bar attached to the frame.

Claim.—The frame, the mold board, the heel D, and the weeder, substantially as described.

63,277.—ARTHUR McCARTER, Lancaster, Pa.—*Car Coupling.*—March 26, 1867.—The pin swings on a transverse bolt which slides vertically in the slotted standards, whose recesses hold the pin in an elevated position when required. The drawhead has a sliding spring block to hold the link in a horizontal position for coupling.

Claim.—The combination and arrangement of the slotted casing A with its vertical standards B B', cross-arm d of pin C, when operating in a vertical slot D with a terminal recess D', together with a stationary or yielding stand post F with its link notch g, all arranged and operating in the manner and for the purpose specified.

Also, the cross-arm d on the pin C in combination with the upright standards B B' when slotted in the manner and for the purpose shown.

Also, the yielding stand post F with its link slot in combination with the coiled spring H, constructed and operating in the manner shown, for the purpose described.

Also, the prolongation or jaws E' of the flared mouth E, in combination with the open case A, when

constructed in the manner and for the purpose shown and set forth.

63,278.—JOHN A. McCLAIN, Philadelphia, Pa.—*Swing*.—March 26, 1867.—The movable footboard is connected by a rope with a vibrating frame and actuates springs which oscillate the swing.

Claim.—First, the vibrating frame P O O P and springs S' S', whether metallic or otherwise, when constructed and combined in the manner and for the purpose above described and set forth.

Second, the combination of the upright A A and vibrating frame P O O P, rope and foot board R and F, springs S' S', and suspenders and seat S F and S, the whole combined and constructed for the purpose and in the manner aforesaid described and set forth.

63,279.—HENRY MELLISH, Walpole, N. H., assignor to DAVID LYMAN, WASHINGTON WHITNEY, and GILMAN WAITE.—*Machine for Making Fruit Baskets*.—March 26, 1867.—The shavings are cut in continuous strips of helical form out of the solid wood and the guide traversing a central bore. The coil is afterward cut in the plane of the axis of the log, each piece forming a basket.

Claim.—First, the cutter H, constructed substantially in the manner and for purpose above specified.

Second, the hollow cylinder C, in combination with the main cutter H, arranged to operate substantially in the manner and for the purpose above set forth.

Third, the head cutter I, when in combination with the main cutter H, substantially in the manner and for the purpose above described.

Fourth, revolving a log against a cutter or cutters arranged to move gradually in a direction parallel to its axis for the purpose of cutting a helical coil suitable to be divided into pieces that, when sprung from their helical form to a circular one and properly fastened, they will constitute fruit baskets, pots, or bowls with the bottoms on, substantially in the manner as above described.

63,280.—HENRY MELLISH, Walpole, N. H., assignor to DAVID LYMAN, WASHINGTON WHITNEY, and GILMAN WAITE.—*Machine for Cutting the Bottom of Fruit Baskets*.—March 26, 1867.—The face of the stuff is circularly grooved out by the cutter head. The inner cutter has an inner lip and is moved toward the center at the proper time to under-cut the groove for the reception of the ends of the shavings which form the sides. After grooving, the disks are removed from the timber by a circular saw.

Claim.—First, the grooving cutter C², so mounted on the quadrant or plate C on the head B, that it may be moved inward thereon and produce an undercut groove adapted to receive and hold the properly formed material driven therein, substantially in the manner and for the purpose herein set forth.

Second, the rod E, in combination with the hollow arbor A and the surface D, adapted to operate the plate C with its cutters C¹ C², and move it inward when required, substantially in the manner and for the purpose herein set forth.

63,281.—J. VAUGHAN MERRICK, Philadelphia, Pa.—*Steam Engine*.—March 26, 1867.—The cylinder is annular and has two piston rods which connect to a cross-head plate slotted to permit the movement of the connecting rod which passes through it. Rods pass up from this plate to an upper cross-head whose slides are within the annular cylinder. The connecting rod passes from this cross-head to the wrist pin of the crank.

Claim.—First, the combination of the annular cylinder A, its piston E, two or more piston rods *n n*, plate or cross-head *k*, rods *n n*, cross-head G, connecting rod I, and crank *h*, the whole being arranged and operating substantially as and for the purpose herein set forth.

Second, the combination of the above with rods *m' m'*, for the purpose specified.

63,282.—DANIEL C. MERRILL, South Paris, Mo.—*Churn*.—March 26, 1867.—The air pump discharges air through the bottom of the churn. The dasher has a vertical reciprocation by the pin on its adjustable arm which enters a socket on the balance wheel; a slight oscillation is imparted by this connection.

Claim.—First, making the horizontal arm *d'* of the standard D adjustable so that it may be extended or contracted, substantially as herein shown and described and for the purpose set forth.

Second, the combination of an adjustable slide or socket J, with the balance wheel G for the reception of the end of the arm K, adjustably attached to the dasher handle E, substantially as herein shown and described and for the purpose set forth.

Third, combining an air pump M with the churn A in such a way that the discharging pipe *m'* of said pump may enter the churn through the middle part of its bottom, substantially as herein shown and described.

63,283.—HARMAN MILLER, Hoboken, N. J.—*Paint Can*.—March 26, 1867.—A thread is spun upon the upper edge of the can and the screw flange of the cover inserted therein.

Claim.—A wooden cover B, which is screwed to the paint can A for the purpose of easily opening and reclosing the same, substantially as herein shown and described.

63,284.—JOSEPH A. MILLER, New York, N. Y.—*Street Crossing and Sewer Inlet*.—March 26, 1867.—The perforated crossing plates cover a drain inclined to the center of the street where they discharge vertically into a trap basin and overflow into the sewer.

Claim.—First, the arrangement of a trough the bottom of which slopes down from its ends toward the middle, in combination with a street crossing made of perforated plates of metal or other suitable material, and with a pipe extending from the lowest part of the trough down into the sewer, substantially as and for the purpose described.

Second, the sewer inlets *b* and aprons *c* at the ends of the trough B in combination with pipe C, extending from the lowest portion of the trough down in the sewer D, substantially as and for the purpose set forth.

Third, the application of the stench trap E in combination with the pipe C, sewer D, trough B, and crossing A, all constructed and operating substantially as and for the purpose described.

63,285.—WILLIAM H. MILLER, Philadelphia, Pa.—*Packing for Piston Rods*.—March 26, 1867.—A filling of fibrous or other material is covered with yarn saturated with powdered steatite and wound around the filling.

Claim.—A new manufacture consisting of packing composed of a filling of fibrous or other materials covered with cotton, woolen, or other yarn, saturated with powdered soapstone, or other equivalent material, and wound around the filling, substantially as shown and described.

63,286.—LUKE S. MILLS, Brooklyn, N. Y.—*Portable Boiler for Pitch, &c.*—March 26, 1867.—The pitch chamber has an arched exterior with a flat top and a semicylindrical plate separates it from the fire space beneath. Between the wall and the outer jacket is a layer of non-conducting material.

Claim.—First, a portable boiler formed with an arched fire chamber and an exterior shell contracted toward the top as and for the purposes specified.

Second, a portable boiler formed with sides to set down upon the earth or pavement, an arched fire chamber provided with doors at the ends, a smoke pipe or flue passing off from the top of the fire chamber through the boiler, and a movable cover to give access to the contents of the boiler, substantially as set forth.

Third, in combination with a portable boiler formed as aforesaid, the jacket of felt and cover *l*, as set forth.

63,287.—GEORGE R. MOORE, Lyons, Iowa.—*Heating Stove*.—March 26, 1867.—The stove top is partially insulated to enable the use upon it of ornamental designs in Japan varnish, &c. A hot-air chamber before the fire space has an inclined rear plate which supports the coal when the ashes are shaken out. A horizontal diaphragm above the fire chamber has a central aperture covered by a damper. A space above the air chamber has a door for the introduction of kindling and dampers covering communications to the fire space and upper smoke chamber.

Claim.—First, the insulation of the tops of heating stoves, substantially in the manner and for the purposes set forth.

Second, the chamber in the front part of the stove between the door E and upper part of plate H, when constructed and arranged as and for the purposes set forth.

Third, the flue from the fire chamber through the front upper chamber to chamber in top of the stove with the controlling dampers, arranged substantially as and for the purpose set forth.

63,288.—D. S. NEAL, Lynn, Mass., assignor to himself and J. B. BLOOD, same place.—*Farm Gate.*—March 26, 1867.—Each gate has a transverse pivot at the heel and a segmental slide bar concentric therewith which occupies the groove of a roller on the post. The gate is opened by swinging upward and backward on the pivot.

Claim.—A rectangular gate, the bars of which are relatively fixed, hung, and operated, as described, by supporting it upon a pin *c* and guiding it in its vertical swinging movements by means of the vertical slot in the upright, substantially as set forth.

63,289.—D. P. NICKERSON, Cleveland, Ohio.—*Ships' Davit and Winch.*—March 26, 1867.—The davit bars are extended by a pinion upon the winch shaft. This pinion turns freely upon the shaft except when clutched thereto for the projection of the davit, and when free its pulley may be used to hoist the boat.

Claim.—The adjustable sliding davit A, pinion C, as arranged in combination with the adjustable shaft D, clutch E, and winch H, for the purpose and in the manner substantially as set forth.

63,290.—A. W. OLDS, Green Oak, Mich.—*Field Fence.*—March 26, 1867.—The upright stakes are placed a little wider apart at the top, thus allowing the rail the opportunity of wedging downward. The stakes are bound together at top with a tie. Bracing stakes slanting below one rail and above another, near the top of the fence are fastened below to a foot frame or the ground.

Claim.—The posts or stakes A A, base B, in combination with the braces C C and tie E, when arranged in relation to each other and the rails D, as and for the purpose set forth.

63,291.—SIMON B. PARKER, New York, N. Y.—*Safety Attachment for Pocket Books.*—March 26, 1867.—A spiral spring enclosed in a case attached to the pocket book projects a needle or pointed rod through the pocket, and is secured by a catch on the book. It is used as security from pickpockets.

Claim.—A safety attachment for pocket books, composed of a sliding needle C, arranged and applied substantially in the manner as herein shown and described.

63,292.—WALTER S. PEPPER, Carlisle, Pa.—*Boot Jack.*—March 26, 1867.—A sloping heel piece is hinged on to a foot piece below, on which it can be folded back when out of use; and adjustable toe catch is kept in position by a spiral attached to a movable block, which is kept in place by two metal strips.

Claim.—A boot jack with the two parts hinged together at F, and the part B B, provided with a movable toe piece D, acted on by any suitable spring, substantially as specified within.

63,293.—ABRAHAM G. POLHAMEUS, Nyack, N. Y.—*Water-tight Iron Tank for the Protection of the Timbers of Steamboats.*—March 26, 1867.—Laterally extended close tanks are interposed between the heated surface of the furnaces and boilers and the wood work of the vessel. Water circulates in the tanks.

Claim.—The construction of the water-tight iron tanks, in which are maintained a constant change and circulation of water as the foundation of boilers and furnaces on steamboats to protect them against fire, substantially as herein described.

63,294.—E. N. PORTER, Morrisville, Vt.—*Mop Squeezer.*—March 26, 1867.—The slotted jaws of the squeezer are attached to a movable platform, and op-

erated by a treadle. The platform is set on casters, so as to be readily moved.

Claim.—The jaws D, lever H and treadle J, arranged and operated as herein described, in combination with the movable platform B, for the purpose set forth.

63,295.—E. P. PORTER and G. W. HALLET, Waterford, N. Y.—*Door Lock.*—March 26, 1867.—The spring catches are withdrawn singly by the key, and their spring pins retain them in that position; the bolt may then be shot.

Claim.—First, the spring catches H, whether more or less in number, in combination with the bolt B, when arranged together, substantially as and for the purpose described.

Second, the catch X, in combination with the bolt B, substantially as and for the purpose specified.

63,296.—AARON W. PRATT, Pultneyville, N. Y.—*Fence.*—March 26, 1867.—A wooden frame for a panel is filled with pales, which are held in position by wires made fast to the posts, and alternating on either side of the pales.

Claim.—The sill E, the posts A, the cap D, the pales *b* and the wire strands *c*, the whole arranged, constructed, and operating substantially as herein described.

63,297.—JOSHUA C. PRICE, New Philadelphia, Ohio.—*Bridle Bit.*—March 26, 1867.—The headstall and reins are attached to the opposite ends of movable and sliding levers, which run through the eyes of the bit; these as they are drawn through by the reins, increase the leverage on the jaw of the horse.

Claim.—The movable or sliding levers or sides B B, when applied substantially as and for the purpose set forth and described.

63,298.—DANIEL R. PRINDLE, East Bethany, N. Y.—*Composition for Destroying Insects.*—March 26, 1867.—Petroleum and coal tar are mixed to the consistency of paint, and used on a swab to destroy caterpillars and their nests.

Claim.—The composition of coal tar and petroleum, in the manner and for the purpose herein specified.

63,299.—DANIEL R. PRINDLE, East Bethany, N. Y.—*Hydraulic Paint.*—March 26, 1867.—Pulverized hydraulic lime is mixed with scalding "skim" milk to the consistency of paint. It is intended for coating brick work.

Claim.—A paint composed of pulverized hydraulic lime and skim milk, either with or without the addition of chrome yellow or other pigment, as herein specified.

Also, in combination with the above, the use of linseed flour, as set forth.

63,300.—DANIEL R. PRINDLE, East Bethany, N. Y.—*Preserving Wood and Timber.*—March 26, 1867.

—The timber is immersed in hot coal tar, and afterward coated with the residuum of the same, put on hot, and sand dusted upon it.

Claim.—The application of coal tar, common tar, or equivalent substance, or the ingredient thereof, to wood and timber successively, substantially as specified, as a new process of preserving the same.

63,301.—P. O'THAYNE, New York, N. Y.—*Ironing Machine.*—March 26, 1867.—The rotating iron is heated by a gas burner, and the calorific current passed off through the hollow shaft. The boxes of this journal are supported on spiral springs, and are depressed by a divaricated lever, operated by a treadle. The segmental plate to receive the linen has clamps for the attachment of the ironing sheet or article to be ironed, and may be oscillated by a hand crank.

Claim.—First, the construction and arrangement upon the frame A of the cylindrical revolving smoothing iron D, hollow shaft B, having its bearings in the yielding boxes *a*, which are provided with the standards *c*, adjustable rest *e*, forked lever E, rod *d* and treadle F, substantially as herein shown and described.

Second, the segmental platform G upon the end of the shaft H, provided with the clamps *g g*, flatboard

G', having the toothed rack I, pinion J, mounted upon the shaft i, when all are constructed and arranged upon the frame A, as and for the purpose specified.

63,302.—HENRY RECHER, Liberty, Ohio.—*Water Gate.*—March 26, 1867.—The pivoted gate is connected by levers to the float, so as to vary the sectional area of opening according to the height of water in the dam, and thus keep an equal flow upon the wheel.

Claim.—The arrangement and combination of the centrally-hinged gate F, with the connecting rod E, lever C and float B, all constructed and operated substantially as described.

63,303.—THOMAS RESTELL, London, England, assignor to CHARLES POMEROY BUTTON, New York, N. Y.—*Breech-loading Fire-arm.*—March 26, 1867; antedated March 13, 1867.—This breech-loading needle gun is convertible to use as a cane. The vent of the barrel has a nipple bored to receive the movable supporter, which is detached, and carried separately, when the weapon is used as a walking cane. The aperture is opened or closed by a sleeve, to which the needle guide is attached. The cylindrical hammer moves in a guide block, and is actuated by a spring lever and a trigger.

Claim.—The reciprocating hammer H, with its curved-inclined plane S and spring lever G, in combination with the sleeve C and tube E for operating the needle d, substantially as described for the purpose specified.

63,304.—AUGUST J. T. REUTER, Boston, Mass.—*Lemon Squeezer.*—March 26, 1867; antedated March 18, 1867.—The grooved ovoid knob on the end of the handle fits the inside of a half lemon or orange to extract the juice therefrom by pressure.

Claim.—A grooved bulb or knob, constructed substantially as above set forth, for the purposes herein specified.

63,305.—JOHN R. RICHARDS, Mount Joy, Pa., assignor to himself and A. L. MENNEZ, same place.—*Safe Lock.*—March 26, 1867.—The two sand boxes have adjustable communication to regulate the amount of sand transferred from the upper sand box to the lower in a given time. The gravitation of the lower box frees the operating shaft, by whose rotation the screw bolts are withdrawn.

Claim.—First, the twin sand boxes A A', or their equivalent gravitating force and regulating key H for timing the period that shall intervene before the bolt D and bolts W can be operated, so as to unlock the door by withdrawing or unscrewing them by simply turning the knob F, substantially in the manner and for the purpose specified.

Second, the socket, screw bolts W D, operated substantially in the manner and for the purpose specified.

63,306.—ORVILLE M. RIDGWAY, La Porte, Ind.—*Sash Fastener.*—March 26, 1867.—The sash has on one edge a friction block of rubber, and on the other a metallic spring ear bears against the casing.

Claim.—The combination of the metallic spring C, rubber block D, when constructed and arranged upon each of the sashes B, as herein set forth, for the purpose specified.

63,307.—A. W. ROBERTS, Hartford, Conn., assignor to P. JEWELL & SONS, same place.—*Leather Scouring Machine.*—March 26, 1867.—The leather is stretched upon the table, which is capable of a partial rotary and also a transverse motion in a horizontal plane beneath the reciprocating tools, which are adjustable as to angle and pressure.

Claim.—First, the rotating plate T, sliding plate T', guide way T'', or their equivalents, in combination with the table S', to produce a transverse movement of the table with the guide ways B'', substantially as described.

Second, in combination with the above the table S, to produce a universal horizontal movement of said table, substantially as described.

Third, the employment of an oscillating, adjustable tool holder with the arms H', for altering the angle of the tool, substantially as described.

Fourth, the altering of the angle of the tool, with or

without the use of the tool arms H', by means of the adjustable shaft H, or its equivalent, substantially as described.

Fifth, the employment of the springs K, secured to the arms H', and bearing upon the tool holders I, extending in an opposite direction from that to which the springs are secured, for the purpose of imparting pressure from one to the other, substantially as shown and described.

Sixth, the alternate action of the springs K, imparted from one to the other by raising either one of the arms from the table, substantially as described.

Seventh, the arms G G, in combination with the arms F F', arm E, rock shafts F F', and their connections, for lifting the tools from the table, substantially as shown and described.

Eighth, arranging the arms H', upon an independent shaft H, to more perfectly utilize their action.

Ninth, arranging the shaft H, in adjustable or sliding boxes H', whereby it can be elevated or depressed by screws c c, or their equivalents, for the purpose as shown and described.

Tenth, the employment of slide dogs P'', or their equivalents, for holding up the tools from the work while the tool stock C is in motion.

Eleventh, the employment of the screw e'', with the arm L, or their equivalents, for increasing the tension of the spring K, substantially as described.

63,308.—WILLIAM RUNTE, New York, N. Y.—*Tool Handle.*—March 26, 1867.—The supplemental ferrule connected to the other by a screw contains a central wooden plug to receive the tang of the awl.

Claim.—The combination of the plug D, and the adjustable ferrule or tube E, with the tool handle, substantially as and for the purpose herein shown and described.

63,309.—BENJAMIN RYDER, JR., South Orlingfoh, Me.—*Wagon.*—March 26, 1867.—The middle sliding bar of the reach is connected by the king-bolt to the forward axle and by a chain which passes around a pully on the bolster to the box frame at its midlength. By withdrawing the forward pin which holds the box in usual position the chain draws the box back till it is about evenly balanced on the hind axle convenient for dumping.

Claim.—The frame G, which supports the reach and allows the wheels to be extended forward, substantially as described.

Also, the rollers C D, and the chain h, arranged and operating substantially as shown and described, for the purposes specified in combination with the wagon body.

63,310.—LOUIS SAARBACH, Philadelphia, Pa.—*Tobacco Pipe.*—March 26, 1867.—The cup in continuation of the stem collects the saliva and prevents its passage to the bowl; the smoke passes through an orifice in the side of the cup.

Claim.—The tube c, in combination with the cup D, for the purpose described.

63,311.—RUFUS S. SANBORN, Ripon, Wis.—*Fire-proof Safe.*—March 26, 1867.—Improvement on his patent, July 17, 1866; reissued November 6, 1866. The water is introduced by pipes so as to half fill the vessels which are inserted in the walls of the safe, the tube passing to the center of the chamber. Steam generated by exterior heat is carried off by valves.

Claim.—First, introducing water vessels provided with steam valves into a fire-proof safe of any ordinary construction, said vessels being of such size and conformation as to adapt them to the form and dimensions of the safe in which they are placed.

Second, providing each of such water vessels with a tube t, reaching from any portion of the edge or perimeter to or toward the mathematical center of the vessel, as and for the purpose specified.

63,312.—B. B. SCOTFIELD, Woodhull, Ill.—*Wagon Brake.*—March 26, 1867.—As the brake bar is revolved by the lever its projecting curved shoe is brought into contact with the wheel.

Claim.—An improved brake formed by the combination of the revolving cylinder A, curved shoes C, and lever D, with each other, substantially as herein shown and described and for the purpose set forth.

63,313.—H. G. SEEKINS, Elyria, Ohio, assignor to himself, LEONARD B. GRIFFING, and ORANGE S. FRYAR, same place.—*Bed Bottom Spring.*—March 26, 1867.—The bar has longitudinal slots and the slats are separated by fulcrum blocks. The elasticity is distributed throughout its length instead of being concentrated in its middle.

Claim.—A compound bed spring consisting of the middle leaves A A', the upper leaves B B', and lower leaves C C', the several springs being supported by the fulcrum blocks d d', constructed and arranged as and for the purpose specified.

63,314.—DANIEL SHATTUCK, Buffalo, N. Y.—*Soap Compound for Cleaning Wool, &c.*—March 26, 1867.—Tallow, 150 lbs.; olive or cottonseed oil, 50 lbs.; flaxseed oil, 10 lbs., is saponified with lye; 15 lbs. of rye flour is saturated with water and mixed with boiling water, 15 galls. and lye of 5° strength, 5 galls.; mix with the former saponified mass and add lye of from 15° to 25°, then add spermaceti 2½ lbs.; isinglass, ¼ lb.; borax, 1 lb.

Claim.—A soap formed by the combination of the ingredients above described, substantially in the manner and proportions specified.

63,315.—C. W. SHERWOOD, Chicago, Ill.—*Folding Seat.*—March 26, 1867.—Improvement on his patent, November 6, 1866. To avoid noise in changing position of the folding seat, a piece of rubber introduced in the joint is compressed between the nave and the axle.

Claim.—The rubber spring e, or its equivalent, and the lug d, in combination with the axle C' and nave B', all constructed substantially as and for the purposes specified.

63,316.—J. A. SINCLAIR, Woodsfield, Ohio, assignor to himself, J. T. JUDKINS and W. HOLISTER, same place.—*Flour Sifter.*—March 26, 1867.—Flour from the hopper passes to the cylinder, through the meshes of which it is forced by the rotary spiral brushes. Refuse is discharged by a spout and the operative mechanism is arranged in a drawer which is removable.

Claim.—First, the combination of the two cylinders H and I, having lines of brushes M winding spirally around them in opposite directions, with sliding drawer E, substantially as herein shown and described for the purpose set forth.

Second, the drawer E, consisting of two hinged parts, e¹ and e², with opening on its upper side, registering with the discharge orifice of the hopper, having at its bottom the semi-cylindrical sieve G, swept by the spiral brushes M, and a passage at its rear opening into spout N, and constructed and operating substantially as described for the purpose specified.

Third, the combination of the sliding drawer E, with the box A, hopper B, and spout N, substantially as herein shown and described.

63,317.—THOMAS J. SLOAN, New York, N. Y., assignor to EZRA GILDERSLEEVE, same place.—*Window Blind Fastening.*—March 26, 1867.—A shaft passes through the window frame and is attached to a beveled cog wheel which engages an arm on the hinge of the blind, which is rotated thereby.

Claim.—The hinge having bevel cogs in combination with the shaft extending to the inside of the window provided with a bevel cog wheel, and the hinge shank constituting the hinge journal on which the blind turns, and the box in which the shaft turns, substantially as and for the purpose described.

Also, the combination of the hinge with its beveled cogs, the shaft with its beveled cog wheel, the spring spur on the knob and the plate or its equivalent, with the recess to receive the spur to lock the blind when either shut or open, substantially as described.

Also, the beveled recesses in the face of the locking plate, or the equivalent thereof, for holding the blind or shutter at any angle desired, in combination with the spring spur; the shaft and hinge connected by bevel gears, substantially as described.

63,318.—ALBERT C. SMITH, Fort Madison, Iowa.—*Self-Acting Gate.*—March 26, 1867.—The hub of a vehicle striking against a block pivoted on a short post elevates a latch bar and slides the gate endways.

The rollers of the gate traverse on rods, and it is closed by the hub of the vehicle striking the counter-part lever on the other side of the gate.

Claim.—The combination and arrangement of the gate A, lever E, and rods b d, and operated by the lever H H', with their cords r s, rod g, and pulleys, in the manner substantially as described, and for the purposes set forth.

63,319.—J. Y. SMITH, Pittsburg, Pa.—*Drilling Apparatus.*—March 26, 1867.—The rope is undulated between the parallel series of sheaves, those on one side being adjustable. The sheaves are moved by gears and worm wheels and pay out the rope at a given rate.

Claim.—First, automatically feeding a drill by means of the sheaves a and b, having motion imparted to them, substantially as described.

Second, the adjustable sheaves a, in combination with the non-adjustable sheaves b, when arranged to operate as set forth, for the purpose of holding the rope R, and feeding it out as described.

Third, the combination of the shaft E, provided with the wheel m, and worm wheels H, with wheels D, attached to the journals of sheaves a, all mounted in the rotating frame A, and arranged to be operated as set forth.

Fourth, the use of the within-described apparatus for feeding drills whether the same be rotated by the twist imparted to the rope, or by means of the ratchet I, substantially as described.

63,320.—D. H. SOUTHWORTH, New York, N. Y.—*Rice Hulling Machine.*—March 26, 1867.—The cone has projecting pins and adjustable elastic scourers upon its surface and revolves within the case of coniform shape.

Claim.—The conical drum D, provided with a series of teeth or pins g, and elastic plates and rubbers F F', on its periphery, arranged and operating essentially as specified.

63,321.—CHARLES F. SPENCER, Rochester, N. Y., assignor to himself and CHARLES W. BARKER.—*Lantern.*—March 26, 1867.—Explained by the claims and illustration.

Claim.—First, resting the globe C, with the top E, attached thereto, loosely in the open-topped guards B, so as to be raised and dropped at pleasure, as herein set forth.

Second, constructing the lantern with closed base and open-topped guards, for the insertion of both the lamp and globe through the top, as herein specified.

Third, the enlarged wheel c, so situated and arranged as to reach above the top of the base to be easily operated by the finger, as herein set forth.

63,322.—SAMUEL S. SPURGIN, Jacksonville, Ill.—*Riding Saddle.*—March 26, 1867.—The seat is strained between the pommel and cantle, and has an additional support by transverse, arched springs whose ends rest upon the side plates.

Claim.—The arrangement in the saddle of the springs G G, supported on the side plates and the elastic straining piece H, fastened to the springs and to the pommel and cantle respectively, substantially as described.

63,323.—JOHN STADERMANN and HENRY SAUERBIER, New York, N. Y.—*Breast Protector.*—March 26, 1867.—The protuberant breast pads are in frames, hinged on the median vertical line, and give an agreeable rotundity to the dress.

Claim.—The two wire-gauge or wire-cloth parts A A, swaged each with a protuberance a, and in such a form as to admit of being inserted in or attached to the garment, substantially as and for the purpose set forth.

Also, the connecting of said parts together by hooks and eyes, slides, elastic or other fastening, which will admit of said parts being connected and disconnected with facility, and still keep the parts in proper position, substantially as described.

63,324.—C. W. STAFFORD, Saybrook, Conn.—*Pavement.*—March 26, 1867.—The cells of the iron sections have wooden blocks and the adjacent sections are locked together by clamps and keys.

Claim.—Connecting and securing the sections of

the pavement together by means of the staples or clamps *a*, over pins or keys *b*, passing through horizontal slots in the vertical flanges, substantially as herein shown and described.

63,325.—HENRY STANLEY, St. Johnsbury, Vt.—*Reservoir for Cooling Grain and Flour.*—March 26, 1867.—Explained by the claim and illustration.

Claim.—A reservoir for cooling grain or flour when constructed by placing the posts thereof in zig-zag position, and surrounding them with wire-gauze or other porous material, thus forming air recesses *a* upon the outside of the body of the grain or flour, increasing the surface of the grain exposed to the air, substantially as described and for the purpose specified.

63,326.—JOHN S. STEPHENSON, Cleveland, Ohio.—*Apparatus for Carburetted Gas and Air.*—March 26, 1867.—The agitator wheel and fan are rotated by a spring and train of gearing; the fluid passes up siphon tubes from whose open ends it is blown in spray by jets of air.

Claim.—The combination of the tubes *H* and *T* with the agitating wheel *A*, and fan wheel *N*, and funnel pipe *F*, constructed as described, and arranged to operate in the manner set forth.

63,327.—DAVID STODER, Dayton, Ohio.—*Drying House and Oven.*—March 26, 1867.—Air passes through the flat convolute pipe in the furnace and thence is conducted to the chamber above, where the fruit is exposed on shelves.

Claim.—First, the metallic oven *A*, when the lower part is constructed with double walls, and the upper part is lined with wood in the manner substantially as described, and for the purposes specified.

Second, the air chamber *O*, when arranged with reference to the furnace *F*, and oven *A*, in the manner substantially as described, and for the purpose specified.

63,328.—C. C. STREMMER, Austin, Texas.—*Vitrography.*—March 26, 1867.—A warm solution of glue is applied to a surface of ground glass; this in drying contracts and brings away particles of glass, giving a frosted appearance thereto.

Claim.—The mode of ornamenting glass as herein described, by the application of glue or similar adhesive and contracting matter, and in this manner produce models for casting all and every kind of ornamental glass and glass ware.

63,329.—W. H. STROUP, Pittsburg, Pa.—*Runner for Chairs.*—March 26, 1867.—The upper edges of the runners have sockets to receive the feet of chair legs to adapt them for use on the ice.

Claim.—First, an improved runner, having adjustable fastenings attached to its upper edge, substantially as herein shown and described, and for the purpose set forth.

Second, making one of the fastenings adjustable longitudinally, substantially as herein shown and described, and for the purpose set forth.

63,330.—JAMES B. STUART, Banker Hill, Ill.—*Spring for Vehicles.*—March 26, 1867.—The lower leaves are rooted to the middle of the spring bar and the ends connect with those of the shorter sections which are connected to the ends of the said bar.

Claim.—The constructing of a side spring for wheel vehicles of three parts, *D D C*, connected together and applied to a spring bar *A*, substantially in the manner as shown and described.

Also, the securing or holding of the leaves of the parts *D D C* in contact, by means of clips or collars *c c'*, substantially as set forth.

63,331.—ABRAM S. SWARTZ, Buffalo, N. Y., assignor to himself and W. A. CASE, same place.—*Apparatus for Preparing Mash for Brewers and Distillers.*—March 26, 1867.—The vertical shaft of the rake is hollow, as are also the arms; through perforations in the latter a current of air and steam is poured for the purpose of boiling the wort, and subsequently a refrigerated stream of air for the purpose of cooling it. A stationary perforated pipe in the vat may be the medium of conveying the currents aforesaid.

Claim.—First, the combination of the air pump

H and conducting pipe *F* with the hollow shaft *C* and perforated rake head *E*, for the purposes and substantially as described.

Second, the combination of the receiver *G* and and cooler *M* with the conducting pipe *F*, hollow shaft *C*, perforated rake head *E*, and air pump *H*, for the purposes and substantially as set forth.

Third, in an apparatus for preparing mash for brewing, the combination and arrangement of the receiver *G*, steam pipe *O*, and steam and air pipe *N*, for the purposes and substantially as described.

Fourth, the shifting frame *V*, in combination with the clutches *T* and *U* and bevel wheels *R* and *S*, for the purpose and substantially as described.

63,332.—ELI SWEET, Whitney's Point, N. Y.—*Hay Loader.*—March 26, 1867.—A crane and single pulley rope are used in connection with a pitchfork, sliding tongue, and brake on the fore wheels in such manner that by the sliding of the tongue when it is tripped, the horses hoist the fork with the hay. The sheave around which the rope passes is attached to the sliding tongue and moves with it.

Claim.—The arrangement of the sheave in the sliding tongue, and moving therewith, the rope passing over said sheave, and connected at its respective ends to the fork and to the brake bar on the tongue hounds.

63,333.—PORTER L. SWORD, Adrian, Mich.—*Brick Machine.*—March 26, 1867.—Improvement on the patent of Sword and Tiffany, June 14, 1864. The clay is fed from the pug mill and passes under the adjustable inclined plate into the molds of the horizontally-rotating mold wheel. Near the end of the press plate is an adjustable knife whose edgeremoves the superfluous clay, and its elongated surface smooths the face of the brick. The wheels which support the bed and also those which work the followers are vertically adjustable. A collar fastened by a nut to the central shaft supports the inner ends of the axles of the wheels.

Claim.—First, the adjustable knife, when constructed with a cutting edge set opposite to and so near the press plate *H'* that there is merely room for the shaving of clay to rise between them, and having a cutting edge and elongated horizontal blade adjustably attached at both ends to and below the bed plate *H*, and resting upon the revolving mold wheel *S*, so as to perform the double function of cutting off the superfluous clay and smoothing the upper surface of the brick, substantially as described.

Second, so suspending the rods *O*, sustaining the wheels *N* and *L*, that they may be independently adjusted at both ends, substantially as and for the purpose set forth.

Third, the combination of a bed plate *H* and stationary shaft *U* with the rods *M* and *O*, wheels *N* and *L*, collar *Q*, bolts *Q'*, mold wheel *S*, substantially as and for the purpose set forth.

Fourth, the arrangement in a brick machine of a stationary shaft *U*, mold wheel *S*, revolving around the same and having gearing upon its periphery, and the driving spur pinion *R*, substantially as set forth.

63,334.—ISAAC P. TICE, New York, N. Y.—*Spirit Meter and Separator.*—March 26, 1867.—The upturned discharge pipe from the worm contains a hydrometer and is covered by a transparent cap to expose it to view. An upper branch of this pipe discharges air or vapor into the chamber containing the hydrometer. An excess of vapor turns a ratchet wheel which acts on a pivoted bar to give an alarm. The spirit runs alternately into one of the two compartments of the meter, which is pivoted on a balance bar so that the filling of a compartment depresses that end of the bar and shuts a valve in the supply chamber. This descent of the meter frees it to oscillate sufficiently to discharge its contents and present the other compartment for filling. This discharge from the meter allows its ascent and that of the valve of the supply opening. The number of oscillations of the meter is registered by an index. The meter automatically operates the four way cocks to direct a small quantity of spirit to the test cocks at each movement. The tilting trough operated by a lever determines to which cocks the spirit flows. The double set of cocks is furnished so as to permit the examination of the spirit by two inspectors. These test cocks

are under lock. The operating devices, except the hydrometer, are inclosed in double walls to preserve the spirit from chilling.

Claim.—First, the receiver B, provided with a lock- α or sealed transparent cap or cover C, when used in connection with a branch pipe H, communicating with the receiver, the worm A, and air discharge openings, substantially as and for the purpose set forth.

Second, a tilting or partially rotating meter R, arranged with or applied to a scale frame Q, to operate substantially in the manner as and for the purpose specified.

Third, a valve M, connected with and operated by the scale frame Q, when used in connection with the meter R, and arranged to work conjointly therewith, substantially as shown and described.

Fourth, the pin n on upright a^* , in combination with the notches $m\ m'$ in the circular end of the meter K, for the purpose of holding the meter in position while being filled, as set forth.

Fifth, the pin k on upright a^* , in combination with the pins $l\ l'$ on the end of the meter, to serve as steps to determine the quarter revolution of the meter, as set forth.

Sixth, the many-chambered or four-way cock W, arranged in connection with sample chambers $g\ g\ g'\ g'$, and operated from the meter, or other movable part of the device, for the purpose specified.

Seventh, the weight or counterpoise j , applied to the meter R, in combination with the scale frame Q, as shown and described.

Eighth, the adjustable spouts U B*, connected by a bar E', or its equivalent, so as to be operated simultaneously, as shown and described.

Ninth, discharging the air from a still into a receiver having a sinuous passage, substantially as shown in cover K, for the egress and ingress of air, as set forth.

Tenth, a locked or sealed cock D', when used in combination with a meter R, for the purpose specified.

Eleventh, the combination of the pipe or end A of the worm with the receiver B and pipe H, substantially as described.

Twelfth, the wiper or plunger E within the transparent cap cover or cylinder C, arranged substantially as and for the purpose specified.

Thirteenth, the alarm composed of the wheel I and the spring or click J, or their equivalents, when arranged so as to be operated by the air or gaseous vapor or contents of the still, substantially as shown and described.

Fourteenth, a case C*, constructed with double walls, or in any other manner, when said case is used with or incloses a meter, for the purpose of preventing the freezing of the contents of the same, as set forth.

Fifteenth, a meter, in combination with a sealed transparent receiver, substantially as and for the purpose specified.

Sixteenth, the combination of a meter, transparent receiver, and a locked or sealed cock, for the purpose specified.

Seventeenth, the adjustable spout U, in combination with the cock W, substantially as and for the purpose set forth.

63,335.—ISAAC P. TICE, New York, N. Y.—*Spirit Meter and Separator.*—March 26, 1867.—The meter has a box divided by a diagonal partition. As either side is filled the box tilts and brings the other side under the stream of spirit. The filling of a division raises a float within it and closes a valve to stop the flow of spirits into said meter. The separator is so arranged that the proof is registered, and whenever the strength falls to low wines a lever operated by the hydrometer moves a funnel so as to shift it to the other side of the V-shaped partition to separate the low wine for re-distillation.

Claim.—First, a revolving or tilting meter, hung or suspended on journals or pivots i , and divided into two compartments $m\ m'$ by a diagonal partition or diaphragm n , with discharge openings o , all arranged substantially as herein shown and described.

Second, the floats N, placed within the compartments $m\ m'$ of the meter, and arranged to operate a valve O, to regulate the supply or flow of whisky to the meter, substantially as set forth.

Third, the placing of the journals or pivots i of the meter within oblong boxes k , having springs l at their ends, substantially as and for the purpose specified.

Fourth, separating the high from the low grade whisky or spirits by means of a hydrometer, arranged with suitable mechanism in such a manner that the turning or tilting of the meter or other motor will transmit power through the intervention of a wheel stud or other device carried by the hydrometer to suitable mechanism, which will effect a diversion of the flow or discharge of the whisky or spirits into different receivers, according to its grade or strength.

Fifth, the employment or use of indicators or clock movements, in connection with the separating mechanism, substantially as and for the purpose specified.

Sixth, the hand G, of paper or other material, in connection with a hydrometer, and separating mechanism, substantially as and for the purpose set forth.

Seventh, in spirit meters, charging the paper which receives the record with preservative composition, substantially as described.

63,336.—ISAAC P. TICE, New York, N. Y.—*Meter Attachment for Stills.*—March 26, 1867.—Two or more meters are attached to a still, one to register the amount of distillate and the other the amount returned to the still for re-distillation. The difference shows the amount subject to tax.

Claim.—The combination of a plurality of meters with a still, to operate in the manner substantially as and for the purpose herein set forth.

63,337.—JAMES TILLINGHAST, Buffalo, N. Y.—*Railway Switch.*—March 26, 1867.—The movable rails are connected in pairs, and the points of the middle ones are expanded by spring bars to make the main track continuous unless otherwise determined by the switch lever. The middle switch rails which belong to the main track are capable of separate adjustment and the switch is set to the right or left turn-out, by the vibration of the switch lever in one direction or the other from the vertical.

Claim.—A triple switch for railroads, composed of the rails D D' E E', connected respectively by the cross bars b with the cross bar G, applied to the rails D D', through the medium of the oblong slots $d\ d$ and pivots a^* , and connected to the lever bar H by the spring I and the bars $c\ e$, connected by the spring F, and attached to the switch rails D D', all arranged to operate substantially in the manner as set forth.

63,338.—WASHINGTON TINGLEY, New York, N. Y.—*Drill for Wells.*—March 26, 1867.—The tubular tool has a diametric division which forms a cutting edge, whose ends are turned and follow the circumference so as to act upon the sides of the bore in concert with the curved edges at the throats of the channels which lead into the central channel.

Claim.—In combination, the Z-shaped cutting surface, composed of the parts $n\ ll$, and the curved reaming cutters m , whose edges on alternate sides are made oblique, so as to effect a drawing cut on the sides of the bore, substantially as shown.

63,339.—SAMUEL P. TOWNSEND, New Providence, N. J.—*Manufacture of Railroad Ties, Bridges, Buildings, Wharves, Fences, and other Articles of Galvanized Iron.*—March 26, 1867.—The sheet-iron forms, suitable to the use intended, are corrugated when necessary for strength, galvanized to preserve them from rust, and are then filled with earth, sand, or other unyielding material.

Claim.—First, a new article of manufacture for railroad ties, sills, foundations, structures in water, fences and buildings, fortifications, steps for stoops, piazzas, galvanizing sheathing for bottoms of vessels, ships, steamers, boats, &c., and the like, made of the materials and in the manner herein described, or any other substantially the same, and also for the galvanizing and preservation of railroad car wheels, axles, and machinery.

Second, the preservation of iron from oxydation or corrosion by galvanizing it, as above described, when used for the purposes herein mentioned.

63,340.—JAMES TRACY, Brewer's Village, Me.—*Saw Mill.*—March 26, 1867.—The chain of the timber-raising fork is connected to a series of cog wheels thrown into operation by friction wheels which are brought into contact by a treadle lever. A spring raises the lever and breaks the connection on the removal of the foot.

Claim.—Applying the spring *k'* to bent lever *K*, for the purpose of throwing the friction pulleys out of contact, substantially as described.

63,341.—JUSTUS A. TRAUT, New Britain, Conn., assignor to himself and JEREMY W. BLISS, Hartford, Conn.—*Endless Belt for Polishing.*—March 26, 1867.—The endless belt of fabric is coated with rubber, and emery is attached to its outer surface by some glutinous substance.

Claim.—As a new improved article of manufacture, an endless fabric rubber polishing belt, substantially as described.

63,342.—THOMAS J. WELLS, St. Anthony, Minn.—*Peat Machine.*—March 26, 1867.—Two concave grinding plates are mounted on revolving shafts which are rotated at different velocities. The peat from a hopper passes upon the casing between the grinding plates, and is forced into a reciprocating mold, which is brought alternately over the passage and a receptacle for the molded blocks of peat.

Claim.—The conical grinding plates *F F'*, rotating at different speeds, and inclosed within a case *G*, provided with a discharge spout *H*, substantially as and for the purpose set forth.

Also, the reciprocating mold box *I*, provided with the molds *b b* and the plungers *J J*, operated substantially as shown, in combination with the rotating conical grinding plates *F F'*, enclosed within the case *G*, provided with the spout *H*, all arranged substantially as and for the purpose set forth.

63,343.—AMOS WESTCOTT, Syracuse, N. Y.—*Fan Wheel Blower.*—March 26, 1867; antedated March 15, 1867.—The blower is rotated by a winch and a train of multiplying friction wheels. The air has ingress near the center and exit on the other side near the periphery.

Claim.—A fan wheel blower, propelled by friction wheels, as shown and enclosed within the parts *A J B*, constructed and made adjustable substantially in the manner described.

63,344.—JAMES M. WHITING, Providence, R. I.—*Device for Holding Horses.*—March 26, 1867.—The check connects with a windlass in front of the axle, which engages with the wheel when thrown into gear by the lever in front of the dashboard.

Claim.—First, combining with the wheel of a carriage a hitching apparatus, arranged in such manner that the winding up or shortening of the reins or other checking device shall take place only during the forward movement of the wheel, the said apparatus being disconnected from the driving gear during the backward movement of the carriage, substantially as shown and set forth.

Second, the combination with the windlass provided with a ratchet wheel, as described, of a driving pinion loosely mounted upon said shaft, and carrying a pawl engaging with the said ratchet wheel under such an arrangement that the said shaft shall be disconnected from the driving gear during the backward movement of the carriage, as set forth.

63,345.—A. F. WICKE and O. EVANS, Alliance, Ohio.—*Horse Hay Fork.*—March 26, 1867.—The prong is pivoted to a shank, and is brought in line therewith or projected laterally by connection to a lever above, which is pivoted to the said shank at a point above.

Claim.—The rod *A*, foot *B*, connecting rod *C*, and lever *D*, provided with the shoulder *C'*, when these several parts are constructed and operated as and for the purpose set forth.

63,346.—J. E. WIGGINS and DANIEL G. CROSBY, Stoneham, Mass.—*Heel Shaving Guard.*—March 26, 1867.—The guard has a ball and socket joint attachment to the pin, allowing a certain freedom of motion to the latter while the guard maintains its proper relation to the heel.

Claim.—First, the combination and arrangement of the guard *A* and pin *B*, when the two are constructed substantially in the manner described.

Second, the device of the ball and the socket joint when combined with the guard and center of a heel-trimming machine.

63,347.—JAMES W. WILKIE, Auburn, N. Y.—*Axletree.*—March 26, 1867.—The axle has no collar at the inner connection of the arm, the outer end of which has two shoulders, against one of which the box works, the other being a stop for the nut to avoid friction against the box.

Claim.—First, constructing the axle without a collar, and providing it on the under side of the arm with an oil chamber, as and for the purpose set forth. Second, the combination of the axle and box, when both are constructed as and for the purpose described.

63,348.—JAMES W. WILKIE, Auburn, N. Y.—*Axletree.*—March 26, 1867.—A collar is fastened on the spindle; a divided nut screws into the box and revolves therewith around the spindle, being prevented by the collar from slipping off.

Claim.—First, the employment of a divided nut, as and for the purpose set forth.

Second, the employment of a divided nut in combination with the arm of the axle as constructed, as and for the purpose described.

Third, the box as constructed in combination with a divided nut, substantially as set forth.

63,349.—GEORGE WILLARD, New York, N. Y.—*Steam Plow.*—March 26, 1867.—The spades and harrow teeth following are fixed to longitudinal bars whose ends have a revolving motion in a vertical plane by crank shafts actuated by chains, and chain gear wheels connected with the axle. The series of spade bars are supported on a vertically adjustable frame, and descend in consecutive order. Colters precede the spades.

Claim.—First, in combination in a steam or other plow, as described, of the bars which carry the spades and other mechanism for breaking the ground, with the crank shaft for operating the same, under the arrangement herein specified, so that the said bars, while alternately and successively moved toward and away from the earth, shall at all times maintain their parallelism with the surface passed over by the machine.

Second, the combination in the movable and adjustable plow frame of the colters, with the vibrating spades and harrow teeth, under the arrangement and for operation as set forth.

Third, the combination with the stationary plow frame, of the movable frame and the cams, and their operative mechanism for adjusting the same frame to different elevations above the ground, the whole being arranged and operating as herein shown and specified.

Fourth, the herein described mechanism for adjusting the movable plow frame, the same consisting of a series of cams arranged and connected with the stationary and movable frame on each side of the plow as described, and operated by means of a shaft mounted in the stationary frame and provided with a ratchet and pawl so that the movable frame may be elevated and lowered, or held at any desired distance from the ground, substantially as shown and set forth.

Fifth, the method of and means herein described for directing the movements of a steam plow or other like machine—that is to say, mounting the wheels of said machine upon their axles or shafts in such manner that each wheel and its respective axle may revolve together or independently of each other, substantially as and for the purposes set forth.

63,350.—C. S. WILLIAMSON, Covert, N. Y.—*Securing Cutters to Sickle Bars.*—March 26, 1867.—The cutter has a tapering tang with dovetailed edges fitted into a recess of the cutter bar, and held in place by a screw.

Claim.—The cutter *B*, having shoulders *e*, resting against the sickle bar *A*, with tapering shank *c* fitting in groove *a* of the sickle bar, forming a dovetail joint, in the manner described, and for the purpose specified.

63,351.—JAMES A. WOODBURY, Boston, Mass.—*Valve for Steam Engines.*—March 26, 1867.—The induction valves have a series of steam passages arranged with reference to the openings in the walled ports. These valves are operated separately from the exhaust valves, and may be regulated by the governor to cut off at any part of the stroke.

Claim.—The valve constructed as described, and arranged with reference to the openings in the walled

ports upon which it works, substantially as described, which arrangement enables me to regulate the movement of the induction valves, so as to cut off the steam at any desired part of the stroke of the piston, without reference to the exhaust valves.

63,352.—JAMES A. WOODBURY, Boston, Mass.—*Valve for Steam Engines.*—March 26, 1867.—The independent sections of the valve may be moved in unison by means of a yoke, which is attached to each and yet allowed to expand separately so as to accommodate themselves to the valve seats.

Claim.—The combination of two or more valves, with intermediate walls, when constructed and operating substantially as and for the purpose set forth.

63,353.—CASPER ZWICKI, Chicago, Ill., assignor to JAMES J. WALWORTH and GUSTAVUS E. BUSCHICK.—*Loom.*—March 26, 1867.—Springs and links prevent jar of the lathe when the loom is run at high speed. Other springs stop the shuttle and prevent recoil, and keep it in proper position to receive the blows of the picker. A block in a cam is susceptible of adjustment radially to regulate the length of stroke of the picker staves.

Claim.—Combining with the shuttle race, and with the cranks and connecting rods which actuate it, the links D', when upheld by spring braces capable of vertical adjustment, and which, acting by their elasticity, ease the movements of the shuttle race, substantially as described.

Also, in combination with the shuttle race, the springs H, at either end, arranged over the top of the shuttle path, and provided with means for vertical adjustment, substantially as described.

Also, in combination with the picker staff of a loom, the cam N, when provided with the adjustable piece c, substantially as described.

63,354.—HAWLEY ADAMS, Stamford, Conn., assignor to himself, W. H. COBANKS, and H. THEALL, New York N. Y.—*Grate for Furnaces.*—April 2, 1867.—The bars of the grate are obliquely arranged viewed in the plan, instead of being parallel with the sides of the grate.

Claim.—A grate for furnaces having bars B extending diagonally across the grate-frame in an unbroken line, in the manner herein set forth.

63,355.—Z. G. ALLEN and G. W. MARSHALL, Buffalo, N. Y.—*Smut Machine.*—April 2, 1867; antedated March 18, 1867.—The grain is admitted above the upper concave and thence passes to the lower one which is of greater diameter, being subjected during its passage to the action of spiral beaters and the adjustable, obliquely corrugated peripheral plates of the case. The draft is upward, being effected by spiral wings and a fan above.

Claim.—First, the combination of the upper and lower concaves H K, the former of lesser diameter, with the beaters D D, or their equivalent, when arranged and operating in the manner specified.

Second, the adjustable beater slats D D, in combination with the concave formed of the obliquely corrugated iron plates or sections I I and J J, substantially as described.

Third, in combination with the fan E and beater shaft B, the spiral wings c c, operating substantially for the purposes described.

63,356.—JOHN N. ARVIN, Valparaiso, Ind.—*Wrench and Tongs.*—April 2, 1867.—The shank of one jaw passes transversely through the shank of the other jaw, being actuated by a lever pivoted to a lug on the last mentioned shank.

Claim.—The arrangement and combination of the levers A B, straps C, spring D, jaws O P, and shank m, when constructed substantially as and for the purpose specified.

63,357.—B. F. BAKER, Milton, N. Y.—*Horse Yoke Harness.*—April 2, 1867.—The horses are hitched to the rear ends of the yoke arms and push against the neck yoke, which is connected by a chain to the tongue near the axle.

Claim.—First, so constructing and applying a horse yoke harness that the pressure or draft is brought evenly upon the shoulders or breast of the horse or horses instead of upon the upper part of their necks, substantially as described and shown.

Second, the suspension of the bow or bows in a nearly horizontal position from the hame or collar by the means substantially as described and for the purpose set forth.

Third, the diagonal or oblique back straps or tugs with one of their ends attached to the hame or collar and their other ends attached to the extremities of the bow, substantially as described.

Fourth, the central draft chain and short tugs, in combination with the bows and evener, applied substantially as described, for the purpose set forth.

63,358.—JOHN BLOCHER, Buffalo, N. Y.—*Running Gear of Land Carriages.*—April 2, 1867.—The wheel is fast to its spindle, which revolves in a clip and socket attached to the axle, the collar and nut on the spindle regulate the longitudinal position.

Claim.—In combination with the revolving wheel shafts a and axle d, the clip e, and collar f, and nut i, arranged and operating substantially in the manner and for the purposes set forth.

63,359.—ELIAM BOORSE, Philadelphia, Pa.—*Lantern.*—April 2, 1867.—Two of the wires of the guard frame are extended down through the base and form spring catches to connect the two portions of the lantern.

Claim.—The guards D D, when adapted to constitute springs to retain the chimney or globe upon the base A, substantially as described.

63,360.—DANIEL BOWMAN, Knoxville, Tenn.—*Mill-stone Dress.*—April 2, 1867; antedated March 28, 1867.—Explained by the claim.

Claim.—The mill-stone dress herein described, the same consisting of the upper stone having deep square-edged channels in the back, and feathered to the front side, and the lower stone with broad equally shallow furrows throughout and narrow lands, substantially as described, for the purpose specified.

63,361.—FREDERICK BUCKNAM, Portland, Me.—*Dish-pan and Drainer.*—April 2, 1867.—The drawer has an inclined bottom and slips on the track in the pan. A rack above the drainer receives the dishes.

Claim.—The combination with the pan A, constructed as described, of the slide drainer e having the rack c, all arranged and operating as and for the purposes set forth.

63,362.—BELLUS CALKINS and VERANOUS CALKINS, Varsburg, N. Y.—*Portable Fence.*—April 2, 1867.—The slats are pivoted at the ends where they connect with bars and to one another at their central point of junction so as to raise or lower at will. The supporting braces are hinged at top where they straddle the fence and are attached at bottom to stakes in the ground.

Claim.—First, a portable fence, made in sections, constructed in the manner and substantially as herein described.

Second, the combination and arrangement of the hinged brace bars D D and stakes E E, forming a portable brace for fences, constructed and adjusted in the manner substantially as herein set forth.

Third, the combination and arrangement of the foundation posts B, folding fence A A', top and bottom connecting bars F' and B', and adjustable braces D E', in the manner and substantially as herein described.

63,363.—J. CAMPBELL and A. D. KREWSON, Harrison, Ohio.—*Farm Gate.*—April 2, 1867.—The fixed latch pin is a continuation of one of the rails; slides up an incline on the post and is engaged by the notch in the gravitating latch plate. The eye shank of the upper hinge is extended to form a tension bar to adjust the gate after settling. The dogs pivoted on the lower bar vary in length to suit inequalities of the ground.

Claim.—First, the fixed tongue or latch a, in combination with the elevated plateau on which it rests, approached by the inclined planes on one or both sides, as and for the purpose set forth.

Second, the same in combination with the drop latch D, boxed into post C, and sliding perpendicularly therein, as set forth.

Third, the elements of the first claim, in combination with the screw-threaded and tapped shank H, of

the eye of hinge *b*, forming a brace rod by which the gate may be strained up should it sag.

Fourth, the provision of the dogs *w w'*, for holding the gate in an open position.

63,364.—JOHN COCHRANE, Wall township, N. J.—*Machine for Making Screws.*—April 2, 1867; antedated March 24, 1867.—The rolls have threads upon their peripheries corresponding in reverse to the shape of the required screw thread, and have the proper inclination to give the pitch of the thread by the inclination of the roll shafts. One of the dies has a denuded portion to admit the blank.

Claim.—First, the combination with each other of two rolls or revolving dies having projecting threads of proper form and arrangement upon their peripheries to produce the required screw upon the heated blanks, and working at the proper angle for the production of such screws, and having a denuded portion of reduced radius in the periphery of either or both of said rolls or revolving dies so as to permit the introduction of the blank bolts between them at the proper moment in each revolution, substantially as herein described.

Second, the combination with each other of two revolving rolls or dies, having the threaded portion of the periphery of either or both of them so formed or shaped as to produce, at each revolution, a screw of uniform diameter, or tapering or gimlet pointed, as may be required, constructed and operating substantially as herein described.

Third, the combination with each other of two rolls or revolving dies, having annular threads or portions thereof upon their peripheries of suitable form for making screws upon blanks and mounted upon axes or spindles that are so inclined to the axis of the bolt upon which the screw is to be formed as to make such annular threads conform to the angle of such required screw, whether such rolls are mounted on stationary bearings, or upon bearings that are so constructed and operated as to give a lateral movement to the rolls or revolving dies, to and from each other during the progress of the work as required in receiving the blank, and in making a screw thereon, or for imparting to the screw a uniform diameter, or a tapering or gimlet-pointed form, substantially as herein described.

63,365.—JOSEPH C. COULT, San Francisco, Cal.—*Apparatus for Concentrating and Condensing Volatile Metallic Substances.*—April 2, 1867.—The furnace is surrounded by a water chamber and leads into a tortuous flue surrounded by a water chamber having divisions through which the water circulates. This flue communicates with a water tank, after passing which the air is conducted to another flue in which the draft is accelerated by a steam blast.

Claim.—First, the arrangement of the furnace having fire on two sides, and the openings leading to the ore chamber, substantially as described and for the purposes set forth.

Second, the soot and spark chamber and the dry compartments having a continuous supply of cold water surrounding them to hasten condensation and concentration of volatile mineral substances, as described substantially and for the purposes set forth.

Third, the combined arrangement, broadly, as an improvement upon the Cault and Roach concentrator and condenser for the reduction of quicksilver ores, and the use of steam or water to produce draft to accomplish the same, all substantially as in the specification described and for the purposes therein set forth.

63,366.—CHARLES DANIELS, Birmingham, Conn.—*Hoop Skirt.*—April 2, 1867.—The upper portion of the skirt is of fabricated material and the connecting ring between it and the tapes is extensible on a central enclosed hoop.

Claim.—The combination of the fabricated part *B* with the hoops below when made adjustable, substantially in the manner specified.

63,367.—JOSEPH DARBY, Cortlandville, N. Y., assignor to himself, STEPHEN BREWER and WILLIAM W. WINTER, same place.—*Roofing Cement.*—April 2, 1867.—Composed of ground plaster, 1 qt.; water lime, 3 qts.; sand or gravel, 2 qts.; coal tar, 2 qts.; and sulphur, 2 oz.

Claim.—As a cement for roofs, walks, and other surfaces, the herein described composition of matter.

63,368.—F. W. DAVIDSON, Cleveland, Ohio.—*Steam Engine Valve.*—April 2, 1867.—The valves are of cylindrical form. The upper valve is connected with the governor and has a diametric longitudinal opening for the passage of steam; the lower valve has a similar opening for induction and has parts of its peripheries cut out for exhaust.

Claim.—The arrangement of the valves *D* and *E*, with reference to each other and the arrangement of the ingress and egress steam passages upon the principle and in the manner as herein set forth.

63,369.—JOHN DEERE, Moline, Ill., assignor to DEERE & Co., same place.—*Making Plows.*—April 2, 1867.—A brace connects the wing of the share with the landside. The template fits against the landside, and its curved edge forms a gauge in the conformation of the share.

Claim.—First, the welding brace *A*, constructed and arranged for use in the construction of plows, substantially as and for the purpose set forth.

Second, the template or test plate *T*, when constructed and adapted for use in the manufacture of plows, substantially as set forth.

63,370.—DANIEL A. DENISON, Troy, Mich.—*Gate.*—April 2, 1867.—The duplicate hooks on the opposite sides of the gate have a common shank, and serve in combination with staples to attach together the sliding gates.

Claim.—First, a gate latch formed by duplicate hooks *C* attached to common shank *C'*, operating simultaneously on both sides of the gate, substantially as set forth.

Second, the combination of the sliding gates *A A'*, double posts *B*, rollers *B'*, latch *C* and eyes *D*, substantially as set forth.

63,371.—DRAKE W. DENTON, Ithaca, N. Y.—*Roofing.*—April 2, 1867.—Coal tar is combined with sand, ground rock, &c., and has a thin layer of stuffing between it and the roof board to prevent cracking from shrinking of the sheeting.

Claim.—First, the use of wood-fiber matting, or other cushioning, padding, or matting material, not woven, made into paper, or felting, when used for the purpose of separating the roofing material from the roof board, and thus making the coal-tar roofing independent of the variations of the board by swelling and shrinkage, as described.

Second, I do not claim the mere use in roofing of hydraulic lime, but I do claim its use, substantially in the proportions herein described, for the purpose of so drying any convenient roofing material or mixture with coal tar, so that it shall prevent the flowing, settling, or sliding down of the coal-tar roofing, as described.

63,372.—WARREN W. DUTCHER, Milford, Mass.—*Loom Temple.*—April 2, 1867.—Improvement on the patent of H. Kayser, April 24, 1866, (No. 54,269). The disks between which the toothed wheels are placed, have arms perforated for the traverse of the supporting rod. The disks have recesses and journal pins to receive the wheels. The disk arms are angularly concavo-convex in transverse section to insure a rigid connection.

Claim.—As my improvement the combination as well as the arrangement of the disks or sections *b*, with a series of arms *d* to extend from them, substantially in manner and for the purpose of supporting them when together or in their proper relations to each other and the toothed wheels, as set forth.

Also, the application of each arm or wheel-carrier section to that, or the end support next to it, so that they shall so interlay or interlock with and support one another as to prevent one from being revolved or turned on their connection rod independently of the other when they are close together thereon, as described.

Also, each of the said arms, as constructed, with the aperture for receiving the supporting rod.

Also, the arrangement of the supporting rod with respect to the arms and the end supporters, viz: so as to go through all of them, and aid in fastening them together, as explained.

Also, each disk or divisional plate as made with a wheel-receiving recess *l* and journal *c*, arranged in it, as set forth.

63,373.—ALFRED E. ELY, Newton, Mass.—*Machine for Separating Fibrous Substances from Seed.*—April 2, 1867.—The elastic rolls seize and carry off the fibers; the other devices detain and remove the seeds, kernels, &c. The material is fed up to the grates, and the fiber drawn through by the roll; adhering seeds are removed by the obliquely-presented plates, or subsequently at the throats between the surfaces of the rapidly revolving roll and the successive more slowly revolving rolls. Plates cleanse the rolls of adhering material, and offers remove the fiber.

Claim.—First, an elastic roll, in combination with a concave grating E, substantially as described.

Second, an elastic roll, substantially as described, in combination with flat plates *a b c d*, &c., whether one or more, and whether with plain or serrated edges, when arranged and operating substantially as set forth.

Third, an elastic roll, substantially as described, in combination with hard rolls B C, or either of them, and whether smooth or corrugated, when arranged and operating substantially as set forth.

Fourth, an elastic roll, in combination with flat plates *a b c d*, &c., whether one or more, and whether plain or serrated, and hard rolls B C, or either of them, whether smooth or corrugated, arranged and operating substantially as described.

63,374.—H. A. ENGELS, C. H. ENGELS, and JOHN WIELAND, San Francisco, Cal.—*Malt Drying Apparatus.*—April 2, 1867.—The grain is fed by an endless conveyor, and continuously passed along each floor, and from floor to floor by automatic motions. The transverse blades which impel the grain are attached to arms, which revolve in the plane of their length, and thus act as intermittent shovellers. These forwarders rotate in different directions on the consecutive floors, so as to give a zigzag downward course to the grain, which drops to the floor below, after each impulse.

Claim.—First, the mode of malt drying, in which the grains are mechanically carried into and spread about the kiln, then therein turned and propelled by rakes, and at the same time submitted to a current of hot air, combined with the heat of steam pipes, in a manner substantially as described above.

Second, the combination and arrangement of elevator *h*, worm *p*, picking shaft *g*, kilns *i*, rakes *b*, shafts *r r*, funnels *a a* and *d d*, steam pipes *k k*, hot-air pipes *l n o o*, flue *m*, and chute *e f*, in a manner and for the purpose described.

63,375.—LEWIS FAGIN, Cincinnati, O.—*Steam Generator.*—April 2, 1867.—Horizontal boilers are arranged in vertical series with flues between them for the caloric current; the boilers are connected together by vertical necks and transverse horizontal tubes. Horizontal partial divisions give the caloric current a serpentine course downward.

Claim.—The arrangement of either cylinder or tubular boilers, one under the other, with the flue spaces between them arranged so that heated air shall pass under and between each successive tier alternately from the upper to the lower, the tubes or boilers being connected by vertical necks and transverse tubes D, as described and for the purpose set forth.

63,376.—LORENZO D. FERGUSON, Corning, N. Y.—*Burning Fluid.*—April 2, 1867.—Composed of benzine of 70°, 39 galls.; linsced oil, $\frac{1}{2}$ gall.; spirits of turpentine, $\frac{1}{2}$ gall.; pulverized rosini, 2 lbs.; melted bees-wax, 1 lb.; gum camphor, $\frac{1}{2}$ lb.; pulverized alum, $\frac{1}{2}$ lb.; sal soda, $\frac{1}{2}$ lb.

Claim.—A carbonized benzine fluid for illuminating purposes compounded of the ingredients or equivalents in the proportions substantially as described.

63,377.—JOSIAH FISU, Smelser, Wis.—*Plow.*—April 2, 1867.—Side plates and bolts connect the tongue to the beam, forming a hinge joint for the adjustment of depth of furrow. The plows are attached by bars to the beam, which is midway between them.

Claim.—The plate connecting the tongue and beam, marked Fig. 1, together with the plate attaching the team to the plow, and bars that the plows are attached to, for the uses as set forth in the description and specification.

63,378.—F. G. FLOYD and E. A. FLOYD, Macomb, Ill.—*Broad-cast Sower.*—April 2, 1867.—The bag of grain is carried on the shoulder, and the seeders revolved by hand. The seed opening is gaged by a slide, and the seed scattered by the rotary flanged disk.

Claim.—First, the revolving disk *d*, provided with the radial flanges *h*, having their outer ends projecting beyond the periphery of the disk, and curved in the manner shown, substantially as set forth.

Second, the combination of the frame *a*, hopper *b*, slide *i*, and revolving disk *d*, constructed as above set forth, all arranged for joint operation as herein described.

63,379.—ALBERT A. FREEMAN, Philadelphia, Pa.—*Axle Box.*—April 2, 1867.—Vertical V-shaped ridges on the hanger occupy corresponding depressions in the sides of the box, so as to maintain the latter in its proper position, and allow it free vertical movement. The guides can be set up or removed as they become worn.

Claim.—The V-shaped guides B B, adapted to and combined with the hanger A and box C, substantially in the manner and for the purpose described.

63,380.—CHARLES J. B. GAUME, Davenport, Iowa.—*Electro-Magnetic Engine.*—April 2, 1867.—The series of electro-magnets on the periphery of the wheel attract successively the iron plates on a wheel journaled in the same axis. A continuous wire is wrapped upon the series of cores, and the motion of the magnet wheel is the means of alternately making and breaking the circuit.

Claim.—The arrangement of the wheels F F, provided with the electro-magnetic coils, as described, with the wheel E, provided with the duplicate set of iron plates *k*, arranged radially as set forth, operating through the medium of the alternate battery connection and disconnection, substantially as described.

63,381.—JACOB HAGE, Shiloh, Ill.—*Plow.*—April 2, 1867.—The mold board and share are thicker at the front edge, and are made in one piece with the landside.

Claim.—First, as a new article of manufacture, the plow B when formed of one single piece of metal, substantially as described and set forth.

Second, the plow B, when constructed with an excess of metal in that side of the mold board and share nearest the landside, substantially as described and set forth.

63,382.—WILLIAM M. HALL and JOHN JOHNSON, Barrington, N. Y.—*Hay Loader.*—April 2, 1867.—The gear on the driving wheel, when in gear with the pinion of the spool, winds the rope that runs on the pulleys attached to the crane from which the horse-hay fork is suspended. The spool frame is lowered as required to engage its pinion with the device. The tines of the fork are clasped by throwing the weight on the central stem which latches in the head piece, and are opened by unlatching the stem and throwing the weight upon the outer cords.

Claim.—First, the fork head M, provided with the arched guide *m*, in combination with the hinged clasps N, having the cross-bars *n* attached thereto, stem O *o*, and socket K, when the several parts are constructed and arranged to operate substantially as and for the purpose described.

Second, the detachable driving spur wheel F, constructed and applied as described, in combination with hollow crane post B, provided with the hinged adjustable crane arm C and jointed arm D, upon which is mounted the spool G and its driving pinion, the whole arranged and operating substantially as and for the purpose specified.

63,383.—O. HANKS, Cincinnati, Ohio.—*Bag Holder.*—April 2, 1867.—The cross-frame, like a saw buck, travels on rollers, and at the upper ends of its arms has pins to hold the bags which are hooked to them.

Claim.—The side pieces A A A A, the cross-pieces B B and C C, the pins or hooks D D D D, the wheels or rollers F F F F, the bolts or pins E E, the whole being combined in the manner and for the purpose as herein set forth.

63,384.—GEORGE D. HART, Lycoming county, Pa.—*Cultivator*.—April 2, 1867.—The blades are attached to twin standards, one leg of each being hinged by the adjustable plate below the frame, and the other end passing through a socket to be fastened above by a wooden key; on meeting with an obstruction, the key breaks, allowing the blade to swing back. The plates with their attachments are adjustable as to relative distance under the frame and as to divergence by sliding the slotted end of the frame in front.

Claim.—The combination of the standards A, attached to the plate C by hinge and standards A', with its tenon at the upper end, as shown in Fig. 1, with the blades or cutters B, the plates C, when provided with the slots g and the notches h and the frame or support O, all constructed and arranged substantially as described and set forth.

63,385.—HAYWARD A. HARVEY, New York, N. Y.—*Wire Staple*.—April 2, 1867.—Alternate indentations and protuberances are formed in each leg of the staple to increase the hold in the wood.

Claim.—A staple with the legs thereof formed with protuberances and depressions, substantially as described.

63,386.—C. F. HERRICK, Independence, Iowa.—*Curtain Support*.—April 2, 1867.—The band is held by a spring in the fastener, and runs over a roller attached to a clamped strap surrounding the rod of the curtain.

Claim.—First, the spring P, points a, and back piece A' constructed and arranged as set forth in combination with the band C, for the purpose specified.

Second, the strap B, clamp d, roller e, and band C, arranged and operating as and for the purpose described.

63,387.—P. J. HERSHEY, Clarence, N. Y.—*Well Tube*.—April 2, 1867.—The lower end of the tube enters the shield to cover the fine slits therein while driving, and the tube closes the key slits when drawn sufficiently to uncover the fine slits for the entrance of the water.

Claim.—The shield A, having fine slits B made therein for the entrance of water below the coarse or key slits, in combination with the coarse or key slits D', which are kept closed by the tube C in all the movements thereof in the shield, substantially as set forth.

63,388.—JACOB C. HORTON, New York, N. Y., and SAMUEL K. HAWKINS, Lansingburg, N. Y.—*Apparatus for Measuring Fluid*.—April 2, 1867.—The stems of the induction and eduction valves at each end of the cylinder are connected by a lever pivoted at its midlength, and having a perpendicular arm arising from the pivoted part. The guide ledges and springs of the reciprocating plate which is connected to the ends of the piston rod operate the valves by this perpendicular arm whose upper end passes along one side of the central ledge, and at the end of the stroke is transferred by the spring to the other side.

Claim.—First, in combination with the measuring cylinder, reciprocating piston, the valves a b c d, and oscillating cross-bars k, with arms k', and connecting rods l, the reciprocating plate C, with ledges and springs as described to operate the valves, all being constructed and arranged substantially in the manner set forth.

Second, in combination with a measuring cylinder and reciprocating piston, as described, an induction and eduction valve at each end of the cylinder, so constructed and arranged that they will be automatically opened and closed by the movement of the piston in the order herein set forth, whether described by the precise mechanism herein described or by any other equivalent mechanism.

Third, in combination with a measuring cylinder with induction and eduction valves, as described, and a reciprocating piston, the reciprocating plate C, with ledges and springs, substantially as described, to operate the valves by means of any suitable connecting mechanism between said plate and the valves.

Fourth, the reciprocating plate C, with ledges and springs, substantially as described, as a means of operating valves to regulate the flow or passage of any

kind of liquids or fluids, whether in a meter or other machine to which the same may be applicable.

63,389.—JAMES L. JACKSON, New York, N. Y., assignor to DAVID N. ROPES, Orange, N. J.—*Fan*.—April 2, 1867.—The handles are pivoted to the leaves at the small end, and corresponding in shape are a protection to them when shut. The leaves are connected by straps passing through slots therein.

Claim.—The fan with its outer leaves a a' connected to the adjacent leaves by straps d, and the remaining leaves retained by straps g g', whereby the outer leaves protect and enclose all the leaves when closed and form a handle for the fan when extended, substantially as represented and described.

63,390.—GUSTAVUS A. JASPER, Charlestown, Mass.—*Apparatus for Sifting and Separating Sugar*.—April 2, 1867.—The reciprocating sieves are arranged in a frame one below the other. One end of each sieve is left open to allow the sugar to fall on the discharge spouts, which are arranged alternately on opposite sides of the frame. The sugar passes alternately through the sieves and conducting troughs, and is discharged below.

Claim.—The arrangement of chutes, sieves, discharging spouts, and mechanism for operating such sieves, substantially as described.

63,391.—W. JEGGLE and L. A. BROOKS, Chicago, Ill.—*Condenser*.—April 2, 1867.—A series of cones are attached to the extremity of the exhaust pipe, so that the steam is condensed in the spaces between said cones, and is returned through the medium of pipes attached thereto to the reservoir from which the boiler is supplied.

Claim.—The arrangement and combination of the cones A C D E, pipes H K and F, when the whole is constructed substantially as and for the purpose set forth.

63,392.—MELVIN JINCKS, Danville, N. Y.—*Boring Bits*.—April 2, 1867.—The shank of the bit carries countersink tools, a gage and a boring bit, which can be changed as desired.

Claim.—The shank A, as constructed in combination with the gage f, cutter g, marker e, and an adjustable bit, substantially as and for the purpose described.

63,393.—CHARLES C. JOHNSON, Springfield, Vt.—*Clothes Pin*.—April 2, 1867.—The spring jaws are attached by a thin metallic plate, the ends of which are bent to fit the eyeslets.

Claim.—The metallic eyelet hinge connection made and applied to the two levers of the clothes pin, substantially as described.

63,394.—JOHN JOHNSON, Saco, Me.—*Collecting Gold from River Bottoms*.—April 2, 1867.—The short leg of the siphon is placed in contact with an auriferous sand bank, and its longer leg has exit at a lower level to discharge the said sand and water upon the concentrator and saver. A simple pipe with an artificial current therein may be used where no fall is feasible.

Claim.—The system herein set forth for the recovering of gold from the beds of rivers.

63,395.—ERNST KAMSIUS, Davenport, Iowa.—*Stovepipe Damper*.—April 2, 1867.—The valve has semi-rotation in the drum and acts as a deflector. Scrapers on the valve and drum act as stops, and serve to clean the vertical sides of the drum and valve respectively.

Claim.—The form of the valve B and C, with the scraper E attached to clean the inside of cylinder F. Also, the scraper D, attached to cylinder F, for cleaning outside of valve B.

Also, the damper drum as a radiator and damper combined, all as herein set forth.

63,396.—FREDERICK KOPFENFELS and GUSTAV BRUECK, New York, N. Y.—*Fan*.—April 2, 1867.—A perforated sachet is secretly attached to the fan for perfuming the air while the fan is in motion.

Claim.—The combined fan and perfumed sachet, constructed as specified, as a new article of manufacture.

63,397.—CHRISTIAN KUDER, Rochester, N. Y.—*Clothes Stick*.—April 2, 1867.—The prongs on the end keep the clothes from slipping off the stick, and the collar keeps the water from running down the stick to the hand.

Claim.—As a new article of manufacture, the laundry or clothes stick S, constructed substantially as herein shown and described, with the ring or rim r, and hooks or points i, for the purposes set forth.

63,398.—ISAAC LAMPLUGH, Peoria, Ill.—*Shearing and Punching Machine*.—April 2, 1867.—The shear blade has a backward projection, to which the punch lever is pivoted so as to work simultaneously with it.

Claim.—The improved combined punching and shearing machine, constructed and operating substantially in the manner and for the purposes described.

63,399.—ELBRIDGE LAWTON, New York, N. Y., and THOMAS J. JONES, Summit, N. J., assignors to C. J. EAMES, New York, N. Y.—*Ferrule for Boiler Tubes*.—April 2, 1867.—The ferrule has a thread which screws into the end of the tube and has an exterior flange which covers the end of the tube and contains packing.

Claim.—In stopping boiler tubes, the use of a ferrule c, with projecting lips a a, when attached to the tubes by means of a screw cut upon its surface, so that the tubes themselves shall be made to answer the purpose of stays or braces for the tube sheet, substantially as above represented and set forth.

63,400.—JOEL LEE, Galesburg, Ill.—*Petroleum Stove*.—April 2, 1867.—The supply pipe has a packing of porous wood through which the petroleum flows in its course to the burner, which is formed beneath the open center of a horizontal coil in the pipe.

Claim.—First, packing the conducting tube with wood in the manner and for the purpose set forth.

Second, a gas generator made of a coiled tube to encircle the jet of gas, the lower point being turned so as to allow the gas to flow through the center of the circle and burn against the bottom of the cooking vessel, substantially as set forth.

63,401.—NOYES LIDDELL, Lafayette, N. Y.—*Corn Planter*.—April 2, 1867.—The feed-wheel cups have adjustable bottoms to regulate the quantity of seed. The edges of the cups are beveled to prevent cracking the grain. Tubes carry the seed from the wheels to the hollow teeth. The seed is scattered by wedge-shaped bars attached to the points of the teeth. Angular harrows clear the track for the teeth, and scrapers behind cover stray seed and are followed by rollers. The feed wheels are actuated by gearing from the driving wheels. One of the gear wheels contains a pawl and ratchet to allow the machine to be backed without reversing the feed wheels.

Claim.—The hopper A, seeding cylinder B, cup C, lever O, with its attached gear wheels, the harrow F, tooth D, cover G, and roller H, when constructed, arranged, and operating as and for the purpose specified.

63,402.—W. N. LOCKWOOD, Woodcock, Pa.—*Washing Machine*.—April 2, 1867.—The rollers have circumferential ridges with angular longitudinal notches. The upper roller is turned by a winch and is journaled in a fixed frame, which has pendant arms with slots in which the boxes of the lower roller slides. The lower roller is raised by a spiral spring connected to its shaft by levers and links. In operating, the rollers are within a tub which stands on the foundation bench.

Claim.—The levers H, springs J K, links G, and roller E, in combination with the roller L, arms C, and slotted stays D, arranged in the manner and operating conjointly, substantially as and for the purpose set forth.

63,403.—OBED LONG, Joliet, Ill.—*Machine for Bending Bars of Metal*.—April 2, 1867.—The bar is clamped between the sliding and stationary jaws. A forked lever pivoted to the bed is oscillated to bring its friction roller against the end of the bar and lap it around the mandrel or nipple, which are supported upon the stationary jaw.

Claim.—First, the lever k, with the friction roller l, combined with the slotted plates n n, constructed as and for the purposes described.

Second, the use of the trip e and the weight f, with the crank shaft d and the connecting rods c e, constructed and arranged for the purpose of operating the head block, as described.

Third, the adjustable former h, in combination with the nipple m and the gage j.

Fourth, a combination of all the parts described, substantially as and for the purposes set forth.

63,404.—T. S. C. LOWE, New York, N. Y.—*Apparatus for Manufacturing Ice*.—April 2, 1867.—The described expansion chamber and water cooler are used in connection with machinery for making ice by the frigorific effect of the expansion of previously liquefied carbonic acid gas. The water is conducted from the coolers to the freezers and the ice removed from the chambers by dropping the doors.

Claim.—First, the expansion chamber G, in an apparatus for manufacturing ice by artificial process, when constructed with fixed freezers G¹, around and in immediate contact with which the cold gas or vapor circulates, substantially as described.

Second, in such an apparatus, fixed freezers G¹, in combination with plungers G², arranged to operate substantially as and for the purpose set forth.

Third, the elastic stoppers G⁴, when used for the purpose and substantially as set forth.

Fourth, the combination of fixed freezers G¹, elastic stoppers G⁴, and falling doors G³, or their equivalents, substantially as and for the purpose set forth.

Fifth, in combination with the expansion chamber G the eduction pipe I and water tanks H, enclosing the same for the utilization of the cold gas or vapor passing from the expansion chamber so as to reduce the temperature of the water before entering the freezers, substantially as set forth.

63,405.—T. S. C. LOWE, New York, N. Y.—*Apparatus for Condensing Carbonic Acid and Applying the same for Refrigerating*.—April 2, 1867.—The devices are used in connection with machinery for the manufacture of ice by the frigorific effects of the expansion of carbonic acid gas previously liquefied by mechanical pressure. They refer to means for the condensation, preservation, and quantitative emission of the fluid into the expansion chamber.

Claim.—First, so arranging and operating an apparatus for condensing and retaining under pressure, in the form of a liquid, substances which in their normal state are gases, that the heat generated in condensation shall be taken up by the water in a cooler C, and the liquid be condensed in a condenser E', which is maintained at a temperature below that of the cooler.

Second, in such an apparatus, the combination of a condensing pump B, cooler C, dryer D, and the condenser E', substantially as set forth.

Third, the mode, substantially as set forth, of inducing the flow of the liquefied product of condensation from the condenser E' into a gage F', or their receiver.

Fourth, the mode, substantially as set forth, of regulating the temperature of the expansion chamber by pipes F leading thereto, connected respectively with the upper and lower parts of the condenser E'.

Fifth, the combination of the condenser E', pipe F', gage F', and expansion chamber G, substantially as and for the purpose set forth.

63,406.—JOHN MADDEN, Cleveland, Ohio.—*Bread Cutter*.—April 2, 1867.—The loaf is placed on the slide, the edge to be cut resting against the gage; the motion of the slide brings the loaf against the knives, severing the slice. After retraction the loaf is again fed up to the gage and the operation repeated.

Claim.—The slide B, hand piece b, and guard F, in combination with the way A', knives C C', and side piece E, substantially as and for the purpose set forth.

63,407.—THOMAS T. MARKLAND, JR., Philadelphia, Pa.—*Machine for Sharpening Saws*.—April 2, 1867; antedated February 26, 1867.—The rest upon which the saw is clamped has adjustable radial arms, and is adjustable in distance from and inclination to the sharpening disk, which is removable and has os-

collating adjustment in a vertical plane. Wings upon the disk shaft throw a current of air to clear the saw plate from dust and keep it cool.

Claim.—First, a reversible and portable rest B, connected with the standards C, adjusted by means of the set screws *j j*, and arranged and operating substantially as described and for the purpose specified.

Second, the clamping disk D and clamping plate E, when arranged in relation to the rest B and saw F, substantially as and for the purpose set forth.

Third, the combination of the clamping board P with the rest B, operating substantially as described and for the purpose specified.

Fourth, the combination of the shaft J, having arms *g g*, with the swivel plate K, the said arms being adjusted by the set screws *u u*, substantially as described and for the purpose specified.

Fifth, the slotted finger or catch strip G, when arranged and operating in relation to the saws E and O, substantially as described.

Sixth, the fans *x*, arranged in relation to emery wheel H, substantially in the manner described and for the purpose specified.

63,408.—HORACE MAXSON, Hopkinton, R. I., and JOB JOHNSON, Brooklyn, N. Y.—*Machinery for Making Rope.*—April 2, 1867.—The reversible twisting head and its driving shaft move from end to end of the machine, and then turning move to the other end, thus drawing off and twisting strands from spools at alternate ends, without any loss of time in running back.

Claim.—First, the traveling carriage *d*, carrying the reversible head *g* and spindle *f*, in combination with the spools *b* supplying yarn at each end of the ropewalk, as and for the purposes set forth.

Second, the shaft *e* and miter gearing, in combination with the spindles *f* and carriage *d*, for twisting the strands in a ropewalk, as and for the purposes set forth.

Third, the endless rope *h* and pulley *n*, applied in the manner as set forth, in combination with the traveling carriage *d* and spindles *f*, substantially as specified.

Fourth, the pulleys 3 4 5 and 6 and ropes or belts and shaft *x*, in combination with the clutch lever 9 and pulleys 7 and 8, for moving the carriage *d* in either direction, or allowing it to remain stationary, as and for the purposes specified.

Fifth, the supports *s* or *t*, fitted to rock or turn down, in combination with the traveling carriage *d* and reversible head *g*, substantially as and for the purpose specified.

63,409.—EDWARD B. McDOWELL and THOMAS W. WILSON, Philadelphia, Pa.—*Apparatus for Separating High and Low Wines.*—April 2, 1867.—The hydrometer and the extended arm of the tube containing mercury are balanced against each other on a post adjustably fixed to the box bottom. The device is so arranged that any influence the heat may have on the hydrometer may be balanced by the mercury in the tube. The high wine overflow is high up and the low wine through a vertical pipe whose end is at a less elevation and stopped by a cylindrical valve attached to the hydrometer lever.

Claim.—First, the combination of a thermometrical tube and a hydrometer with a balancing lever, the same being arranged to operate together, substantially as and for the purpose described.

Second, in combination with the subject-matter of the above claim, the application of a valve to the lever, so that the said valve will be operated thereby in relation to the outlet tube beneath it, substantially as and for the purpose described.

63,410.—JOHN MCTAGGART, Rochester, N. Y.—*Grain Cleaner.*—April 2, 1867.—The perforated cylinder is strengthened by corrugating it circumferentially.

Claim.—The peculiar form and arrangement of corrugations, when combined with the perforations or their equivalents, substantially as specified.

63,411.—WILLIAM J. MEHARY, Philadelphia, Pa.—*Spark Arrester.*—April 2, 1867.—The inner casing forms a hood over the pipe and is covered with wire gauze, below which is suspended a conical deflector, by which the sparks are directed downward

into the inner casing, from whence they pass into the reservoir below through the annular opening between the pipe and the casing.

Claim.—The inner casing D, its wire-gauze cover E, and deflector H, the casing B, chimney A, and the annular opening *b*, the whole being constructed and arranged substantially as and for the purpose herein set forth.

63,412.—JOHN O. MELLE, St. Louis, Mo., assignor to L. G. QUINLIN, JR.—*Drying Apparatus.*—April 2, 1867.—The grain is forwarded by a series of spiral rotary conveyers through troughs whose double bottoms form chambers for the passage of hot air or steam.

Claim.—The hollow spiral or spirally-flanged conveyers C, in combination with a double bottom trough B and chamber *b²*, substantially in the manner and for the purpose herein set forth.

63,413.—T. S. C. LOWE, New York, N. Y.—*Manufacturing Ice.*—April 2, 1867.—Ice is manufactured by the expansion of condensed carbonic acid gas which is liquefied by a pump, the heat set free during condensation being removed by a refrigerant. The liquefied result is expanded in a chamber where it takes up the caloric in the water. Special devices are cited in the claims.

Claim.—First, compressing carbonic acid or other equivalent gaseous body into a liquid by a pump, and then permitting it to expand in a close chamber in contact with the exterior surface of the vessels or pipes containing the water or other substance to be refrigerated.

Second, compressing carbonic acid or other equivalent gaseous body into a liquid by a pump and then permitting it to expand in a close chamber in contact with the exterior surface of the vessels or pipes containing the water or other substance to be refrigerated, and then returning the gas to the condensing pump to be recompressed and re-used.

Third, compressing carbonic acid or other equivalent gaseous body by a pump having sufficient power to convert it into a liquid, removing the heat evolved by compression by exposing the pipe containing the compressed gas to the action of cold currents of water or air in contact with the surface thereof, and then permitting it to expand in a close chamber in contact with the exterior surface of the vessels or pipes containing the substance to be refrigerated.

Fourth, compressing carbonic acid or other equivalent gaseous body by a pump having sufficient power to convert it into a liquid and removing any watery vapor or moisture from the compressed gas by passing it through chloride of calcium or equivalent absorbent.

Fifth, introducing the cold current of water or air to the cooling coil at the point most distant from the pump and causing it to flow along the pipe toward the pump and escape from the point nearest the compressing pump.

63,414.—HENRY MELLISH, Walpole, N. H., assignor to DAVID LYMAN, WASHINGTON WHITNEY, and GILMAN WAITE.—*Machine for Cutting Out the Bodies of Fruit Baskets.*—April 2, 1867.—The log of wood revolves within a sliding cutter so that a helical shaving which forms the body of the basket is cut from the outside of the log. The side openings and grooves and lip at the lower edge for the attachment of the bottom are also cut simultaneously.

Claim.—First, the two parallel rings *J J'*, enclosing the log and traversed along as the work proceeds and carrying the cutting apparatus, substantially in the manner herein set forth.

Second, in combination with a machine cutting conical spiral shavings, the knife R, carried on a rolling device as represented and adapted to measure off and cut uniform length of such shaving, as herein specified.

Third, cutting holes or slots in the bodies of baskets made from shavings by means of the cutters Z, or their equivalents, arranged and operating as specified.

Fourth, the supplementary cutters M and N, arranged and operating as and for the purpose herein specified.

63,415.—HENRY MELLISH, Walpole, N. H., assignor to DAVID LYMAN, WASHINGTON WHITNEY and GILMAN WAITE.—*Machine for Cutting Toy Pails from*

Wood.—April 2, 1867.—The log is rounded to the larger diameter of the pail rim, a longitudinal radial kerf is cut therein and is then steamed. The sliding cutter removes a helical shaving from the periphery of the log, which at each rotation furnishes a blank for the sides of the pail.

Claim.—First, the conical scroll cutter head L, for supporting the knife or knives, arranged in the manner substantially as and for the purpose set forth.

Second, arranging or supporting the conical scroll cutter head L, in such a manner as to leave a space between the scroll and the frame of the slide rest to which it is attached, as and for the purposes set forth.

Third, the combination of the knife M and O, with the conical scroll cutter head L, when operating substantially as and for the purposes set forth.

Fourth, the helical ring B, with its cutter N, in combination the scroll cutter head L, substantially as and for the purposes set forth.

63,416.—FRANCISQUE MILLION, Paris, France.—*Gas Engine.*—April 2, 1867.—Air and gas in proper proportions for combustion are introduced from two air pumps to the cylinder and ignited by an electric spark. Between the pumps and the cylinder there is a mixing chamber furnished with slotted plates through which the fluids pass. The cylinder has a water jacket. The exhaust is through the body of the slide valve.

Claim.—First, the combination of the cylinder C, the pumps A and B, the branch receiving pipes *a* and *b*, and the mixer F, in such a manner that the air and gas to supply the engine shall be forced simultaneously through the mixer to supply the cylinder by the simultaneous action of the two pumps A and B, as set forth.

Second, the combination of the mixer F, represented in Figs. 4 and 5, composed of a folded plate of metal, as described, with the branch pipes *a*' and *b*', so constructed and arranged in combination with each other and the main pipe as to deliver the gas in the latter in thin, alternate layers, as set forth.

Third, the combination of the parts represented in Fig. 7, or their equivalents, with the cut-off rod in such a manner that the closing of the current shall be effected simultaneously with the closing of the cut-off valve, substantially as and for the purpose set forth.

Fourth, the combination with a gas-burning engine of a porous substance B, placed in the receiving pipe as represented in Fig. 8, substantially as and to the effect set forth.

63,417.—CHARLES C. MOORE, New York, N. Y.—*Blotter.*—April 2, 1867.—Improvement on his patent, December 5, 1865. The lower plate has a felt cushion around which a number of thicknesses of blotting paper are stretched, the overlapping ends of the paper being secured by the upper plate and clamping nut.

Claim.—The attachment of the lower plate of "C. C. Moore's improved blotter," one or more pieces of felt or other elastic material equivalent for the purpose, forming an elastic pad or springing cushion, substantially as herein described and for the purposes specified.

63,418.—JOHN MORTON, Winchester, Ind.—*Water Tank for Railroads.*—April 2, 1867.—The pipe has a sliding extension section; is hinged and counter-weighted, so that it may be disconnected and turned up. It has also a sliding extension. A cord connects by a bell crank to the weighted valve stem in the tank bottom, so as to govern the flow of water from the tank.

Claim.—First, in combination with the tank A and stationary pipe B, a horizontal adjustable connecting pipe D, arranged to operate substantially as and for the purpose set forth.

Second, the combination of the pipe B, adjustable connecting pipe D, and adjustable hinge E, substantially as set forth.

Third, the combination of the horizontally adjustable pipe D, and the ropes and weights H and swivel pulley I, substantially as and for the purpose set forth.

Fourth, the combination of the cord C², bell crank C¹ and valve C, with its stem and weights G, substantially as set forth.

63,419.—FRANCIS MUNSON, Chicago, Ill.—*Filing and Recording Bonds, &c.*—April 2, 1867.—The book has pages corresponding in style, size, and number

with the bonds, coupons, certificates, &c., on which pages the bonds, &c., when paid are attached, and thus preserved and canceled.

Claim.—First, the preserving, filing, and verifying of bonds, coupons, certificates, and all similar documents by the means and in the manner substantially as herein set forth.

Second, the book or register, constructed and used as and for the purposes set forth.

63,420.—ALFRED PARAF, Mulhouse, France.—*Cleaning Textile Fabrics and Yarns Soiled in Dyeing.*—April 2, 1867.—The object is to remove the stains on the whites of fabrics, which are soiled in dyeing or printing.

Claim.—In the process of cleaning of the whites of textile fabrics or yarns, which have been soiled during the dyeing operation by madder or other vegetable coloring matter, in lieu of and as a substitute for the soaping heretofore practiced, the use of animal charcoal either alone or in combination with vegetable charcoal, substantially in the manner hereinbefore described.

63,421.—WILLOUGHBY W. and V. J. PHILLIPS, Wellsville, N. Y.—*Mechanism for Operating the Picker Staff of Looms.*—April 2, 1867.—Each picker staff is pivoted to the lay, and is operated by a rod, which bears upon a cam on a shaft, which has its bearing in the lay. Pawls hinged to the frame operate the ratchets on the cam shaft, when the lay is in motion, and thus actuate the picker staffs.

Claim.—The ratchet wheels R R and pawls P P, in combination with the cams F F, bent rod *m*, spring S, picker staff B, rod *a*, and picker C, for operating the shuttle, substantially as described.

63,422.—MARTIN L. POWEL, Newcastle, Ind.—*Stove Pipe.*—April 2, 1867.—The collar has an oblique section at its junction with the stove pipe, is presented in the desired direction to meet the pipe which has an obtuse elbow.

Claim.—First, the collar A, constructed substantially as set forth, so as to be attached to the stove in any of the modes above set forth.

Second, the reversible elbow B, composed of any number of angles, the sum of which shall make an angle of 45°, constructed and operated substantially as and for the purposes set forth.

Third, the combination of the reversible collar and the reversible elbow B, constructed and operated in combination, substantially as and for the purposes set forth.

63,423.—J. E. PRUDEN, Birmingham, Conn.—*Adjustable Pole for Carriages.*—April 2, 1867.—One shackle is adjustable on the cross-bar of the pole, so as to adapt the latter to fit any carriage.

Claim.—The combination of the key bolt F, the inclined plate E, and the shackle A, when constructed and arranged so as to be adjustable, substantially in the manner specified.

63,424.—ANSEL WALLACE PUTNAM, Suisun, Cal.—*Combined Planter and Cultivator.*—April 2, 1867.—The planting and covering frames are connected, the latter being hinged behind the former. The furrower is regulated in depth by the rocker, or entirely withdrawn from the soil. Cultivator attachments may be substituted for the planting.

Claim.—First, the apparatus for furrowing and covering the seed, consisting of the marker S, the diverging plates T T and the converging plates V V, combined and arranged substantially as described.

Second, the wheel D and bent arm E, together with the sliding plates L L', and the regulating side P for dropping the seed, constructed and operated substantially as described.

Third, the rocking chair attached to the frame and the hinged arms h h, for the purpose of raising and lowering the frame, substantially as described.

63,425.—EZRA REED, OWEGO, N. Y.—*Wagon Seat.*—April 2, 1867.—The two boards which form the seat meet at an obtuse angle at their joining edges, and are secured in bars, inclined together to form an arch. Weight on the boards springs them flat, and flattens the arch of the bars which rest on the bed.

Claim.—A spring wagon seat, made either of wood or iron, when constructed in the manner and for the purpose substantially as herein set forth.

63,426.—JAMES H. RETNERSON, Pleasant Plain, Iowa.—*Cultivator.*—April 2, 1867.—The plows are attached to iron standards, which are hinged beneath the frame and are adjustable laterally and vertically, or shifted to throw the soil in or out.

Claim.—The manner of shifting the plows and beams either in or out by means of the slotted rods, and curved slotted bars of iron at D D D D, and the upright bar with holes, together with the movable cross timber and slide at E, also the manner of fastening the shovels to the beams by means of blocks of wood at H H H H.

Also, as an improvement the general construction and combination of the machine aside from the wheels, axle, and tongue.

63,427.—LAFAYETTE M. RICE, Oregon, Wis.—*Harvester Rake.*—April 2, 1867.—The rake is worked by the revolving wheel of the reaper; the rake is held securely at one end, and the free end lifted, being carried backward and forward with an oscillating and sliding motion.

Claim.—First, the combination of the five wheels X Z a b c, arranged substantially as set forth to affect the reciprocating motion of the rake.

Second, the combination of the connecting rod J, the crank I, the points or heads P O, the pin W, and the rods C D, to effect the raising of the rake and throwing it down.

63,428.—CHARLES L. ROBERTSON, Providence, R. I.—*Composition for Coating Wood, &c.*—April 2, 1867.—A composition made by boiling together linseed oil, 1 gall.; Prussian blue, 4 oz.; coach black, 4 oz.; black oxide of manganese, $\frac{1}{2}$ oz.; is reduced by naphtha, and applied to the wood, which is then heated in an oven to 120° or 150° Fah. It is then coated with a finishing composition, made by boiling together linseed oil, 1 gall.; Prussian blue, 3 oz.; and black oxide of manganese, $\frac{1}{2}$ oz.; reduced by naphtha, and is then heated for two hours to 150° Fah. The process develops an enamel, which resists boiling water and acids.

Claim.—A composition for coating articles of wood or other material, prepared substantially as herein described, which under the application of heat will develop the characteristics herein mentioned.

63,429.—FREDERICK O. ROGERS, Niles, Mich.—*Roofing.*—April 2, 1867.—The tarred felt is laid shingling upon the sheathing of the roof, is covered with a coating of pitch, and afterward with a composition of sand, 9 parts; salt, 1; hydraulic lime, 3; and coal tar sufficient to make it plastic at blood heat.

Claim.—A roof covered first with felt, or equivalent fibrous substance, then with roofing composition or pitch, and finally with the tar mortar, substantially as herein specified.

63,430.—THEODORE B. ROGERS, Wethersfield, Conn.—*Cultivator.*—April 2, 1867.—The cutter is obliquely set, and is secured by posts to the frame; the depth is regulated by bearers.

Claim.—The frame A, arm B, posts D, in combination with the blade E and bearers F, substantially as and for the purpose described.

63,431.—STEPHEN P. RUGGLES, Boston, Mass.—*Steam Generator.*—April 2, 1867.—A dome in the boiler intercepts the steam, and delivers it immediately to the motor without passing it through the column of water to the upper part of the boiler.

Claim.—Arranging a steam chamber or generator at or near the bottom of a closed steam boiler, as and for the purpose substantially as herein described.

63,432.—WARREN SADLER, Lockport, N. Y.—*Device for Salting and Seasoning Meat.*—April 2, 1867.—The tube contains a probe to make an opening in the meat. The probe is withdrawn, and salt inserted by means of a scoop.

Claim.—The instrument as shown and described, consisting of the tube A, probe C, and scoop D, operating as set forth.

63,433.—JOSEPH SCHEEN, New Haven, Conn.—*Baby Carriage and Velocipede.*—April 2, 1867.—The post of the caster wheel is rotated to guide the carriage by means of cross arms having the similitude of a bit, and the post rests on a spring in the socket of the guide wheel frame. The carriage is driven by alternate pressure on the stirrup levers, which actuate the crank shaft connecting by ratchets with the hubs of the wheels.

Claim.—First, the upright z, with its socket m and rubber spring n, or equivalent, in combination with the grinding wheel v, as set forth.

Second, the combination of the levers f, cranks g, ratchets d and wheels k, when constructed and arranged substantially as described.

63,434.—JULIUS SHELDON, New York, N. Y., assignor to GRISWOLD and SHELDON, same place.—*Hat Blocking Machine.*—April 2, 1867.—Improvement on the invention of Joseph De la Mar for blocking hats by means of stretching out the crown by means of expandible frame work, and stretching out the brim by clamps, which take hold of the brim, and are then raised from an inclined to a horizontal position. The expandible framework is raised and lowered by a screw stem, so as to adjust it to varying depths of hats. The ring serves several purposes, giving pressure to the clamps by means of springs, and forming a point of attachment for the inclined projections for giving the edge of the brim an extra stretch to overcome the shrinkage. The rim at the bottom "breaks" the band, and is changeable for varying sizes of hats.

Claim.—First, the combination of stem a, plate c and bars d, arranged substantially as described.

Second, the combination of the ring l, with the springs m, one separate spring for each clamp, arranged substantially as described and for the purpose specified.

Third, the rubber ring p, applied to the tip of the hat body, substantially as described.

Fourth, the combination of the ring o, with the ring l, the said ring o being made detachable, substantially as described and for the purpose described.

63,435.—LOUIS SIMONET, Paris, France.—*Apparatus for Forming Hats.*—April 2, 1867.—The hat is placed on a heated mold, over which fits a dome, whose lower edge is an elastic membrane, which assumes the shape of the hat; water is forced into the dome, and compresses the film on the hat, and the latter on its mold.

Claim.—First, locking and unlocking the dome b b, carrying the diaphragm o, and the several connections by a bayonet joint, constructed and arranged substantially as and for the purposes herein set forth.

Second, in combination with the turning dome b, and its connections, the fixed frame a and its connections, and the forcing means f, &c., the adjustable bracket i, supporting the water-carrying joint c, so that it can be moved horizontally and vertically, substantially as and for the purpose herein set forth.

Third, in combination with the dome b, diaphragm o, water joint or hinge c, mold a, and locking and unlocking means, as herein specified, the fluid reservoir a', constructed in and forming a part of the framing a, substantially as and for the purposes herein set forth.

63,436.—C. F. SMITH and J. SPETH, Aurora, Ill.—*Chimney.*—April 2, 1867.—The bricks have rectangular outer faces, and an inwardly curved inner face, adapted to form part of a flue, when associated with a similar brick, with or without the addition of common brick.

Claim.—The combination of the bricks A, when laid in chimneys, in combination with the common bricks B, substantially as set forth and described.

63,437.—SAMUEL SOLOMONS, London, England.—*Transparent Slide for Magic Lanterns.*—April 2, 1867.—The picture is printed by the chromolithographic process, in transparent colors, upon gelatine, and inclosed between glass slips.

Claim.—A magic lantern slide, consisting of a gelatine, or its equivalent, ornamented, as herein described, and confined between two plates of glass.

63,438.—GREENLEAF STACKPOLE, New York, N.

Y.—Bit Brace.—April 2, 1867; antedated March 18, 1867.—The jaws which clasp the bit are drawn into the socket, and against the shank of the tool by means of a thimble, whose spiral grooves act upon the projections on the shanks of the jaw pieces.

Claim.—The bit brace, constructed and operated substantially as herein described.

63,439.—JAMES STOTT, Philadelphia, Pa.—*Table Cutlery.*—April 2, 1867.—The scales are held in place by the bolsters; large openings for the tang rivet are cut in the scales to prevent the slipping of the latter.

Claim.—The blocks D and D', with their lugs e', and rivet j, constructed and adapted to the scales B and B', their openings i i, and recesses e e, and to the shank a, of a table knife, substantially as described for the purpose specified.

63,440.—LEVI H. THOMAS, Waterbury, Vt.—*Curtain Fixture.*—April 2, 1867; antedated March 27, 1867.—The top roll is rotated by a cord and held in the defined position by an elastic friction band which passes around the axis and a prong on the bracket.

Claim.—The elastic friction band G, in combination with the elongated roller arbor B and prong F, on the bracket E, operating substantially in the manner herein described for the purposes set forth.

63,441.—WILLIAM S. THOMPSON, Rochester, N. Y.—*Lantern.*—April 2, 1867.—The top or frame portion is connected by a bayonet fastening to the lower portion operating by the partial rotation of one part. The concentric lips on the annular connecting rings are so arranged that the inner one acts as a guide to center the other to bring the parts into ready coincidence.

Claim.—The combination and arrangement of the two slots i i, and apertures j j, concentric with the annular plates f m, and pins l l, with the parts A and E, of the lantern case, substantially as and for the purposes set forth.

Also, in combination therewith the concentric flanges n o, of the rims f m, the one fitting within and serving as a guide for centering the other, arranged and operating substantially as described.

63,442.—J. P. TIRRELL, North Bridgewater, Mass., assignor to himself, J. O. NASH, J. E. NASH, and IRA MERRITT.—*Machine for Forming the Barbs of Crocheting and Knitting Needles.*—April 2, 1867.—The hook or barb is cut by a revolving milling tool on the lower end of an inclined shaft; a support for the blank is pivoted to the bed piece, so as to be capable of revolution in a horizontal plane to present alternately opposite sides of the blank to the action of the milling tool.

Claim.—The combination of devices or their equivalents substantially as described, by means of which the needle blank is held and carried and acted upon by the milling tool, all as set forth.

63,443.—ROBERT C. TOTTEN, Pittsburg, Pa.—*Mold for Casting Grooved Rolls.*—April 2, 1867.—The concentric rings have angular, rectangular, or curved inner faces corresponding in number, size and shape to the grooves required in the chilled roll to be cast. The rings are associated with a sand or other non-metallic mold which forms the cylindrical surface of the roll.

Claim.—A series of metallic rings, each ring made in one or more pieces, with angular, rectangular, or curved inner faces for forming the grooves of a grooved chilled roll, such rings being packed in a mold made of sand or other non-metallic composition, or arranged substantially as described with other rings which form the cylindrical surface of the mold, the construction being substantially as above set forth.

63,444.—C. H. VAN EPS, Farmington, Iowa.—*Gate.*—April 2, 1867.—Each section of the gate is suspended on two vibrating bars, which hang perpendicularly when the gate is closed. The gate raises as it slides back, and when opened to its full width is caught by the latch bar which is pivoted to one of the vibrating bars and held open.

Claim.—The manner in which the gate c is hung by the means of vibrating bars d, being attached to beam e, and bottom bar of gate f.

Also, the latch g, for the purpose of holding the gate open, as herein set forth.

63,445.—WILLIAM WEAVER, Phoenixville, Pa.—*Machine for Coiling Wire.*—April 2, 1867.—The wire passes from the coil on a detachable shaft and through an adjustable friction guide to a spirally grooved former rotated by a winch.

Claim.—First, the frame A, with its standards B and B', and revolving former D, the whole being constructed, arranged, and operating substantially as and for the purpose described.

Second, the tension guide G, consisting of the jaws n n', with the projection g, and recesses o and v, the whole being arranged for use in connection with the revolving former D, substantially as described.

Third, the grooved cylinder i, constructed and adapted for attachment to the conical grooved sections h h', of the former D, substantially as and for the purposes specified.

Fourth, the former D, with its openings j, adapted for the reception of a detachable pin m, for the purpose set forth.

63,446.—GEORGE H. WELLS, Logansport, Ind., assignor to himself and JUDSON A. CLEVELAND, same place.—*Machine for Cutting Screws.*—April 2, 1867.—The cutters are four-sided prisms with cutting ends, and are separated by filets whose width determines the width of the thread, while that of the cutters determines that of the spaces. The gang of cutters is set up to its work by a cam. The hinged jaw of the clamp stock is fastened by a key, and the base plate adjusted by a movable leg.

Claim.—First, the combination of the stock A, hinged jaw H, and adjustable cutter C, substantially as described.

Second, the combination of the stock A, cutters C, bar E, cam F, constructed and arranged substantially as and for the purpose set forth.

Third, the combination of the stock A, jaw H, and adjustable leg B, substantially as described.

Fourth, the adjustable bearings K, in combination with the jaw H, and stock A, substantially as described.

Fifth, the combination of stock A, hinge and jaw H, set screws H², lug e, and wedge-formed key H¹, substantially as described.

63,447.—P. L. WEST, Bath, Ill.—*Cultivator.*—April 2, 1867; antedated March 19, 1867.—The plow posts are attached by rods and links to the swinging bar, which is connected by levers and rods to the treadles by which it is actuated. The operating handles are connected by links. Drops attached to the plow posts rest on the cross beam to hold the plows elevated. Additional plows are attached to posts pivoted to the frame behind segmental bars, which run through slots in the posts. The said plows are withdrawn from the ground by treadles which connect by cords to the plow posts.

Claim.—First, the construction and arrangement herein shown and described of the plows D D, their attachment links d², and their draft rods d.

Second, the device C, a C¹ C² C³ and e', for giving the plows D the requisite lateral motion.

Third, the combination and construction of the posts d¹ and props d¹, substantially as described and set forth.

Fourth, the construction and arrangement of the plows D¹ and the curved bars D³, also the device d² d³ d⁴ for raising the said plows up out of the ground, substantially as described and set forth.

63,448.—JOHN A. WIEDERSHEIM, Philadelphia, Pa.—*Barber's Brush.*—April 2, 1867.—The back is flexible and the rubbing portion consists of shreds of rubber.

Claim.—As an article of manufacture the barber's brush, the same consisting of a flexible back and a rubbing portion of elastic fringe C, substantially as herein represented and described.

63,449.—LEONARD WOOLWORTH, Albion, Wis.—*Cement.*—April 2, 1867.—Composed of paint skins, 3 qts.; linseed oil, $\frac{1}{2}$ pt.; Japan dryer, $\frac{1}{2}$ pt.; heat till hot enough to scorch a feather, remove from the fire and add rosin, 1 lb.; when cooled sufficiently, add glue, $\frac{1}{2}$ lb.

Claim.—The use of the new cement as herein described, using as materials for its composition the articles above enumerated.

63,450.—REUBEN W. DREW, Lowell, Mass.—*Revolving Fire-arm.*—April 2, 1867.—The ejector is tubular for the reception of its retracting spring, and slotted to receive its guide pin. The cartridge guard in a line with the ejector is hinged to allow the insertion of the cartridges or the ejection of the shells.

Claim.—First, the tubular sliding ejector, constructed and operating in the manner described.

Second, the arrangement of the hinged guard with devices for fastening the same in place when constructed and attached to the stock or frame in relation to the perforated cylinder, all in the manner described.

63,451.—ROBERT N. ADAMS, Greenfield, Ohio.—*Cotton Cultivator.*—April 2, 1867.—The machine straddles a row and the rotary cultivators operate on each side of it; they are driven by a chain from a drum on the main axle. A transversely oscillating hoe chops intermittently across the row so as to leave it in hills; the hoe is actuated by levers operated by cams on the inner faces of the driving wheels. In the rear follows a pair of scrapers which draw the soil to the row.

Claim.—First, the rotating hoes in combination with the endless chain and the two pulley wheels B' and C' constructed and arranged substantially as described.

Second, the thinner S in combination with the inclined cogs on the driving wheels, and the intermediate machinery by which a vibrating motion is given to said thinner, substantially as described.

Third, in combination with the vibrating thinner and the revolving hoes, the scrapers D D, constructed and arranged substantially as described.

63,452.—JOSHUA G. ALLEN, Philadelphia, Pa.—*Spirit Meter.*—April 2, 1867.—A float relieves an escapement which controls the motion of a weight or other power to move the stop cocks and valves for measuring and testing the spirits.

Claim.—First, the application of the escapement movement consisting of the lever L, acting upon the ratchet wheel S, or its equivalent, for the purpose of regulating, controlling, and calling into action the motive power and machinery used for turning and working the stop cocks and valves constructed substantially in the manner herein described and set forth.

Second, the bifurcation or division into two arms M and N of one end of the escapement lever L, constructed substantially in the manner and for the purpose herein set forth.

Third, the hole or perforation O, in the lower arm of the escapement lever L, for the purpose of allowing the rod Q, of the float or float pan R, to pass through it.

Fourth, the application of the float or float pan R, constructed substantially in the manner herein set forth and used for the purpose of regulating, moving, and controlling, or aiding in regulating, moving, and controlling the escapement lever L and attached machinery.

Fifth, the series of glass tubes or hydrometer chambers H, constructed substantially in the manner and for the purpose herein set forth.

Sixth, the graduation of the hydrometer chamber-tubes H, and their connection with the receiving cistern so as to indicate the depth or amount of liquid in the cistern.

Seventh, the application of a stop cock v, or its equivalent, with each hydrometer chamber so arranged, moved, turned, and worked by appropriate machinery as to keep secure and retain for a variable period of time a specimen of the liquid or spirits that are or may have been in the cistern.

Eighth, the application of cam wheels Y and Z, for the purpose of thus turning, working, and regulating the hydrometer chamber's stop cocks or valves v, constructed and acting substantially in the manner herein described and set forth.

Ninth, the combination and connection of this series of hydrometer chambers H, with the three-way cock C, or an equivalent valvular arrangement for regulating the ingress and egress of the spirits to and

from the meter, constructed substantially in the manner and for the purpose herein set forth.

Tenth, the application of the interrupted cog wheels c d, for the purpose of turning, regulating, and reversing the three-way valves as herein described and set forth.

Eleventh, the arrangement of two or more spirit meters with a corresponding number of cisterns each and all leading to the main pipe A, coming from the same still with a plain ordinary stop cock r and s, at a suitable and convenient place in each pipe, thus leading to the main pipe A, coming from the still as herein described and set forth.

Twelfth, the combination and connection with each other of the various parts of the machine herein described and claimed, constructed substantially in the manner and for the purpose herein set forth.

63,453.—JOSIAH J. ALLEN, Philadelphia, Pa.—*Material for Preventing Incrustation in Steam Boilers.*—April 2, 1867.—Petroleum or other hydro-carbon oil is used in boilers to prevent incrustation.

Claim.—The application to steam boilers in the manner described, or any equivalent to the same, of hydro-carbons, for the purpose specified.

63,454.—M. J. ALTHOUSE, Waupun, Wis.—*Pump Piston Packing.*—April 2, 1867.—Improvement on his patent, November 13, 1866. The expansible packing is composed of a ring of a soft substance, as leather or rubber, and interposed between and protected by sectional rings of a hard substance, as metal or wood; the rings occupy a peripheral chamber of the piston and expand together.

Claim.—First, providing for sustaining a leather, rubber, or other soft packing between expansible rings or segments so as to protect the exposed portions of the soft packing, substantially as described.

Second, the combination of the expansible hard metal or wood rings, and the rubber or other soft rings, all constructed and applied substantially in the manner and for the purpose herein described.

63,455.—SHERMAN E. ANTHONY, Stillwater, N. Y.—*Gate.*—April 2, 1867.—The gate slides longitudinally on a pivoted guide bar, which then oscillates on its central pivot to swing the gate 90°. A vertical bar on the gate collides with a stop rod on the post to limit the longitudinal motion of the gate.

Claim.—First, the hinge guide bars C, in combination with a sliding gate A, arranged to operate in the manner substantially as shown and described.

Second, the curved rod E, attached to the post B, the rod J, in the gate and the hinge d, when said parts are used in combination with a sliding gate A, arranged on a guide slat or bar C, substantially as and for the purpose specified.

63,456.—JOSEPH AYERS, Greenbush, N. Y.—*Sash Supporter.*—April 2, 1867.—A spring is attached to the vertical edge of the sash, and its free end engages indentations in the casing to maintain the sash in the required position.

Claim.—The spring attached to the edge of the sash and engaging in recesses in the casing, substantially as described and represented.

63,457.—ALONZO E. BAILEY, Middleville, N. Y., assignor to himself, W. W. MOSHER, and W. W. JACKSON, same place.—*Shifting Rail for Carriages.*—April 2, 1867.—The seat has pivots which form points of attachment for the "top" rail and the back rail, which are slipped thereon and secured by straps.

Claim.—The pivots B, back rail C, composed of one piece, and having pendent pieces, the lower ends of which fit over said pivots B, upon the back of the seat A; and the top rail D, composed of one piece and fitting over the pivots B, substantially as herein set forth for the purpose specified.

63,458.—FRANCIS BAKER, New York, N. Y.—*Carriage Step.*—April 2, 1867.—The steps fold together within a slide so as to slip into a transverse chamber in the floor, and unfold into effective position when drawn out. Spring catches hold the slide in either position.

Claim.—First, the combination with a carriage body of a series of steps whether more or less in number, when such steps can be folded up or together,

and the said body is suitably constructed to receive and hold the same, substantially as and for the purpose described.

Second, the spring catches H and J, whether used separately or together, substantially as described for the purpose specified.

63,459.—SAMUEL S. BARNABY, Chicago, Ill.—*Wrench.*—April 2, 1867.—The movable jaw is held in position by a sliding spring-plate on the inner end of the hollow sleeve, interlocking with the teeth of the bar.

Claim.—The movable jaw *l*, hollow sleeve *o*, spring plate *n*, spiral spring *y*, cam lever *w*, constructed, arranged and operating upon the bar *e*, substantially as and for the purpose herein set forth.

63,460.—Canceled.

63,461.—LEANDER W. BOYNTON, Hartford, Conn.—*Machine for Drying Cloth, &c.*—April 2, 1867.—The superabundant moisture in the cloth is converted in the superheated apartment into steam, which is carried off by the exhaust fan; the cloth next passes through the dry air chamber. The tentering frame is adjustable in width. Elastic cords, connecting the tenter-bars, adapt the machine to the drying of wool.

Claim.—First, the combination of the endless chains and the tenter hooks in a machine in which high steam is used, when the machine is constructed, combined, and fitted to produce the result, substantially as herein described and set forth.

Second, the combination of the apparatus for conveying the cloth to be dried with an apartment in which high steam is used, (where most of the moisture is converted into steam,) and an apartment supplied with dry air, (where the drying is completed,) when they are constructed and arranged substantially as herein described and set forth.

63,462.—LEANDER W. BOYNTON, Hartford, Conn.—*Dryer for Wool, &c.*—April 2, 1867.—The foraminous cylinder is charged with wool and rotated, superheated steam is admitted above and ejected by its own pressure toward the outlet, assisted by the blast produced by the peripheral fans; the moisture in the wool is thus evaporated and removed.

Claim.—The combination of the internal cylinder D and its wings or vanes *g g*, &c., with the eduction port B and the induction port C, when the whole is constructed and arranged and the cylinder D caused to revolve substantially as herein described and set forth.

63,463.—SAMUEL C. BROWN, Carlisle, Pa.—*Plaiting Attachment for Sewing Machines.*—April 2, 1867.—The plaiting devices are adjustably connected to the stationary arm of the machine and rest on the cloth plate. They are explained in the claims and illustration.

Claim.—First, the improved plaiter made with the combination and arrangement of the adjustable plates A and B, the adjustable gage I, and the stationary gage C, operating and connected with D, in the manner and for the purpose described in the foregoing specification.

Second, the adjustable parts L and F, and the rod H and plate E, operating as described, and connected adjustably to the sewing machine by means of the part G, in the manner and for the purpose described in the foregoing specification.

63,464.—FRANKLIN C. BROWNELL, East Orange, N. J.—*Seat or Shelf.*—April 2, 1867.—The board which forms a seat for the adjacent desk has lugs on the end, which occupy two sector recesses in the standard, and by being pushed into the occupancy of the notches maintain the board in its prone or elevated position.

Claim.—The standards C, with the recesses E E, and with or without the recesses H H, the arms L, and projections A, combined and arranged substantially as and for the purposes specified.

63,465.—E. BRUNSWICK, Chicago, Ill.—*Clamp for Leathering Billiard Cues.*—April 2, 1867.—The base of the cue rests on the platform, and the upper

end is received in the socket of the spring plunger, which holds the cue vertically.

Claim.—The clamp to leather the billiard cues, constructed and operating substantially in the manner herein described and specified.

63,466.—JOSEPH T. BRYAN, Lebanon, Ind.—*Gate Latch.*—April 2, 1867.—The gravitating latch is retracted as the gate shuts, by collision with an inclined edge on the keeper, into which it falls when the inclined plate is passed.

Claim.—The latch 1 and 2, and the connection of this latch 1 and 2 with the catch 5 and incline 6, all operating and arranged as described and for the purpose set forth.

63,467.—IRA D. BUSH, Detroit, Mich.—*Padlock.*—April 2, 1867.—The link slips in the case, both bows projecting, and has a gap at one side. One bow is hooked over the ring or staple of the object, and being retracted, is arrested by a stop, while the other end is engaged by the lock bolt.

Claim.—The combination of the sliding link bolt B, stop D, and locking bolt G, or their respective equivalents, when arranged together and operating substantially as and for the purpose described.

63,468.—EDWARD CARD, Providence, R. I.—*Clamp for Furnace Molds.*—April 2, 1867.—The ratchet arm is worked within the hollow arm by a cog wheel operated by a lever. Each arm has a hook on its outer end. The spring pawl engages the ratchet arm to keep it in position.

Claim.—The hollow arm, with a ratchet arm movable back and forth within by a cog wheel, in combination with a lever pawl to operate upon said ratchet; together forming a clamp for the uses and purposes for which clamps are used, and to which this may be adapted, shaped, and constructed, as herein described and set forth.

63,469.—CHARLES E. CASE, Xenia, Ohio.—*Steam Generator.*—April 2, 1867.—The steam generating vessel has a double shell of metal, with a mixture of asbestos and fire clay between the plates in the more exposed parts, and is suspended in the furnace. The water is introduced through a helical coil of pipe ending in a rose, whence it issues in jets and flashes into steam.

Claim.—First, the application to the exterior of steam generators of a coating composed of asbestos mixed with fire clay, and held in place by a metal covering, as herein shown and described.

Second, in combination with a generator, constructed as herein described, the coiled pipe B, terminating in the perforated nozzle C, all arranged to operate as set forth.

63,470.—HENRY F. CLARK, Poughkeepsie, N. Y.—*Dentists' Vulcanizing Flask.*—April 2, 1867.—The base piece of the mold has studs extending to the top of the closed flask. The parts of the flask have ears which embrace the studs. A groove on the inside of each lug receives a key, which clamps the ears together and secures the two sections.

Claim.—A dentist's vulcanizing flask, constructed substantially as herein shown and described, and with the parts secured and held together by keys, substantially as set forth.

63,471.—ROBERT J. CLAY, Greenpoint, N. Y., assignor to himself, JAMES T. HUSTED, ETENGER J. BURLING, and CORNELIUS CORSON.—*Machine for Burring Wool, Ginning Cotton, &c.*—April 2, 1867.—The gang of vertical saws, with carriers and cleaners, separate the wool from the burrs.

Claim.—First, in machinery for burring wool, ginning cotton, or other analogous purposes, a combination with a suitable feed and burr, or seed extractors or delivery device, of a gang of reciprocating blades, having saw-shaped teeth at their edges, for operation relatively to the feed, substantially as specified.

Second, the combination, in connection with a suitable feed, of a series of reciprocating blades, having teeth on their edges and working through ways or passages which pass the fiber but exclude the burrs, with a series of intermediately arranged rotary burr extractors, for operation together, as herein set forth.

Third, the toothed-shaped blades J, made of taper form in direction of their length, as described, in combination with a suitable feed and series of burr extractors, essentially as and for the purpose herein specified.

Fourth, in a gang of saw-shaped blades, operating as described, for the purposes set forth, constructing the teeth of said blades straight or shelving on their outer edges, and sharpened from their roots to their points on their outer or front faces, substantially as shown and described.

63,472.—HAMILTON CLIPP, Orange, Ind.—*Beehive*.—April 2, 1867.—A sliding feed trough is inserted between the interior boxes of the hive, a register slide temporarily closing the avenues thereto while changes are being made.

Claim.—The combination of the sliding feed troughs H with the interior boxes E and F of the hive, when said sliding troughs are constructed and arranged substantially as herein described and for the purpose set forth.

63,473.—DANIEL W. COLBURN, Loami, Ill.—*Sulky Plow*.—April 2, 1867.—The plow handles are on each side of the seat. The four ends of the beams are slung by chains, a shaft which is rotated connecting by engaging a pin in the rear frame.

Claim.—The combination and arrangement of the beams E, chains D, roller C, arm K, notched bar J, and standard I, substantially as described, for the purpose specified.

63,474.—JAMES CONNOLLY, Newburgh, N. Y.—*Tool for Upsetting Flanges*.—April 2, 1867.—The jaws clasp the edges of the metal in flanging, and by striking the hammer end the metal is bent.

Claim.—The tool aforesaid, for flanging as above described, and which will produce the intended effect.

63,475.—S. B. CONOVER, New York, N. Y.—*Potato Digger*.—April 2, 1867.—The shovel plow is attached to the supplementary frame, which is connected by rods to the bell crank levers above. The carrying wheel is placed on the incline, rising toward the rear. The upper surface is convex, and in front is on a level with the top of the plow. The circumferential portion is formed with curved slots for the passage of earth. The potatoes are guided between guards over the wheel, and falling on a shaking screen behind are delivered on the ground. Deflecting arms in front of the plow gather the vines.

Claim.—First, the combination of the carrying wheel D with the shovel plow C, each constructed substantially as herein set forth, for the purpose specified.

Second, the construction of the carrying wheel D, with curved slots or openings n', substantially as herein set forth, for the purpose specified.

Third, the combination of the guards or fenders F G with the carrying wheel D, substantially as herein set forth, for the purpose specified.

Fourth, the shaking screen E, arranged in relation with the carrying wheel D and shovel plow C, substantially as herein set forth, for the purpose specified.

Fifth, the arrangement of the deflecting arms I, in relation with the shovel plow C and carrying wheel D, substantially as herein set forth, for the purpose specified.

63,476.—S. B. CONOVER, New York, N. Y.—*Combined Cultivator and Planter*.—April 2, 1867.—The main frame is supported on the axle, and in turn supports the vertically adjustable frame which carries the shares or other tools. A lever on the main frame connects by bell crank and rods with the supplementary frame.

Claim.—First, the combination with the main frame A, supplemental frame D, and fixed ratchet bar F of the operating lever E, bell crank levers b, horizontal connecting rods c, and upright connecting rods d, substantially as herein set forth, for the purpose specified.

Second, the sliding rods or braces i, attached to the supplemental frame D, passing up through suitable holes or slots, either vertically or on an incline, in combination with the main frame A and operating parts above recited, substantially as herein set forth, for the purpose specified.

63,477.—J. W. CONWAY, Madison, Ind.—*Cotton and Hay Press*.—April 2, 1867; antedated March 21, 1867.—After the lid has been raised, the press filled, and the lid replaced, the system of toggle levers connected with the horizontally moving plunger is extended, and the other plunger raised by slacking the rope which permits the gravitation of its operating toggle levers. The movable head being fastened in place the follower is retracted by folding up its toggle levers; this action draws up the levers of the vertical follower, which is depressed thereby.

Claim.—Both pressing and compressing the bales in one press, when the followers act alternately, and by the same arrangement of leverage, but in reverse motions thereof, substantially as and for the purpose herein specified.

Also, the detached follower D, arranged and operating substantially as and for the purpose herein set forth.

Also, the system of six levers G H I J K and L, arranged and operating in combination with the sliding rack N, substantially as herein described.

Also, the combination of the lever system G H I J K and L, and the toggle lever and bar R S, through the medium of the rope T, substantially as herein specified.

63,478.—EDWARD A. COOPER, Lancaster, N. Y., assignor to himself and J. N. JOHNSON, same place.—*Harness Snap*.—April 2, 1867.—The spring is fastened to the lug on the hook, and is covered and guarded by a grooved tongue pivoted at the base of the hook.

Claim.—Securing the spring C to the main body of a harness snap, by means of the lug D, the thumb lever or tongue B, being made so as to shut over and inclose the lug, in the manner substantially as herein described.

63,479.—MARTIN COSGRO, Peoria, Ill.—*Grinding Mill*.—April 2, 1867.—The millstones are ventilated, while running, by hinged inclined wings upon the top of the runner, in connection with inclined wings upon the periphery of the stone.

Claim.—The millstones constructed with oblique top wings a, connected to oblique side wings b, and operating substantially as described, for the purpose specified.

63,480.—A. R. CRIFIELD, Lincoln, Ill.—*Lantern*.—April 2, 1867.—The air for support of combustion is drawn through a chamber surrounding the upper part of the chimney, and passes down through the tubular guards.

Claim.—First, a hot-air chamber above the glass globe or lantern case, in combination with an air pipe or pipes to conduct the heated air therefrom to the chamber in the base, from which the illuminating flame is fed with oxygen, substantially as and for the purpose described.

Second, so arranging the air-conducting pipes P P P as to serve the purpose of guards to the glass globe or lantern case, as well as that of conducting air to the lower air chamber, substantially as described.

63,481.—JAMES E. CRONK, Poughkeepsie, N. Y.—*Wrench*.—April 2, 1867.—The shanks have longitudinal movement to adjust the jaws by an eccentric disk, one turning in a recess of the other.

Claim.—The combination of the eccentric wheel G, the pin F, projecting from one part A of the wrench, and the recess or slot E in the other part A, substantially as shown.

63,482.—ALPHONSO DABB, Elizabethport, N. J.—*Picket for Fences and Walls*.—April 2, 1867.—An iron strip attached to the top of the fence has pointed and spiked pickets projected therefrom for additional security.

Claim.—As a new article of manufacture, a picketed strip made up of a wrought-iron bar or strip A, and malleable cast-iron pickets B, for use on walls or fences, substantially as specified.

63,483.—GEORGE S. DARLING, Bridgeport, Conn., and ELIAS HOWE, Jr., Fairfield, Conn.—*Sewing Machine*.—April 2, 1867.—The raising of the presser foot due to thick material moves the spring loop through which the thread passes, nearer to the staple to relieve the thread from tension. The thread controller

is automatically operated through a bell crank connected to the presser foot stem, to allow an additional supply of thread to the thicker parts of material sewn.

Claim.—First, the pin *f*, or its equivalent, projecting from or connecting with the bar or any other part of the presser foot, to act in combination with the take up *E*, substantially as and for the purpose described.

Second, the pivoted elbow lever *F*, operating in combination with the presser foot, substantially as described, for the purpose specified.

63,484.—ENOCH DARNELL, Fox, Ill.—*Salt and Preserving Meat, &c.*—April 2, 1867.—Explained by the claim.

Claim.—The mode of preserving salt meat, lard, butter, or other substances, by means of stone, brick, or concrete tubs built in a stone or brick walled cellar, substantially in the manner herein described and specified.

63,485.—GEORGE DECKMAN, Malvern, Ohio.—*Churn.*—April 2, 1867.—An improvement on his patent, July 31, 1866, (No. 56,728.) The cream receives from the rotary disks a motion transversely of the box and a swaying motion longitudinally of the box from the working of the churn.

Claim.—The combination of a series of double concave disks *L*, attached to a horizontal shaft *H*, with the box *A*, having rockers *F* attached to it, substantially as herein shown and described, and for the purpose set forth.

63,486.—HENRY DISSTON, Philadelphia, Pa.—*Saw.*—April 2, 1867.—The segmental shank of the tooth, when the point is presented forward, is passed laterally into the recess and turned in the groove of the blade to its usual position, in which it is maintained by rivets filling corresponding cavities in the blade and in the shank of the tooth. The edge of the segment has V-shaped projections and the socket a corresponding groove, which gives the tooth its lateral stability, aided by a similar projection on the curved rear portion of the tooth, which fits in a groove on a rounded seat on the edge of the blade.

Claim.—The lips *i* on the edge of the projection *d* of a saw tooth, or on the edge of the recess in the blade, in combination with a groove and recesses *m* in the projection or in the blade, substantially as specified.

63,487.—CHARLES DISSTON, Philadelphia, Pa.—*Manufacturing Saw Blades.*—April 2, 1867.—The blades are heated to redness in a bath made by melting together Turk's Island salt and prussiate of potash. They are then dipped into a bath of oil or water.

Claim.—A saw blade composed of tough wrought-iron or homogeneous or Bessemer steel, and having a hard, carbonized exterior surface.

63,488.—ROBERT E. DOWNIE and H. C. JOHNSON, Delavan, Wis.—*Washing Machine.*—April 2, 1867.—A series of rubbers attached to a pendulous frame move forth and back over stationary rollers, self-adjusting on eccentric shafts.

Claim.—First, the eccentric shafts *E E* employed for adjusting the vertical position of the roller frame *D D*, and resting upon the bottom of the tub so as to sustain the said frame at both ends, substantially as described and represented.

Second, in combination with the above the removable uprights *F F*, pendular bar *H*, and rubber *I*, all arranged in the manner and for the purpose specified.

63,489.—GEORGE DUNLOP, Brooklyn, N. Y.—*Lithographic Press.*—April 2, 1867.—The wetting roller is a foraminous tube covered with slightly porous material, and moistens the stone in advance of the inking rollers. In the return movement of the carriage this roller is automatically raised free of the stone. The carriage runs up the spring slide to carry the inking rollers above and in contact with the fountain rollers or cylinders. The sectionally divided inking roller receives ink from one similarly divided, and operates to darken, lighten, or change the tints on certain portions of the printed sheet. The sectional rollers may be used alone to print in colors.

Claim.—First, the movable carriage *A*, containing a wetting roller *a* and inking-in rollers *G H*, in com-

bination with the trip lever *e*, dog *f*, cam *f'*, and feed rollers *E*, constructed and operating substantially as and for the purpose described.

Second, the springs *g*, under the ends of the rail *C*, in combination with the carriage *A*, containing the inking-in rollers *G H*, and with the feed rollers *E F*, constructed and operating substantially as and for the purpose set forth.

63,490.—H. A. ENGELS, C. H. ENGELS, and JOHN WIELAND, San Francisco, Cal.—*Hot Air Furnace.*—April 2, 1867.—The fire has a sinuous, reverting, upward course, the divisions being partly formed of transverse tubes which open at their ends into the air chambers. The latter are on each side of the furnace, and the air passes in a general upward course from one to another by means of the transverse connecting pipes and the upper connecting chambers.

Claim.—The arrangement of the set of pipes *c i p l g* bolted and cemented together, and at the same time staying the side plates, the sections and the whole structure of the furnace by means of the grooved shoulders and flanges of said pipes, as shown in Figs. 5 and 6, in combination with the square tubes or drying chambers *r s*, substantially in the manner, for the purpose, and upon the principle as herein set forth.

63,491.—JAMES H. FERGUSON and HENRY W. LOVEJOY, New York, N. Y.—*Machine for Trimming Metals.*—April 2, 1867.—The plate is secured by clamps on a sliding carriage which moves in front of a revolving cutter head which trims the edge, and a stationary knife which planes off the burr.

Claim.—The clamps *D* and carriage *E*, in combination with the table *F*, cutter head *A* on the adjustable headstock *B*, and stationary knife *H*, all constructed and operating substantially as and for the purpose described.

63,492.—C. FLEMING FLACH, Call, Prussia.—*Extracting Silver from Argentiferous Lead Ore.*—April 2, 1867.—The ore is melted with zinc as heretofore practiced. The resulting alloys are permitted to stand in a kettle till the alloy of silver, lead, and zinc floats on top; this is skimmed off and melted in a blast furnace with clay, iron-stone, marl, dross, or other silicious flux. The impure lead remaining after taking off the silver alloy is purified from zinc by smelting with slag or other flux.

Claim.—Improvement in extracting the silver and treatment of the lead contained in argentiferous lead ore by the means of a blast furnace process, in a manner substantially as described above.

63,493.—ORLANDO V. FLORA, Madison, Ind., and JAMES S. BOGLE, Springfield, Ohio.—*Churn.*—April 2, 1867.—The rotary dashers on the horizontal shaft rotate between the transverse bars, a stream of air from a fan and refrigerating chamber modifying the temperature of the cream.

Claim.—The combination of the dasher *G G*, breaker slats *H H*, fan *N*, and ice box or chamber *S*, arranged and operating substantially as and for the purpose herein specified.

63,494.—JOHN G. FOLSOM, Winchendon, Mass., and W. C. ANDERSON, St. Louis, Mo.—*Treadle.*—April 2, 1867.—The balance wheel is secured by a clamp and sustaining plate to the table and connected by band to the machine. The treadle has a stirrup and band for the heel and the pitman is longitudinally adjustable.

Claim.—First, the adjustable shaft *b*, with the hinged stirrup *E* and band *F*, in combination with the driving wheel of a sewing machine or of any other small machine and with a suitable clamp *B*, constructed and operating substantially as and for the purpose set forth.

Second, the sustaining plate *b*, in combination with the machine *C*, clamp *B*, wheel *A*, shaft *b*, and stirrup *E*, all constructed and operating substantially as and for the purpose described.

63,495.—JAMES P. FORCE and WILLIAM W. EGNW, Jarvis, Ind.—*Weather Strip.*—April 2, 1867.—The rock shaft is rotated by the pressure of the door elevating the strip which is hinged to the threshold. The strip vibrates downward in the direction of the

opening door, and when elevated forms a valve to close the opening beneath the door.

Claim.—The bent rod E, hinged in the holdfast F, constructed and operating as described and represented.

63,496.—THOMAS W. FOX, New London, Conn.—*Apparatus for Expelling Water from the Holds of Vessels.*—April 2, 1867.—Improvement on his patent, June 12, 1866. The outer cylinder is elongated; a horizontal tube fitted to its side contains a valve opening toward the cylinder. Under some circumstances the interior cylinder acts as a valve to the opening in the outer one; the inner one is actuated by a rod.

Claim.—First, the combination of the valve with the cylindrical vacuum producer when they are constructed, arranged, and fitted for use substantially as herein described and set forth.

Second, the combination of the cylindrical vacuum producer with the elongated main cylinder when they are so constructed and fitted to each other that when the part K of the cylindrical vacuum producer is raised out of the water the part I will close the apertures C in the main cylinder, substantially as herein described and set forth.

Third, the combination of the cylindrical vacuum producer with the rod E and its collar and binding screw *m*, when they are so arranged and connected that the cylindrical vacuum producer may be raised or lowered by the rod E, and may be secured at any desired elevation by the collar and binding screw, or any other analogous device, substantially as herein described and set forth.

63,497.—CONRAD FRANK, Cincinnati, Ohio.—*Belt Rivet.*—April 2, 1867.—The screw and socket are correspondingly threaded and enter from opposite sides of the belt lap against which their heads rest.

Claim.—The combination of the internally threaded conical sleeve E, the screw F, and the two flange heads B C, all constructed as and for the purposes herein shown and described.

63,498.—H. P. GALLUP, Medina, Mich.—*Windmill.*—April 2, 1867; antedated March 21, 1867.—The inner wind wheel has a series of radial fans and is surrounded by a circular series of stationary blades which convey the wind to the wheel. Gates slide in vertical grooves between the chutes to regulate the area of the openings for the wind.

Claim.—First, the wind wheel C, with arms *e*², fitted in grooves constructed and arranged in the wind chamber, substantially as described and for the purpose set forth.

Second, the combination with the wind wheel C of the inclined wind passages D, substantially as described and for the purpose set forth.

Third, the combination with the air passages D of doors E, substantially as described and for the purpose set forth.

63,499.—ARNOLD GARTNER, New York, N. Y., assignor to himself and M. O. LUTGEN, same place.—*Machine for Cleaning Flax and Hemp.*—April 2, 1867.—The flax is fed over curved adjustable aprons which direct the dust downward and is subjected to the action of the radial flyers which are attached to the periphery of the foraminous cylinder and the beaters, which are similarly placed and hung upon guidegears, the end extension of the beaters covering the journal boxes.

Claim.—First, the drum A, provided with yielding beaters D and rigid flyers E, in combination with the adjustable curved aprons G extending from the rests F, substantially as and for the purpose set forth.

Second, the lips *c*, extending from the ends of the beaters D over the boxes *b*, substantially as and for the purpose described.

63,500.—CYRUS F. GILLETTE, Sparta, Wis.—*Bed Bottom.*—April 2, 1867.—The bed cord passes back and forth and then crosswise over a succession of pulleys which are journaled in the rails and the slats above them. The cord is tightened by a winch.

Claim.—A bed bottom having the cord passing around a series of pulleys *b b*, the arrangement of the slats B B placed above the pulleys, when in combination with the shaft C, as specified.

63,501.—JOHN W. GLASS, Richland, Ind.—*Corn Husker.*—April 2, 1867.—The U-shaped spring jaws are clamped by the hand, the thumb claw having a loop and being hinged to the bar so as to have an independent movement in grasping the husk.

Claim.—The bars A B, constructed as described, and provided with the hook D and rest C with plate *m*, leather *g*, and loop *d*, when constructed and used as and for the purposes herein fully set forth.

63,502.—SAMUEL J. GOODWIN, Rockton, Ill.—*Paint Mill.*—April 2, 1867.—The periphery of the disk below the grinding surface is beveled outwardly so as to prevent the paint being thrown off by the centrifugal force. The edge of the spring scraper laps upon and extends beneath the disk to remove the paint therefrom.

Claim.—The revolving grinding nut when constructed with a beveled rim at its lower portion, substantially as described.

63,503.—JAMES L. GRAY, Baltimore, Md., assignor to F. M. HAY, M. L. GRAY, and M. A. GRAY, same place.—*Die for Making Cans.*—April 2, 1867.—The dies and stamps are adapted for making grooved flanges upon each end of preserve cans. The cylindrical piece is treated by swages which by consecutive operations give the edge the form desired. When one end is formed it is set upon a ring to elevate the other edge for similar treatment.

Claim.—First, expanding dies A A', and stamp heads D D', constructed and operating substantially as described.

Second, the rings J, in connection with the expanding dies A A', substantially in the manner and for the purpose described.

63,504.—JAMES L. GRAY, Baltimore, Md., assignor to F. M. HAY, M. L. GRAY, and M. A. GRAY, same place.—*Soldering Machine.*—April 2, 1867.—The can is placed on a rotating table, a spring plunger resting on its lid. The tool is steadied by a holding socket, so as to present the point to the line of junction.

Claim.—A rotary bed B, in combination with a yielding holder *g*, or their equivalents, operating substantially as and for the purpose described.

Second, the spurs *h*, in connection with the yielding holder *g*, substantially as and for the purpose described.

Third, in combination with the rotary bed B, and yielding holder *g*, the soldering iron support, substantially as and for the purpose described.

Fourth, the within described machine for centering, supporting and rotating preserve cans, said machine having its parts constructed, arranged, and operated substantially as set forth.

63,505.—JAMES L. GRAY, Baltimore, Md., assignor to F. M. HAY, M. L. GRAY, and M. A. GRAY, same place.—*Preserve Can.*—April 2, 1867.—Explained by the claims and illustration.

Claim.—First, a preserve can, which has formed on its ends grooved flanges, the grooves of which are adapted for receiving the edges of the cap and bottom plates, and strengthening the ends of the can, substantially as described.

Second, a can which has one or both of its edges turned inward, and crimped so as to leave a V-shaped groove or grooves, substantially as and for the purposes described.

63,506.—HENRY GROSS and JESSE B. RUMSEY, Tiffin, Ohio.—*Flour Bolt.*—April 2, 1867.—As the reel revolves it is reciprocated horizontally by the disk cans on the axis and casing respectively, which move it in one direction, and by springs which produce the recoil. The revolution causes a hammer to strike the ribs of the reel with a regulated force.

Claim.—The cam wheels *a i* and spring *d*, or their equivalents, as arranged in combination with a bolt or rail, which vibrates upon its shaft, substantially as herein specified.

Second, the arrangement of the rod H, spring E, lover F and sleeve G, with the reel and its pins, substantially as and for the purpose specified.

63,507.—REMI GROTZ, Chicago, Ill.—*Bridge.*—April 2, 1867.—The gates are attached to vertical

hinged rods, moved by gearing from a horizontal shaft, which is rocked by an arm and weight to close the gates. A lip on the bridge presses down a catch, raises the weight, and by reverse action of the shafts opens the gates, and a catch on an arm arranged to be pressed back by the closed bridge, or thrown forward by a weight, holds or releases the arm, which actuates the shafts.

Claim.—First, the mechanical device, consisting of a combination of levers and weights, as described, said levers being connected with and acting upon the upright shafts, to which the gates or barriers and the lanterns are secured, the whole constructed and operating substantially as and in the manner herein described and specified.

Second, the lip at the curved end of the bridge, constructed and operating as described, in combination with the said mechanical device, as and for the purposes set forth.

63,508.—THEODOR GRUNDMANN, Milwaukee, Wis.—*Apparatus for Making Vinegar.*—April 2, 1867.—Improvement on his patent, September 11, 1866. The wash enters above and passes through a series of troughs, which communicate by pipes, and have alternating partitions, which give the wash a serpentine course. The vinegar is collected in a lower trough.

Claim.—The arrangement of a series of level troughs C, provided with holes *a*, through which the liquid to be acidified, and also a current of air is conducted, and provided further with plates *b b*, whereby the liquid is detained, and its course lengthened without interrupting the rapid current of air, all made and operating substantially as herein shown and described.

Also, the box B, wherein the aforesaid troughs are placed, said box being so arranged that it may be easily taken apart and put together, and being provided with holes *d* and *e* for creating a circulation of air, and with dampers *e* for regulating the same, all made and operating substantially as herein shown and described.

63,509.—A. W. HALL, New York, N. Y.—*Washing Machine.*—April 2, 1867.—The rotary cylinder has inward projections, and contains smooth pebbles, which in connection with the corrugations act upon the clothes.

Claim.—The tumbling box or cylinder A, constructed with a series of longitudinal corrugations on convex ribs, operating in combination with smooth stones or balls of other suitable material, substantially as herein set forth, for the purpose specified.

63,510.—DANIEL B. HALL, Bucksport, Me., assignor to himself and HOWARD TILDEN, Boston, Mass.—*Bag Tie.*—April 2, 1867.—The leather tie strap has a slot in one end, protected by plates; through these the other end of the strap is drawn, and the end again inserted in eyelets made in the strap.

Claim.—The bag tie constructed of the strap A, the plates B, or their equivalent, and provided with the openings *e e e e*, either with or without the eyelets, substantially as described, and to operate as set forth.

63,511.—DURELL HALL, New York, N. Y.—*Apparatus for Carburetting Gas and Air.*—April 2, 1867.—The carburetting chamber is surrounded by a water jacket, whose contents are heated by a boiler. The air is forced into the hydrocarbon liquid below the partition, and rises through a valve opening in said partition into the upper part of the vessel. From thence it escapes through a coiled condensing pipe, which conducts it to the gas holder.

Claim.—First, the coiled condensing pipe I, used in the gas chamber of the vessel A, and provided with a check valve, when used in combination with the pipe J, and the receiving tank K, as and for the purpose specified.

Second, the arrangement of the heater C, provided with pipes D and E, with the vessels A and B, the branching air pipe G and the supply pipe F, as and for the purpose specified.

Third, the arrangement of the receiving tank K, provided with its guide *e* and discharge pipe L, with the pipes J and I, as and for the purpose specified.

63,512.—SAMUEL HALLOCK, New York, N. Y.—*Surface Conductor for Electrotyping.*—April 2, 1867.—On the ordinary mold pan is a metallic frame, set upon projections, the parts being fastened together by clamps and cross-bars, to which a number of metallic arms are attached. Within the pan is the wax mold of a page of letter-press, which is covered with a thin coating of plumbago.

Claim.—A surface conductor for electrotyping, arranged and operating substantially as herein described.

63,513.—J. A. HAMANN, New York, N. Y.—*Watch Pendant Key.*—April 2, 1867.—The key is retained in the pendant by a spring catch, which enters a slot in the key, so elongated as to allow it sufficient movement to disengage the spring catch of the face cover.

Claim.—The pendant A, having secured to it the spring catch *a*, in combination with the key C and shouldered pin F, constructed and operated as described, for the purpose specified.

Second, the key C, with elongated notch *b*, in combination with the spring catch *a*, secured within the pendant A, substantially as described, for the purpose specified.

63,514.—J. H. HARRIS, Virginia, Ill.—*Car Coupling.*—April 2, 1867.—The link oscillates the cylinder in entering, and is held by a radial pin upon it. The ends of gravitating levers enter notches in the fixed disks of the cylinder to prevent its oscillation when coupled. The levers are raised for uncoupling by a crank connected to their inner ends.

Claim.—First, the crank shaft L, connected to the levers H H, for the purpose of elevating and lowering the bumper of a car, also to uncouple the same for the purposes and substantially as herein described.

Second, the cylinder E, provided with notches and pintles G G, the levers H H and crank shaft L, in combination with the bumper P, substantially as described.

63,515.—GEORGE W. HAWK, Chicago, Ill.—*Churn.*—April 2, 1867.—The dasher rod is moved vertically in guides, being clamped to a slide in a trammel on the face of a revolving disk wheel.

Claim.—The combination and arrangement of the churn A and its cover, the platform B, the bottoms or cams *a b*, the standard E, the crank F, wheel G, and transverse slotted bar J, when constructed and operating substantially as set forth.

63,516.—HENRY S. HEERMANCE, Claverack, N. Y.—*Wagon.*—April 2, 1867.—India-rubber strips are attached at the point of connection between the wagon body and the bolsters and standards to prevent jarring.

Claim.—First, the application of india-rubber between a wagon body and the cross-bars or bolsters upon which it rests, substantially as and for the purposes described.

Second, the application of india-rubber between the standards C C and a wagon body, substantially as and for the purposes described.

63,517.—HENRY S. HEERMANCE, Claverack, N. Y.—*Umbrella Supporter.*—April 2, 1867.—The umbrella is secured by a universal joint to the upper end of an adjustable staff. The staff is jointed, having a slotted sector and pivot, and below is attached by a tenon and mortise joint to the stand post on the seat. The joints are rigidified by screws.

Claim.—First, the combination of the clamp D, ball and socket joint *g c*, and standard or support A, in the construction of an umbrella support, substantially as and for the purpose set forth.

Second, the combination of the joints *j k* and the ball and socket joint *g c*, in an umbrella support, substantially as and for the purpose described.

Third, the combination of the joints *j k* and *m*, substantially in the manner and for the purpose described.

63,518.—THOMAS HOLT, Trieste, Austria.—*Steam Generator.*—April 2, 1867.—The inner wall of the annular water space is constructed of a column of annular plates with vertical flanges for attachment to

those above and below. The feed water passes up a vertical pipe within the fire and smoke space, and supplies the water through down-curved pipes proceeding radially from its top. This pipe has circumferential projections agreeing with the recesses of the smoke space.

Claim.—The hot-air chambers or sections C, inclosing the steam and water tube B, and inclosed within the boiler A, constructed and arranged as herein set forth, for the purpose specified.

63,519.—G. W. HORTON, Belvidere, Ill.—*Swift and Reel.*—April 2, 1867.—The four pivoted arms have toggle connection to a sliding plate on the fixed arms, and may be spread at an angle of 60° therefrom or folded thereto. The block is attachable to either a table or chair-back in a horizontal or vertical position.

Claim.—First, the construction and arrangement of the disk B B, pivoted to the block D, and having secured thereto the main bar C, on which works the slide d, connected to the arms A by the pivoted braces b, as herein set forth, for the purpose specified.

Second, in combination with the above, the indicating wheel E, as herein described.

63,520.—TRUMAN HOTCHKISS, Stratford, Conn., assignor to ALFRED B. ELY, Newton, Mass.—*Friction Wheel.*—April 2, 1867.—The loose collar has anti-friction wheels on radial axes, which act between a collar on the propeller shaft and a fixed plate traversed by said shaft. The object is an anti-friction bearing to take the end strain of the shaft.

Claim.—The loose collar and wheels, constructed and operating substantially as described.

63,521.—SWIFT MCG. HUNTER, Terryville, Conn.—*Machine for Coiling Springs.*—April 2, 1867.—The whole at one end of the blank is placed over the arbor pin and the arbor caused to rotate by throwing in the clutch connection of its shaft and driving pulley. The brake is depressed by a treadle to allow the movement of the clutch shaft, and a pin on the latter keeps it in the depressed position. The outer end of the spring operates a rock shaft to release the clutch shaft from its holding latch, when a spring throws out the clutch and puts on the brake to stop rotation.

Claim.—First, the upright arm e, with its holding pins m m, in connection with the rock shaft d, the latch b, and the spring c, arranged and operating as described, in combination with the sliding bar F, the shaft A, and the clutch E, substantially as herein set forth.

Second, the upright holding rod i, in combination with the spring k, the arm e, and the arbor n, arranged and operating substantially as herein described.

Third, the sliding bar F, in combination with the spring g, stud i, and brake f, and the brake wheel H on the driving shaft A, arranged and operating substantially as described.

63,522.—W. H. HUYCK, Chariton, Iowa.—*Sleigh.*—April 2, 1867.—The metallic knees are bent to brace them to the runners, and one section of the knee being shortened makes a shoulder on which the bench rests.

Claim.—The knees C, composed of two parts a a and secured together, one of the parts being bent in a horizontal position and the other part forming a shoulder upon which the beam D rests, as herein set forth, for the purpose specified.

63,523.—CALEB JACKSON, York, Ill.—*Machine for Shrinking Tyres.*—April 2, 1867.—The tire is clamped to the moving end blocks of the frame by corrugated cams, with its convex side resting upon the curved central plate. The end blocks are then approached to reduce the tire in length.

Claim.—An improved tire-shrinking machine, formed by the combination of the operating lever I, shaft H, and pivoted levers F with each other, with the stationary part A and movable parts B of the machine, substantially as herein shown and described and for the purpose set forth.

63,524.—JOHN V. JEPSON, Brooklyn, N. Y.—*Pipe Cutter.*—April 2, 1867.—The head has a fixed serrated clamp and a sliding corrugated cutter, which is advanced by the screw of the lever. The pipe is

held between the cutters and clamp and is cut by the revolution of the tool around it.

Claim.—The use of a scraper C, in combination with a cutter B, when the two are arranged in a tool to cut and scrape a pipe or tube, as set forth.

63,525.—AUGUSTINE JEWETT, Boston, Mass.—*Regulator for Watches.*—April 2, 1867.—The index finger enters one of a series of notches in a segmental plate concentric with its axis and adjustable by a set screw. The regulator pins are in a longitudinally adjustable plate.

Claim.—The notched index C, in combination with the regulator of a watch, when such index is arranged so as to slide or to be moved upon the bridge plate of the balance of the watch, substantially as described and for the purpose specified.

Also, the combination with the above of the set screw G, arranged and operating upon the index, substantially as and for the purpose described.

Also, the regulator pins a, when attached to the regulator arm, so as to be adjustable therein, substantially as and for the purpose described.

63,526.—WILSON L. JONES, Baldwin City, Kansas.—*Lifting Apparatus.*—April 2, 1867.—The lifting platform rack is engaged by a toothed cylinder, operated by a handspike, for which it has radial sockets. A detent pawl engages the teeth.

Claim.—The rack beam E, having platform D, operating in combination with the cog cylinder F, provided with a shiftable lever J, and detent K, substantially as described, for the purpose specified.

63,527.—WILLIAM A. JORDAN, New Orleans, La.—*Apparatus for Bleaching Cane Juice.*—April 2, 1867.—The juice from the rollers passes by a trough into the cylinder, in which is a revolving agitator consisting of a perforated cylinder with paddle wheels. At one side of the cylinder and communicating with it is a tank with a perforated cover, on which a stream of water is projected. The tank communicates with an oven containing sulphur, the vapor of which escapes into the tank, where it is purified by the water, and then passes into the cylinder, where it is mingled with the cane juice by means of the agitator.

Claim.—The purifying of sulphur gas through water, in the manner specified and shown, for the purpose of bleaching and clarifying cane juice in a thorough manner, by means of the improved perforated revolving cylinder, with paddles or buckets combined, inclosed in box F, in the manner herein described and shown by the accompanying drawings.

63,528.—STEPHEN K. KANE, Allegheny, Pa.—*Manufacture of Petroleum Soap.*—April 2, 1867.—Rosin is dissolved in petroleum or benzine, melted tallow added, and the mixture agitated till incorporated. The mass is saponified by lye, after which coloring matter and perfume may be added.

Claim.—The process of making soap combining petroleum or other hydro-carbon oil, benzine or other product of such oils with animal grease or fat, or vegetable oil, either with or without the admixture of rosin, so as to form a chemical union therewith before adding the lye for saponifying, substantially as hereinbefore described.

Also, the process of making soap by first dissolving rosin in hydro-carbon oil, benzine, or other fluid products of such oils; then mixing the solution with melted animal fat or grease, or vegetable oil, so as to form a chemical union therewith, and lastly, saponifying the mixture thus formed with lye, either with or without the application of heat, substantially as hereinbefore described.

63,529.—ANTON KEIL and JOHN TRESCH, New York, N. Y.—*Machine for Molding Pottery.*—April 2, 1867.—The flask is attached to a vertically sliding frame, and its charge is brought into contact with a revolving core. The flask is composed of a series of sections, which can be opened to remove the pot after molding. The bottom of the flask is also movable and is pressed up to facilitate the removal of the molded pot.

Claim.—First, the cam e on the shaft C, for the purpose of raising the plate g and flask D, substantially in the manner herein shown and described.

Second, the combination of the curved flange *N* on the plate *g* with the pin *f* on the crank *e*, for the purpose of gradually lowering the plate *g* and flask *D*, substantially in the manner herein shown and described.

Third, the construction of the flask *D* so that the plates *d'* may be spread apart or closed at will, substantially as and for the purpose herein shown and described.

Fourth, the plate *K'* on the pin *K*, in combination with the spiral spring and the spring catch *l*, for the purpose of raising the ready molded pot, substantially as herein shown and described.

Fifth, the manner of opening and closing the flask *D* by means of the ring *F* and catch *m'*, substantially as and for the purpose herein shown and described.

Sixth, the combination of the frame *A* so that one or more flasks and cores may be arranged thereon, substantially as and for the purposes herein shown and described.

63,530.—C. P. KELSEY, Livingstonville, N. Y.—*Grain Cradle*.—April 2, 1867.—The fingers of the cradle are longitudinally adjusted in their clasping sockets, which are connected by stay rods to the snath.

Claim.—The sockets *E*, applied to the fingers *C*, cross bars *D*, and braces *F*, for the purpose of rendering the fingers capable of a longitudinal adjustment, substantially as and for the purpose set forth.

63,531.—PATRICK KENNY, New York, N. Y.—*Shirt Studs*.—April 2, 1867.—Cross bars are imbedded in the disks and form points of attachment for the flexible loop which connects the disks.

Claim.—The perforated plates *A* and *B*, counter-sunk on opposite sides forming shoulders in the center of the plates on which bear pins *D*, around which the connecting loops *C* pass, holding the plates together with an unbroken flexible connection, in the manner described, for the purpose specified.

63,532.—CHARLES B. KNAPP, Waterloo, Wis.—*Boring Machine*.—April 2, 1867.—By means of the pawl &c., the wood is moved toward and from the auger, and receives an intermittent rectilinear feed, so as to present itself for a series of holes to be bored in succession at regular intervals.

Claim.—First, the pawl *N*, hung to the framework *A*, in connection with the ratchet teeth of the carriage *I*, and operating substantially as described for the purpose specified.

Second, the guide bar or rail *J*, arranged to slide at the front end of the carriage and operating in combination with the arm *Y*, of the framework *A*, substantially as and for the purpose specified.

63,533.—D. I. LANGWORTHY, Jamestown, N. Y.—*Piano Forte Mover*.—April 2, 1867.—The platform on which the piano rests is supported on hinged legs which are braced by stay rods when down, but are retained against the under side of the platform while the latter travels on rollers.

Claim.—The piano mover, consisting of the platform *A*, to whose under side the spring lever catches *E* are secured, and bearing the clamps *J*, and handles *I*, folding supporting frame *B*, provided with rollers *H*, and having the lower end of the stay rods *c* pivoted thereto, when all are constructed and operating as herein shown and described.

63,534.—C. G. LATHROP, SAN JOSÉ, Cal.—*Weed Cutter*.—April 2, 1867.—The V-shaped horizontal cutter has hooks on the ends of its wings, and is secured to a standard beneath the plow beam which is supported on wheels.

Claim.—First, a weed cutter made and operating substantially as herein shown and described.

Second, the V-shaped horizontal cutter *I*, provided with knives *K*, at its ends, substantially as and for the purposes herein shown and described.

Third, the circular revolving colter *G*, arranged in front of the plow beam in combination with the cutters *I* and *K*, all made and operating substantially as herein shown and described.

Fourth, the adjustable draft attachment *E* and *F*, in combination with the cutters *G* and *K*, as set forth.

Fifth, a weed cutter so constructed that either the knives or the wheels on which the whole device is

supported can be adjusted up and down so that the cutters can be brought more or less into the ground.

63,535.—G. LATTIN and A. F. HUBBELL, Coldwater, Mich.—*Seat for Vehicles*.—April 2, 1867.—The back is made from one board which is steamed and molded round a form to which it is confined by rods running through ear straps attached to the form. The angle of inclination is produced by cutting away a section of the wood so as to change the plane of the lower edge, and the upper edge is cut to correspond.

Claim.—The "bent reclining seat back" for vehicle seats, indicated at *T*, constructed and fashioned by the combined bending and reducing process, substantially as herein described and set forth.

63,536.—HORACE LITTLEFIELD, Lewis, Iowa.—*Scaffold*.—April 2, 1867.—Improvement on his patent, August 8, 1865. The scaffold is made in two sections, with a ladder and two extension legs to each, and when used in conjunction each section braces the other, enabling its use where attachment to the building is impossible, as in plastering.

Claim.—A portable scaffold that is made substantially as and for the purpose herein shown and described.

63,537.—T. A. LONG, Meadville, Pa.—*Soda Fountain*.—April 2, 1867.—The water, ice, and soda are placed in the reservoir, the liquid is forced thence by a pump into an air chamber, whence the soda is discharged by the compressed air into the glass which contains the acid.

Claim.—The arrangement of the pump *B*, the chamber *E*, the pipe *C* and *D*, constructed substantially as described, in combination with the casing *A*, for the purposes set forth.

63,538.—JOHN J. LOW, Cleveland, Ohio.—*Coal Stove*.—April 2, 1867.—The refractory lining has perforations leading to the annular chamber between it and the corrugated lining. The plate on which the fire pot rests is perforated to admit air between the fire lining and the outer casing, each side of the intermediate lining. The calorific current passes from the upper smoke chamber down side pipes to flues in the base of the stove, where it passes to the front and through the center to the exit flues.

Claim.—The corrugated or fluted cylinder *G*, as constructed and arranged in relation to the apertures *m m* at its base, and to the passages *n n* or *p*, substantially as and for the purposes herein specified.

Also, an interior perforated lining *H*, in combination with said corrugated or fluted cylinder, and aperture at its base, constructed and operating substantially as and for the purpose herein specified.

Also, in a cylinder coal-burning stove the passage of the products of combustion into the lower base *D*, at the sides thereof, thence forward under the hearth, and finally back through the middle of the base beneath the ash pan, to the exit flue or pipe, substantially as and for the purposes herein specified.

63,539.—JOHN J. LOW, Cleveland, Ohio.—*Coal Stove*.—April 2, 1867.—The annular air chamber between the fire pot and the casing has supply holes through its lower plate, and the upper portion of the fire pot is perforated to supply jets of hot air to support combustion.

Claim.—The perforated curved upper tier blocks *D D*, arranged in connection with the blocks *C C*, constructed as shown so as to form the air chamber *l l m*, substantially as and for the purposes herein specified.

Also, the arrangement and construction of the whole body of the stove lining *D C C*, in connection with the apertures *a* or *n*, in the manner and for the purposes herein set forth.

63,540.—JOHN K. LOWE, Cleveland, Ohio.—*Inking Apparatus for Printing Machines*.—April 2, 1867.—Sectional rollers are placed in accordance with the width of different colors to be printed. Small rollers dip into the fountains and impart their colors to the rollers with which they come in contact.

Claim.—The combination of the group of rollers *D C E*, and the group of rollers *G H I*, with the roller *F*, as and for the purpose specified.

63,541.—TINDAL A. MADISON, Terre Haute, Ind.—*Child's Carriage.*—April 2, 1867.—The revolving axle winds up an elastic cord so that when the carriage is moved to the limit of the cord it will return to the point from which it started.

Claim.—First, the combination of the revolving axle *a*, with the bolts *d d*, or their equivalents, for the purpose of alternately attaching the axle *a*, to the carriage wheels, causing them to revolve together and attaching the axle *a* to the side bar *c c*, causing the carriage wheel to revolve alone.

Second, the combination of the revolving axle *a*, the elastic cord *f f* and the friction pulley *g*, or their equivalents, for the purpose described. Also the combination of the axle *a* and the spring *n*, for the same purpose.

Third, the combination of the axle *a*, the regulating cord *i i*, and the friction pulley *m*, or their equivalents, acting in concert with the elastic cord *f f*, or the spring *n*, for the purpose described.

63,542.—TINDAL A. MADISON, Terre Haute, Ind.—*Plastering Trowel.*—April 2, 1867.—The brace holds the trowel at any given angle, and gages worked with thumb screws adjust the trowel to the desired thickness of the coat of plaster.

Claim.—First, the construction of a plasterer's trowel with the brace *b*, to hold the trowel to any given pitch or angle to the surface being covered.

Second, the combination of the gages *c* and thumb screws *d* with the trowel blade *a* and the brace *b*, to adjust the trowel to the putting on of the covering material of any thickness required.

63,543.—THOMAS MARSH, Central Falls, R. I., assignor to himself and D. L. FALES, same place.—*Device for Lubricating Spindles.*—April 2, 1867.—The journal sleeve has an oil cup attached by a pipe issuing horizontally therefrom above the surface of the oil. A wick conducts the oil to the spindle by capillary attraction, and its outer end lies in a groove of the sleeve.

Claim.—The oil reservoir *C*, and conducting tube *D*, distinct from the bolster in combination with a channel *a*, cut in the side of the spindle bearing and a suitable absorbent for conducting the lubricant, arranged substantially as described for the purposes specified.

63,544.—G. B. MASSEY, New York, N. Y.—*Boat Detaching Tackle.*—April 2, 1867.—The fall ropes are connected to blocks which pass through thwarts and have anti-friction rollers engaged by hooks on jointed levers. Connected together and operated simultaneously by a hand lever. The blocks go with the ropes when the hooks are disengaged.

Claim.—The vertical rods *C*, hinged to the boat at their lower end, and provided with the hooks *e*, at their upper ends, in combination with the blocks *D*, connecting bar *B*, and lever *L*, arranged to operate as herein shown and described.

63,545.—SILAS B. MALLSBY, Muncie, Ind.—*Sugar Juice Evaporator.*—April 2, 1867.—The pans are connected by overflow tubes; the lower section has an oscillating attachment to regulate the flow. The handle of the gate forms a clamp for the adjacent pan.

Claim.—First, the strainer gate *B*, constructed as herein described and represented, and employed to connect the pans together as well as to arrest the passage of the scum, as set forth.

Second, the adjustable elbow tube *C*, applied and operating in combination with the pans *A*, in the manner and for the purpose set forth.

63,546.—CHARLES E. McDONALD, Brooklyn, N. Y.—*Prop Stick for Piano Fortes.*—April 2, 1867.—Pivoted weights attached to the case drop on the lower ends of the pivoted props and elevate them when the main lid is raised. Catches withhold the weights while the lid is lowered.

Claim.—First, the combination with the hinged prop or props *C*, and lid or top *B*, of a weight or weights *D*, for action in the manner and for the purposes substantially as herein set forth.

Second, the combination with the hinged prop or props *C*, lid or top *B*, and weight or weights *D*, of a catch or catchers *E*, so constructed and applied as on closing the lid the weight or weights are automati-

cally released and left free to exercise a lifting action on the props, substantially as specified.

63,547.—WM. H. McDONALD, Brooklyn, N. Y.—*Piano Forte.*—April 2, 1867.—Elastic cords are attached to the pivoted props and are looped over pins prior to raising the main lid. On raising the lid the elasticity of the tightened cords draws the props into position to brace the lid. Stops prevent the props raising too high or lowering too far.

Claim.—The combination with the hinged or pivoted prop *C* to the lid *B*, of a spring or elevating device controlled by a spring and made capable of attachment to or detachment from the case for operation of the prop or props at either end of the latter, substantially as specified.

63,548.—S. MERRICK, New Brighton, Pa.—*Car Body Frame.*—April 2, 1867.—Angle iron is used in form of arched and angular trusses, girders and stanchions in combination with the usual beams and casing of the car, which has somewhat lighter proportions.

Claim.—In the construction of frames of car bodies the iron arched trusses *B*, the angle trusses *C*, and the horizontal iron plates *c*, in combination with the main sills *A*, the stanchions *a*, and the cross sills *d*, arranged substantially as and for the purposes herein described.

63,549.—S. S. MIDDLEBROOK, Sandy Hook, Conn.—*Hat Blocking Machine.*—April 2, 1867.—The levers are hinged in a plate pivoted at the head of a vertical shaft, and traverse the holes in a disk which is depressed by a treadle to expand the conic frustum formed by the upper end of the frame. A zone of rubber above the fulcrum contracts the frame on release of the treadle. The brim is rolled between corrugated conical rollers to stretch it. The crown part of the body upon the block is forced within a rubber ring, forming the angular connection between crown and brim.

Claim.—First, the construction and arrangement of the vertical shaft *A*, lever *D*, cross-head *C*, rubber ring *a*, perforated disk *F*, with its edge grooved to receive the metallic rod *d* surrounding said levers *D*, as herein set forth for the purpose specified.

Second, the conical corrugated rollers *G H*, the teeth of which mesh into each other, swinging frame *I*, bearing the oblique shaft *g*, and pivoted at its outer end *h* to the frame, adjusted by means of the set screw *i*, when constructed and arranged to operate as herein set forth for the purpose specified.

Third, the rubber ring *M* upon the table *L* of the frame *K*, sliding cross-head *l*, and block *N*, when constructed and arranged to operate as herein set forth.

63,550.—JOHN R. MOFFITT, Chelsea, Mass.—*Apparatus for Molding and Vulcanizing Articles of Rubber.*—April 2, 1867.—The rubber is placed in molds which revolve upon a cylinder and is compressed by steam-heated platens. The steam pipes are joined to allow a radial movement in the platens, which are raised on reaching their highest position by the projections on a slide actuated by a cam. Simultaneously with the rise of the platen the plunger bottom of the mold is raised to expel the rubber.

Claim.—The construction of the cylinder with a steam chamber, the outer surface of which is made capable of receiving molds or mold boxes of various sizes, substantially as set forth.

Also, combining with the cylinder the grooved wheels with swinging fellocs, and the groove ways in the upright, substantially as set forth.

Also, the employment of the friction rings or rolls running in the grooves, substantially as set forth.

Also, in combination with the mold cylinder and each mold thereof, the hollow steam-heated platen or follower.

Also, in combination with each platen or follower the bar *o*, having the mold blocks *z*, and the platen or follower connected therewith and operated thereby, substantially as set forth.

Also, the combination of the shafts *t w*, eccentrics *v* and lifters *r*, for raising the platen, substantially as described.

Also, combining with each hollow steam-heated platen or follower the jointed or movable steam pipe

for conducting steam into and from the platen, substantially as shown and described.

63,551.—CHARLES MORRIS, Stockton township, N. J., assignor to himself, GEORGE RICHARDS and STANLEY C. HYLTON, Philadelphia, Pa.—*Marking Attachment for Plows.*—April 2, 1867.—The jointed reversible bar is clamped onto the beam and has a trailing chain suspended from its further end for marking a line for a furrow.

Claim.—The combination and arrangement of the plow beam A, with the clamp B H, the jointed and reversible bar D K, and the chain M, operating substantially as described.

63,552.—DUNCAN MORRISON, Portland, Me.—*Combined Cane, Umbrella, Pistol, Dagger, and Camp Stool.*—April 2, 1867.—The umbrella is contained in the cane, and the seat in the umbrella. The pistol and dirk are contained in the top of the cane, which is separable from the rest.

Claim.—The combination and arrangement in the hollow of the top of the cane, of the pistol and dirk, operated and secured as described, with the umbrella and seat in the stock, the two parts of the cane being separable and capable of being united, all as and for the purposes set forth.

63,953.—ANSEL W. MUNROE, Rahway, N. J., and ISAAC C. MUNROE, Brooklyn, N. Y.—*Process of Enameling Hard Rubber, Gutta Percha, &c.*—April 2, 1867.—The rubber is coated with colored collodion to give the "gum color" to the rubber plates of the denture.

Claim.—Enameling rubber or its allied gums, substantially as described.

63,554.—HENRY NEUMEYER, Millerstown, Pa.—*Spiral Hay Fork.*—April 2, 1867.—As the vertical tines descend into the bunch of hay the spiral tines are rotated and then locked. The load being elevated the cord is pulled, disengaging the detent and revolving the spiral tines to discharge the load.

Claim.—The vertical tines A, shank B, roller or pulley D, and one or more spiral tines F, in combination with the rope E, support G, lever stop H, and spring I, substantially as described, for the purpose specified.

63,555.—G. C. PATTISON, Baltimore, Md., assignor to himself and BENJAMIN G. HARRIS, same place.—*Gaff for Ships' Spars.*—April 2, 1867.—The gaff has guard hooks or plates secured on either side to receive the gaff halyards and prevent their being caught between the gaff and the mast.

Claim.—Guard hooks or plates, combined with the inner end of gaffs or other swinging spars, substantially in the manner and for the purpose herein set forth.

63,556.—STARR POLLEY, Brooklyn, N. Y.—*Steaming on Hat Bodies.*—April 2, 1867.—The hat body is placed upon the pyramidal assemblage of levers, to which it is held by clamps with corrugated faces. The size of the frustum being then enlarged a hat block is elevated centrally, impinging against the crown and stretching the hat into shape.

Claim.—First, the levers B, standing in a conical or a pyramidal position during the stretching of the hat body, and provided with clamps for holding the body thereon, all constructed and arranged substantially as and for the purpose herein set forth.

Second, the longitudinal corrugations G* and B* in the acting faces of the lever and clamps of a hat-stretching machine, adapted to operate relatively to each other and to the hat body, as herein described and set forth.

Third, the spring connection m, arranged relatively to the clamps G and levers B and their connections, substantially as and for the purpose herein set forth.

Fourth, the carrier N N' and hat block O, operating relatively to the pyramidally arranged stretching levers B, which previously stretch the hat body, substantially as and for the purposes herein specified.

63,557.—NELSON PONTIUS, Hallsville, Ohio.—*Drilling Wells.*—April 2, 1867.—The outer end of the walking-beam has a ratchet wheel and two pawls, which latter are operated by lifting cams and give the

drill a rotary reciprocating motion. The clamping collar of the rope is supported upon arms rising from the ratchet wheel.

Claim.—First, the clamping arms or jaws I I, clamping the rope of drilling tools, in combination with the ratchet wheel F, with which said jaws turn, substantially as described.

Second, the combination of the pawls L L, the walking-beam, the horizontal ratchet wheel F, the cams Q Q for raising the pawls L above the ratchet wheel F automatically, and the slotted connecting rod, substantially as described.

Third, the vertical ratchet wheel M and its pawl, in combination with the slotted connecting rod O and cams Q Q, substantially as described.

Fourth, the orifice G through the ratchet wheel F, and through the bed plate E and walking-beam B, in combination with the hinged clamping arms or jaws I I, substantially as described.

63,558.—ARTHUR PRENTISS, Prentiss Vale, Pa.—*Spikes and Nails.*—April 2, 1867.—The spike has serrations on one side, and after being placed in the hole is forced laterally by a key so as to imbed the teeth in the wood and enable it to resist retractive force.

Claim.—Spikes and bolts for railroads and other purposes, whether round, square, octagonal or otherwise in form, constructed in two separate pieces, the one provided with roughened side or sides, substantially as described, and to be used conjointly either with or without the timber preservative, as and for the purposes set forth.

63,559.—GEORGE PYE and F. S. C. SOUTHER, South Boston, Mass.—*Machine for Cutting Corn Stalks, &c.*—April 2, 1867.—The two-wheeled carriage travels between the rows, and the knives which are set on the ends of the transversely reciprocating bars cut both rows. The knives are driven by wrist connections to crank wheels driven by pinions from geared rims on the driving wheels. The cutting apparatus rests on a castor wheel, the frame rocking upon the main axle as it undulates in conformity to the surface of the ground.

Claim.—First, the machine for cutting corn, cane, and other stalks, in the field, constructed, arranged, and operating substantially as herein described.

Second, the transverse sliding knives F F, operated by the cranks d d, in combination with the pinions g g, and the concentric toothed rims h h on the driving wheels A A, constructed and operating substantially as and for the purposes herein described.

Third, the rocking frame C C, and cross-bar E, in combination with the axle B, constructed and operating substantially as and for the purposes herein described.

63,560.—DAVID PYKE, Philadelphia, Pa.—*Balanced Slide Valve.*—April 2, 1867.—One section of the valve has a face working against the steam-chest cover, and the other, which is of smaller area than the former, works on the lower seat. These sections are held in their relative positions by a nut fitted to the valve rod and to recesses in the back of each of the sections. The sections are held apart and in contact with the seats by means of screw studs, with right and left-hand screw threads on them and nuts corresponding thereto.

Claim.—First, the adjustable valves D D', constructed as described, and the spindle E, with its nut t, the whole being arranged in respect to each other as specified.

Second, the combination of the two valves D and D', their studs or bolts m and m', those of one valve having left-handed and those of the other valve right-handed threads, and the nuts n having threads adapted to those of the said bolts or studs.

Third, the upper valve D and lower valve D', the former having a larger area than the latter when the two valves are used in connection with a cylinder having an valve chest on its side, as described, for the purpose specified.

63,561.—F. J. RABBETH, Iliou, N. Y., and J. E. ATWOOD, Williamantic, Conn.—*Self-oiling Spindle for Spinning Machines.*—April 2, 1867.—The oil cup is mounted on and surrounds the bolster extension of the spindle, which receives oil therefrom through a

slot. An aperture in the bottom of the cup carries down the oil within the bolster. A sleeve surrounds the oil cup, and the latter is fed through an opening in the former.

Claim.—First, the bolster, tube and step B B' B'', with an oil cup C at its upper end, provided with a passage a and slot c, the whole constructed as and for the purpose set forth.

Second, in combination with an oil cup mounted on or surrounding the bolster, the perforated whirr or whirr sleeve D', and outer perforated cap E for action, as specified.

Third, in combination with the spindle tube, the set screw F and packing k, operating to restrain the spindle to its place, and prevent the escape of oil, as herein specified.

63,562.—C. W. RHOADS, Indianapolis, Ind., assignor to himself, S. C. and E. O. FRANK and H. A. MOORE.—*Gate Latch.*—April 2, 1867.—The gravitating latch piece is entered from behind the holder before the latter is attached to the stile, and vibrates on its journals as it comes in contact with its keeper, or is raised by the finger to unlatch it.

Claim.—The combination of the several devices made, constructed and arranged, substantially as and for the purpose herein set forth.

63,563.—STEPHEN O. RIDER, New York, N. Y.—*Bale Tie.*—April 2, 1867.—One end of the hoop is looped around one bar of the buckle, and the other end is looped and protruded through a slit in the buckle, and engaged by a pin.

Claim.—The key or pin c, constructed with an annular tooth or rib c', in combination with the loop a' and slot c', arranged at the opposite ends of the tie or band, substantially as herein set forth for the purpose specified.

63,564.—PETER SHECKLER, Orangeville, Ill.—*Magazine Fire-arm.*—April 2, 1867.—The tube of the magazine and the rear chamber are filled with cartridges, the latter while the spring is temporarily retracted. The breech block is retracted by the oscillation of the trigger guard, and on the advance of the block the cartridge moves forward, and is received by the guides. Another motion of the guard draws the breech block from beneath the cartridge, the guide descends, the cartridge enters the bore, into which it is pushed by the retraction of the trigger guard.

Claim.—First, the slot n, in the rear of the stock for holding the spring plate E, for the purpose described as specified.

Second, the left-hand block T, in combination with the breech Q for operating the spring guides U, substantially as described for the purpose specified.

Third, the right-hand block T, in combination with the breech Q and hammer W, substantially as and for the purpose specified.

63,565.—JACOB A. SHERMAN, New York, N. Y.—*Truss.*—April 2, 1867.—At the side bend of the spring is a hinge and an adjustable slide to regulate the angle of the two portions, and thus adjust the force of the spring. The pad is pressed by a plate with radiating fingers, and is attached by a universal joint to the end of the spring.

Claim.—First, a truss spring, formed of two or more parts hinged together and retained at the desired angle to each other, substantially as specified, so as to regulate the pressure of the spring, as set forth.

Second, the ball joint i for attaching and adjusting the pad, in combination with the screw o passing through said ball, and taking the inner surface of the cavity as set forth.

Third, the plate m, formed with radiating levers or fingers, to which the padding is connected, so that they yield and adapt the pad to the surface of the hernia, as set forth.

63,566.—ELI SMITH, Claremont, N. H.—*Meat and Vegetable Chopper.*—April 2, 1867.—The side bars are slotted to hold a gang of knives, which have projections on their upper edges, against which the bars are expanded by the cross rod.

Claim.—The sides b b, as constructed, in combina-

tion with knives or choppers e e e, rod d and handle A, as and for the purpose set forth.

63,567.—GEORGE H. SMITH, New Orleans, La.—*Medical Compound.*—April 2, 1867.—For the cure of scrofula and pulmonary complaints, composed of laurus benzoin, 2 lbs.; bicarbonate of potash, $\frac{1}{2}$ lb.; the inner bark of cephalanthus occidentalis or button bush, 10 lbs.; white sugar, 72 lbs.; and water, 6 galls.

Claim.—The composition herein described, when the same is compounded of the ingredients herein specified in the proportions as given, for the purpose set forth.

63,568.—T. BRIGGS SMITH, Boston, Mass., assignor to himself and ELMER TOWNSEND, same place.—*Boot and Shoe.*—April 2, 1867.—Explained by the claim and illustration.

Claim.—A pegged boot or shoe, in which pegs formed from a twisted polygonal metallic wire, and of uniform size throughout their length, are substituted for wooden or other pegs heretofore employed.

63,569.—T. BRIGGS SMITH, Boston, Mass., assignor to himself and ELMER TOWNSEND, same place.—*Boot and Shoe.*—April 2, 1867.—Short pieces of twisted angular wire are substituted for shoe pegs.

Claim.—A peg or fastening of uniform size throughout its length, formed from twisted angular wire, substantially as hereinbefore described and shown.

63,570.—T. BRIGGS SMITH, Boston, Mass., assignor to himself and ELMER TOWNSEND, same place.—*Machine for Twisting Wire.*—April 2, 1867.—The wire is polygonal in form, is wound from a drum, passes through a die to a winding drum, which by the action of a spring keeps it at the proper tension, and winds it as fast as twisted. One wheel guides it through the die, and another draws it; the revolution of the frame is constant, and gives the twist. The variation in the twist is given by the rate of drawing.

Claim.—First, the adjustable die T, constructed and operating as described.

Second, the drawing wheel R, hung in the revolving frame K, and arranged and operated in the manner specified.

Third, the drum W, hung in the revolving frame K, and constructed and operating as set forth.

Fourth, the combination of worm wheel Y, operated as described, with shaft X, ratchet i and spring n, in the manner and for the purpose specified.

Fifth, an improved machine for imparting a regular and adjustable twist to wire constructed, arranged, and operating substantially in the manner described.

63,571.—MATHIAS SPENLI, Detroit, Mich.—*Wood Turning Lathe.*—April 2, 1867.—A right and left last are turned at the same time in the same lathe, and from a single pattern, which may be larger or smaller than the last produced. The cutter heads are traversed by the right and left-hand screws of the single spindle, so as to simultaneously advance or recede from the central wheel, which is actuated by the pattern last. By shifting the bolt in the slotted lever, the motion of the pattern wheel head can be accelerated or retarded to make the lasts respectively smaller or larger than the pattern, while preserving the relative proportion of the parts of each last.

Claim.—First, the arrangement of cutter heads F F', moving in opposite directions, in combination with the head H carrying the guide wheel, substantially as and for the purpose described.

Second, the vibrating slotted lever f and bolt e, in combination with the heads H F', so that the speed of the head H in relation to the heads F F' can be regulated for the purpose specified.

Third, connecting the oscillating spindle stock J, with the stirrup supporting the axle of the guide wheel, so that said guide wheel and spindle stock move simultaneously toward and from each other, as and for the purpose set forth.

Fourth, a lathe for turning lasts in which a right and left last are turned simultaneously from a single pattern, when constructed and operating substantially as described.

63,572.—A. T. STEARNS, Dorchester, Mass.—*Machine for Making Wooden Ease Troughs.*—April 2, 1867.—The machine has a cylindrical saw running

upon anti-friction rollers, an obliquely journaled scoring saw and finishing planing cutters.

Claim.—First, the arrangement upon the frame A of the cylindrical saw D, oblique saw H, molding cutters I J, cutters K L M, friction rollers C C and G G, substantially as herein set forth for the purpose specified.

Second, operating the hollow cylindrical saw D by means of driving belt D', extending from the drum on the shaft F around the said saw, holding it against the friction rollers G G, which form its bearings as herein shown and described.

63,573.—EDGAR M. STEVENS, Chelsea, Mass., assignor to ALFRED B. ELY, Newton, Mass.—*Heel Stiffener.*—April 2, 1867.—The outwardly rounded form obviates the wearing of the lining.

Claim.—A molded heel stiffening of rubber or similar elastic material having its upper edge turned over outwardly, as and for the purposes set forth.

63,574.—A. R. STEWART, Douglas Harbor Canning, New Brunswick.—*Wood Lathe for Turning Irregular Forms.*—April 2, 1867.—The arrangement of double carriages with the shafts and cutter wheels enables the use of several cutter wheels on the same blank. The two carriages are coupled by slotted plates, and are mutually advanced and reeded in conformity to the pattern between the traversers.

Claim.—First, the double carriage *f* and *f'*, with their shafts and cutter wheels and traversers, arranged and operated substantially as herein shown and described.

Second, the screw H, the clamp nut L and the swinging frame Fig. 5, in combination with the double carriage *f* and *f'*, operating substantially as herein shown and described and for the purposes set forth.

63,575.—EDGAR B. STOCKING, Binghamton, N. Y.—*Billiard Cue Tip and Fastener.*—April 2, 1867.—The tip embraces the head of a screw which has a square shank in the ferrule and a screw thread engaging a nut in the body of the cue.

Claim.—The combination of the slits in the underside of tips of rubber or leather, and a screw the head of which fits said slits and the body of which is square and fitting a ferrule movable and having a square opening in its center and acting as a wrench and a fixed nut in the billiard cue, as above described and for the above-named purpose.

63,576.—CHARLES STODDARD, Hancock, N. Y.—*Sleigh Runner.*—April 2, 1867.—The shoe has an upwardly projecting dovetail flange embraced between the lateral halves of the runner, which are bolted together.

Claim.—First, forming the sleigh runner in two parts A and B, with a dovetailed groove formed in and between them, substantially as herein shown and described and for the purpose set forth.

Second, forming the shoe C with a central projecting dovetailed flange *c'*, substantially as herein shown and described and for the purpose set forth.

63,577.—J. B. STODDARD, Baltimore, Md.—*Ice Boat.*—April 2, 1867.—The ram raises and breaks the ice which is deflected by the overhanging prow to keep it from coming on board. The serrated edges of the paddle wheels cut pointed projections of ice from the sides of the track.

Claim.—The arrangement of the projecting prow A and overhanging bow B, in combination with the paddle wheels with serrated peripheries, substantially as and for the purpose set forth.

63,578.—J. E. TABER, Fall River, Mass.—*Sink Trap.*—April 2, 1867.—The cone-shaped tube is divided longitudinally and hinged in such a manner that the parts open to afford a passage and close by gravity.

Claim.—The valve consisting of the two equally divided jaws B, forming a cone, their joint being at right angles with the top of the trap pivoted at their upper inner ends thereto, whereby they close by their own gravity, substantially as described for the purpose specified.

63,579.—WILLIAM A. TERRY, Prairie du Chien, Wis.—*Washing Machine.*—April 2, 1867.—The faces of the movable and under disks are respectively formed of corrugated sections. The upper receives the recip-

rocating rotary motion from a pinion and a master wheel, the latter oscillated in a vertical plane by a lever attached.

Claim.—The combination and arrangement of the lever K, gear wheel I, pinion wheel G, and vertical rubber shaft D, with each other with the supporting standard or frame F, and with the hinged part of the cover E, substantially as herein shown and described.

63,580.—AMALTHEA E. THORN, Fletcher, Ohio.—*Churn.*—April 2, 1867.—The churn has perforated partitions and valved air tubes, and is reciprocated bodily on wheels by pitman connection to a rotary crank.

Claim.—First, the churn barrel or chamber C, provided with the vertical perforated partitions G, in combination with the bed plate A, guide pins E E', pitman S, crank P, shaft *p*, and propelling handle *n*, or their mechanical equivalents, all arranged and operating substantially as herein described and for the purpose specified.

Second, the air valve or valves *k* in the tubes K K', or one of them, in the described combination with the elements of the preceding clause.

63,581.—E. W. TILTON, Oshkosh, Wis.—*Saw.*—April 2, 1867.—The saw plate has a transverse curvature to enable it to saw to a curved line.

Claim.—Forming a saw concave substantially in the manner herein shown and described, for the purposes specified.

63,582.—JACOB G. TROUT, Philadelphia, Pa.—*Burglar Alarm.*—April 2, 1867; antedated March 20, 1867.—The shaft is actuated by a spring and secured by wires to a door or window. The wire being freed, the spring throws the shaft down upon a percussion cap.

Claim.—The combination of body back and front F F, nipple *a*, rod or hammer and handle B b, spring C, right angle groove *l l*, screw *c*, and all as described and for the purpose set forth.

63,583.—JOHN VAN GAASBEEK, Mount Vernon, N. Y.—*Raising Bents in Buildings.*—April 2, 1867.—The plates of the hinge are attached to the sill and post respectively to guide the tenon into the mortise in raising the bent.

Claim.—First, the two-flanged plates A B pivoted together and furnished with suitable appliances whereby they may be attached to the post of a bent and to the sill, in the manner herein set forth for the purpose specified.

Second, the arrangement of the extremity *a* of the plate A, with reference to the inner surface of the plate B and of the flanged sides of said plates, that the said extremity and sides shall serve as guides for directing the tenon on the post into the mortise in the sill, substantially as set forth.

Third, the construction of the plate B with the slotted ear *d*, whereby the clamping chain F, or its equivalent, may be adjusted to clamp the plate B to posts of any desired size, substantially as herein set forth.

63,584.—H. F. WADHAMS, South Dansville, N. Y.—*Device for Gathering Apples.*—April 2, 1867.—The canvas pocket is attached to the tree by belts and its outer edge is secured to stakes by cords and rings.

Claim.—The canvas B secured to the body A of the tree to the medium of the belt A*, straps *a*, and secured or held in position by the stakes C D, all arranged in the manner substantially as and for the purpose set forth.

63,585.—EDGAR WAKEMAN, Brooklyn, Cal.—*Boat and Davit Tackle.*—April 2, 1867.—The lower davit block has a link somewhat like a lifting pin of a stone clevis and its enlarged end is kept in its recess by the curved wedge-shaped point of a horizontally vibrating lever. The levers at the opposite ends are connected by a rope to give simultaneous discharge.

Claim.—First, uniting the davit tackle to the boat by means of a hook link B, in combination with correspondingly-shaped hook strap or bracket C when said link or hook strap are jammed and held together by means of a cam or lever, substantially as described.

Second, uniting and detaching the boat to and from the davit tackle by means of a lever or cam in com-

bination with the hook link B and stop C, substantially as described.

63,586.—WILLIAM R. WALPOLE, Chicago, Ill., assignor to himself, WILLIAM G. WOOD, and JOHN G. WALKER, same place.—*Plow*.—April 2, 1867.—A vertical standard with subsiding share is attached to the beam behind the plow by adjustable bolted plates with a locking-cam attached. The standard is secured below by a slotted bar which is pivoted on the standard of the plow.

Claim.—The combination of the plates E and F, cam and handle K II, the standard D, shovel S, and rod c, arranged and operating substantially as and for the purposes specified.

63,587.—ZACHARIAH WALSH, Newark, N. J.—*Traveling Bag*.—April 2, 1867.—The edge of the bent strip clamps the material against the other portion of the frame; the recess to receive the hem is outside the rivets.

Claim.—The arrangement upon the frame a or the plate B, one or both, of a bent edge adapted to clamp the material at the point of its departure from the frame, the recess adapted to receive the hem being outside of the line of rivets, as herein described and represented.

63,588.—J. T. WARREN, Stafford, N. Y.—*Sad Iron*.—April 2, 1867.—The distance of the heating plug from the bottom of the iron is regulated by a set screw.

Claim.—First, the combination of the adjustable heating plug C with the hollow shell A, whereby the smoothing surface of the said shell may be heated to a greater or less degree by adjusting the plug at a greater or less distance from the bottom of the aforesaid shell, substantially as herein set forth.

Second, the thumbscrew b and supporting frame D, combined in relation with each other and with the handle B, heating plug C, and shell A, substantially as herein set forth for the purpose specified.

63,589.—WILLIAM WEAVER, Phoenixville, Pa.—*Composition for Destroying Insects*.—April 2, 1867.—Composed of air slacked lime, 14 parts; salt, 3; soda ash, 2, and sulphur, 1, mixed and scattered at the bases of trees.

Claim.—First, a composition of salt and soda ash to be applied to fruit trees, as and for the purpose set forth.

Second, the above composition in combination with slacked lime and sulphur, for the purpose specified.

63,590.—THEODORE A. WEBER, New York, N. Y.—*Safety Attachment for Pocket Books*.—April 2, 1867.—The hook on the book is impelled by a spring and released by a lever and is intended to penetrate the lining of the pocket to prevent the surreptitious abstraction of the book.

Claim.—The device for the purpose described consisting of a book b, spring d, lever c, and case B, in combination with the pocket book A, substantially as and for the purpose specified.

63,591.—J. A. WHITMAN, Auburn, Me.—*Oil Can*.—April 2, 1867.—Explained by the claim and illustration.

Claim.—The collar C, forming a cup upon the tube B at such a point near its upper end that the oil contained in said cup shall, when the oil can A is reversed, flow down the said tube and off its point without overflowing the said cup, as herein set forth.

63,592.—JONATHAN R. WHITTEMORE, Chicopee Falls, Mass.—*Sash Fastening*.—April 2, 1867.—The friction cam foot is pivoted midway of its length but eccentrically to the curve of the surface so as to bind the window in ascent or descent. This foot is pivoted on a slide plate worked longitudinally by a cam lever to throw the foot in or out of action. The device is attached to the sash and the foot acts on the strip.

Claim.—The cam H H H, slide C, and self-acting cam E and F, when used in combination substantially as described.

63,593.—JOHN WIARD, New Britain, Conn., assignor to A. E. TAYLOR, same place.—*Sash Fastener*.

—April 2, 1867.—The bolt in the sash which engages the stile has a pin entering a slot in the plate of the bolt which locks the sashes together; a retraction of the former bolt retracts the latter one, but a half projection of the former to engage the stile when the sash is open will not project the latter.

Claim.—First, the bolt a, provided with the pin d, sliding in the elbow-shaped slot g of bolt e, constructed and operating substantially as described, for the purpose specified.

Second, the elbow-shaped slot g of bolt e, through which slides the pin d of the bolt a, and operating in the manner described, for the purpose specified.

63,594.—SAMUEL P. WILLIAMS, Sheridan, N. Y.—*Fence*.—April 2, 1867.—Improvement on his patent, May 25, 1866. The rods have intertwined claws for attachment to the post, and have a girding plate with openings for the ends of the lower rails. The upper rails rest in an eye formed by a double oggee bend in the top of the wire. Intermediate girders form rests for other rails.

Claim.—In combination with the iron staple-shaped post, the ring or square-shaped fastening in the upper end of the post, as described.

Also, in combination with the post and ring in the same, the cross-bar and manner of fastening the same by means of hooks on the end of the cross-bar, as described.

Also, in combination with the post and ring, the cast or wrought-iron holder and brace, and the mode of receiving and holding the boards and rails therein, as described.

Also, in combination with the post and brace, the mode and manner of anchoring or fastening the foot of the post in the stone base by turning the end thereof, as described.

63,595.—SAMUEL RUSSEL WILMOT, Bridgeport, Conn.—*Steam Blower*.—April 2, 1867.—The blast pipe has annular concentric steam pipes within, having a double convex cross section and slits in their upper edges for the issue of the jets of steam which cause the blast.

Claim.—The steam jet, herein described, made of sheet metal and with small slits entering its cavity from the exterior edge of the jet, substantially as specified.

63,596.—GEORGE W. WILSON, Freeport, Ill.—*Churn*.—April 2, 1867.—The disk is attached to the rotary shaft, and triangular boards secured thereto form hollow dashers.

Claim.—The wheel E, provided with the triangular boards C C and D, whereby the chambers F are formed on each side of the wheel, substantially as and for the purpose specified.

63,597.—JAMES WINANS, Plymouth, Mich.—*Land Roller*.—April 2, 1867.—The two sections of the roller rotate in separate frames, which are pivoted to bars in front and rear to allow liberty of action.

Claim.—The two frames A A, connected together by means of the bars C C and bolts d d, which said bolts act as pivots for the frame, allowing them independent motion, substantially as specified.

63,598.—WALTER D. WOODS, Bennington, N. H., assignor to himself and EBENEZER F. WOODS, same place.—*Table Cutter*.—April 2, 1867.—A metal guard covers the edges and ends of the handle and forms a bolster to embrace the tang through which also it passes transversely.

Claim.—The combination of the blade, the wooden body B of the handle, and the metallic encompassing lining C cast on the tang a and the body B, in manner and so as to form the bolster, substantially as described.

Also, the extension of the bolster into and through the tang, when cast upon it and making part of a metallic lining to encompass the tang and the wooden body of the handle, as explained.

63,599.—JOHN E. WOOLLEN, Cressona, Pa.—*Sash Supporter*.—April 2, 1867.—The catch has a spring which tends to keep it extended. It has a lip for manipulation and a curved slot in its inner side traversed by a stop pin on the plate.

Claim.—The plate D attached to the sash, the pin E, arm F, and coiled spring *m*, in combination with the plate G and its projection *h* on the sash frame, the whole being constructed, arranged, and operating as and for the purpose herein set forth.

63,600.—JOHN E. WOOTEN and HENRY HAZEL, Cressona, Pa.—*Locomotive Attachment.*—April 2, 1867.—The ram is pivoted to the locomotive and may be folded against the same or extended by an adjustable spring-brace rod, to a position to engage a car on a side track to move it forward.

Claim.—First, the ram B, hinged to the bumper beam of a locomotive and arranged to operate substantially as and for the purpose herein set forth.

Second, the combination of the ram B, connecting rods C C', lever *f*, and vertical shaft D, the whole being arranged on a locomotive, substantially in the manner and for the purpose described.

Third, the said connecting rod made in two parts and connected together by a yielding coupling, all as set forth.

Fourth, the combination of the ram B and brace N with the pin *b*, by which the said ram is hinged to the locomotive.

63,601.—JOHN H. YAGER, Trenton, Ohio.—*Carriage Step.*—April 2, 1867.—The upper step is secured to the carriage by braces and stay rods. The stem of the descending under-step is sleeved in a tube attached to the back of the upper step and is secured in its upper position by a catch spring.

Claim.—The combination of the two step sections A and D, the one fixed and the other movable, when arranged together substantially as and for the purpose described.

63,602.—E. L. and W. R. YORKS, Honeoye Falls, N. Y.—*Water Elevator.*—April 2, 1867.—The ascending bucket, after having been automatically emptied, comes in contact with the shifting mechanism, which changes the clutch and reverses the motions of the drums to lower the empty bucket and to raise the other by a continued rotation of the winch in the same direction.

Claim.—First, the combination in water elevators of the double-acting levers E K, geared together and connected by any suitable spring arrangement, as herein set forth.

Second, the combination of the tension spring L with the double-acting levers E K, so arranged that the action of the spring is simply to expand and contract to operate the levers and to avoid friction, as specified.

Third, the screw blanks M, in combination with the spiral tension spring L, for compensating for the loss of elasticity, as set forth.

Fourth, the friction wheel N, combined with the levers K E, operating in the manner and for the purpose specified.

Fifth, the stops *k* k, combined with the levers E K and the clutch D, as set forth.

63,603.—H. L. ANDERSON, Smithville, Ind.—*Animal Trap.*—April 9, 1867.—A platform in the reversible wheel has a bait trigger whose motion draws the rod from its support, and the weight of the rat assisted by the weight of the end of the cord revolves the wheel and precipitates the rat into the chamber below; the wheel performs a semi-revolution, brings the opposite end of the platform in position, and the trap is reset.

Claim.—First, the revolving box, provided with two platforms so arranged that in each semi-revolution of the box an inverted action of the platforms takes place causing the trap to be again set in the same position as before.

Second, the employment of rod *s* and triggers *m*, so arranged that the animal in trapping himself forces said rod back, leaving it in position to reset the trap upon each semi-revolution of the box.

63,604.—O. W. BALDWIN and F. H. POPE, Greenfield, Ohio.—*Potato Digging Machine.*—April 9, 1867.—The potatoes are carried up the digger spout by the assistance of a rake, which is automatically drawn back on said spout and then raised and projected forward by the wrist pin of a crank entering a

vertical slot in the rake head. The potatoes pass from the spout to an endless transverse-slatted carrier, which is shaken by a pivoted lever engaged by a cam roller. The spout may be raised by a treadle.

Claim.—First, the concave digger, in combination with the rotating endless slatted apron or separator, all constructed and operating substantially as described.

Second, the rotating separator, in combination with the digger and shaker, all constructed, arranged and operating substantially as described.

Third, the slotted rake E, in combination with the digger, and the mechanism by which the peculiar motion of said rake is given to it, by means of the driving wheels.

Fourth, hinging the digger, the separator, and the shaker all upon one pivot at the rear, so that all may be elevated and depressed together, substantially as shown and described.

Fifth, the rock frame F, in combination with the digger, for the purpose of elevating and depressing the latter, substantially as described.

Sixth, in combination with rock frame F, for elevating and depressing the digger, a driver's seat so located that the driver can operate said frame by his feet, substantially as described.

63,605.—C. H. BALLARD, Worcester, Mass.—*Cartridge Ejector for Breech-loading Fire-arms.*—April 9, 1867.—The extractor is eccentrically pivoted, in relation to the barrel, so that the side vibration of the latter to expose the cartridge chamber will thrust out said extractor, which engages the flanged shell of the cartridge.

Claim.—The shell extractor consisting of one piece *c*, notched at its one end, substantially as specified, to gear with a fixed pin or stop *e*, and having its other end beveled, to cause it to protrude and recede by the swinging motion of the barrel on its pivot *a*, substantially as specified.

63,606.—WILLIAM A. BICKLE and ROBERT CHESTNUT, Richmond, Ind.—*Straw Cutter.*—April 9, 1867.

The feeding rollers are actuated by ratchets and draw-pawls, the latter connected to a bell-crank lever, which derives its motion from the cutting apparatus.

Claim.—First, the combination and arrangement, substantially as set forth, of the cutting and feeding mechanism of a straw cutter having a straight or curved serrated knife L and adjustable feed rollers C and C'.

Second, the combination of the shaft I, pitman H, T-formed lever G, and feed rods E and F, with the ratchet wheels D and D', substantially as and for the purpose set forth.

Third, the combination of the springs M, roller C, ratchet D, and feed rod F, hinged to the lever G, substantially as and for the purpose set forth.

63,607.—FRANKLIN H. BROWN, Chicago, Ill.—*Sewing Machine for Soling Boots and Shoes.*—April 9, 1867.—The guide passes over the edge of the sole; the awl makes the hole, and the punch forces down a double thread through a previously made perforation the tools being operated simultaneously by a hand lever. A steadying bar whose point enters the last made perforation rests on the leather between the awl and punch. The hooked spring lever draws out the thread under the punch preparatory to its being forced down. Springs restore the parts to their normal position on release of the lever.

Claim.—First, the combination of the punch *g* with the lever B, when constructed and operating to force the thread through the leather, after being paid out by said lever, substantially as and for the purpose set forth.

Second, the arrangement and combination of the lever B with the cylinder head G, spring *s*, and punch *g*, the whole operating substantially as set forth.

Third, the lever B, when applied and operating to pay out the thread as set forth.

Fourth, in combination with the lever B, applied and operated as and for the purpose set forth, the screw *l₂*, for adjusting its extent of vibration.

63,608.—J. S. BROWN and WM. FRANK BROWNE, Washington, D. C.—*Horse Hay Fork.*—April 9, 1867.—The main rod has an arrow head on whose barbs is

hitched the bight of the lifting rope. A tripping bar has a wedge which rises and spreads the bight so that it is freed from the barbs and falls.

Claim.—Sharpening the upper edges *ff* of the tripping bar in combination with the shoulders C C, substantially as described and for the purpose herein specified.

Also, the combined construction and arrangement of the hook B and pulley I, located in and closing the mouth of the hook, substantially as and for the purpose herein specified.

Also, the combination of the elevator substantially as herein described, and a noose band L, substantially as and for the purpose herein specified.

63,609.—JAMES B. CARYL, Candor, N. Y.—*Journal Box and Bearing.*—April 9, 1867.—The journal is surrounded by anti-friction rollers, and to prevent lateral friction balls are inclosed in the cavity between the inner shoulder of the journal box and the collar attached to the shaft.

Claim.—First, the journal box B, having the rollers R, arranged as shown in combination with the balls D, mounted in the ring H, and arranged to operate in the grooves in the end of the box and collar C, substantially as shown and described.

Second, providing the inner end of the box B with the circumferential groove *n*, and arranging the flange *t* of the collar C to project over the same, substantially as shown and described.

63,610.—RAINSFORD CANTELON, Montgomery, Ala.—*Plov.*—April 9, 1867.—The vertical circular frame has perforations for attaching the plow shank and beam in front, and the handles and adjusting arm behind. To the arm and shank are attached perforated curved bars, to which cultivator or harrow teeth can be bolted.

Claim.—The rim wheel A, constructed in the manner herein represented, or in any other manner substantially the same, when used with the necessary devices for forming a plow, as is herein specified.

63,611.—DEXTER H. CHAMBERLAIN, West Roxbury, Mass.—*Casting Type on Printing Wheels.*—April 9, 1867.—The mold plate has a central cavity for the reception of the type metal, and radial recesses for the mold sections. The faces of these sections are presented to the central cavity, and their rear ends held by segmental pieces which are backed by springs. A cover is placed over the whole, and has a mouth through which the metal is poured. For removing the type disk, the cover and the segmental ring are removed and the sections slid outward.

Claim.—First, the movable mold sections C, in combination with the mold block B, whereby impressions may be cast upon the perimeter of a circular disk or wheel or the surface of a cylinder, substantially as set forth.

Second, the mold block B, provided with recesses for the reception of the mold sections, substantially as specified.

Third, confining the mold section in place by means of a divided ring, in combination with a spring or springs, as and for the purpose specified.

63,612.—ALBERT F. CHANDLER, Winthrop, Me.—*Machine for Digging Potatoes.*—April 9, 1867.—The inclined tubular chute has a flat plowshare attached below to lift and guide the potatoes, and for supporting and guiding the machine. A bailed grid is hinged behind the chute, and is engaged and operated by the rod, crank, and beveled pinion, the latter meshing into the beveled gear on the inner face of the driving wheel. The depth is regulated by the adjustable standard of the driving wheel.

Claim.—The improved machine for digging potatoes, consisting of the chute B, with its plowshare or pointer and the sifter or grid *c*, applied to the beam A, and operated by the mechanism before described, consisting of the shaft D, beveled pinion and gear hand E, and driving wheel F, substantially in manner and to operate as before described.

Also, applying the adjustable standards or bearings *g* and *f* to the beam A, in manner and for the purpose essentially as set forth.

Also, combining with the beam A, the tubular chute B, as and for the purpose as explained.

63,613.—STEPHEN CHESTER, New York, N. Y.—*Connecting Telegraph Stations.*—April 9, 1867.—The separate lines of telegraph are connected each to the positive and negative pole of separate batteries, to the other pole of each of which another line is connected so as to make a continued circuit through all the lines and all the batteries. Each line is also connected to a magnet, and that line being broken an armature springs outward therefrom to a metallic block, and through the medium of a wire connection from the armature and block, completes the circuit through the unbroken lines without the intervention of the other. On the repair of broken lines, the armatures will be drawn from the blocks, and the circuit again established through the said lines.

Claim.—First, the arrangement of several telegraph lines, each in connection with magnets and batteries, and converging to a common center, by which the several lines and several batteries may be united as one line and one battery, or as distinct lines and distinct batteries, or combinations thereof, by the operation of any one or more of said lines without the presence of any one to control or direct the movements at the common center, substantially as described.

Second, the application of such connectors that when one or more of several lines forming one line or circuit has been cut out of the general circuit by reason of breaks existing, and a new circuit embracing the remaining lines has been formed, said broken lines being restored to continuity in themselves, will instantly resume their normal position in the general circuit without disturbing the normal condition of the remainder of the lines and without the presence of any one at the point where the several lines are connected together to direct or control the movements.

63,614.—GILBERT H. CLEMENS, Cincinnati, Ohio, assignor to himself and JOHN C. CRANE, same place.—*Head Block for Saw Mills.*—April 9, 1867.—The upper saw is supported on a hinged frame to allow its adjustment by spur wheels on its front pivot shaft, which engage vertical racks. The arbor of this saw has a V-shaped collar entering a fitting groove in the cap, and an elongated groove in the lower portion of the box to admit of longitudinal adjustment by sliding the cap. Rollers with left-hand screw threads and conical ends engage the upper edge of the advancing board to draw it from the saw, and tend to press the log from the saw in gigng back. This lateral movement of the carriage is also assisted by the inclination of the teeth of its driving pinion and rack. The feed motion is communicated by a friction pulley rotated by a belt from the main shaft. The said pulley is brought in contact with either of two other pulleys to cause a forward feed or an accelerated backward gigng of the carriage. The side pieces of the carriage are formed of tubular sections, connected by bolts and having the wheels journaled in them on tubular axes, which connect with oil receivers. The head blocks are tubular in the main, with the flanged end supports for attachment to the frame, and have a longitudinal opening traversed by the downward projection of the dog frame, which projection has a screw-threaded hole to engage the screw rod from which the frames receive lateral motion. These frames have a pivoted knee, one arm of which is adjustable in a tubular arc arising from the base piece, and have sockets to receive anti-friction rollers to receive the impact of the log. The lateral movement is given to the log by a tappet on a slide bar on the carriage, which is brought against a fixed projection, and which turns the screw rods within the tubular head blocks by pawls and ratchet wheels upon the rods.

Claim.—First, the manner of constructing, supporting, and adjusting the upper saw of a circular saw mill by the use of a hinged frame L N, pinions H H', racks G G', and nuts J J', as also the use of the set screws P P', in combination with the above, and for the purposes set forth.

Second, the upper saw arbor, provided with a single V-shaped collar *d*, in combination with the recesses *d'* *d''*, in both the bearing and cap.

Third, the use of the oblique teeth, in combination with the construction of a rack and pinion for the specified purpose of circular saw mills only.

Fourth, the bearing rollers 2 2', formed with conical ends and screw-thread periphery in part only, for the specified uses herein mentioned.

Fifth, the roller housing 3, as constructed in combination with the rod, making part of mill frame, as also the set screws 4, all to operate in the manner and for the purposes set forth.

Sixth, the vertical vibrating frame V, lever Z, pivoted to the bridge U, as also the pulleys W W' and pulleys S s and T, all in combination with each other, for the purpose of feeding and reversing the log carriage, as explained.

Seventh, the log-carriage side, formed of the metal tubular couplings 7, as also the cylindrical sections of timber 6, united together by a series of bolts 13 and eyes 14, the tubular couplings constituting the housings for the supporting truck wheels, substantially as described.

Eighth, the construction and application of the perforated tubular axle 10, oil feeder 11, and supporting wheel 8, all in combination with each other, substantially as described.

Ninth, the tubular form of head blocks 16 16', when provided with the partially concave flanged supports 17 underneath, and the V-shaped projections 18, and continuous slot on top, as also a series of indentations upon one or both sides of the same, constructed in combination with each other, and for the purposes set forth.

Tenth, the adjustable knee 20 and circular arc 21, when hinged to the base 19, and guided by the counter arc 22, and held in position by the pin 23, and provided with anti-friction rollers to operate in conjunction with each other, for the purposes as substantially described.

Eleventh, the combined arrangement of the setting screw 28, ratchet wheels 30, pawls 31, lever 32, counterbalances 34 35, and connecting rod 33, constructed and operating substantially as and for the purpose set forth.

Twelfth, the application of the tappet 36, secured to the rod 33, also the roller set, set in suitable housing, and stationed in position to produce a simultaneous and automatic setting forward of the knees, substantially as set forth.

Thirteenth, the use of the adjustable intermediate support, in combination with and for the purposes set forth in the foregoing claims.

63,615.—B. W. COLLIER, Oxford, Miss.—*Hand Sewing Machine.*—April 9, 1867.—This works in the manner of shears, like Hendrick's patent, No. 21,722, but employs two threads, as in the Wheeler and Wilson machine, to form a lock stitch. The looping hook makes a reciprocating instead of a continuous revolution around the dish bobbin. The bobbin and looping hook are contained in one part, and the eye-pointed needle is attached to the other portion.

Claim.—The combination of the levers A A' B B, case C, arm D, needle H, rotary looper E, hook E', bobbin F, pinion L, cog M, rod N, spring O, and spool I, all arranged as herein described for the purpose specified.

63,616.—CHARLES CROLEY, Dayton, Ohio.—*Window Frame.*—April 9, 1867.—The parting strip in a sash is made in two parts, the lower one of which is held in position by means of a pin and catch.

Claim.—The pocket piece D, having the catch e, or its equivalent, and its arrangement with reference to the window frame A and sash B and C, in the manner substantially as and for the purpose described.

63,617.—JOSEPH G. DENNIS, Camden, Ohio.—*Dough Tray.*—April 9, 1867.—The fire-box, with a damper for regulating the heat, slides under the metallic bottom of the sponge end of the dough trough.

Claim.—The tray A, provided with a metallic bottom, in combination with the damper E, and fire-box B, as and for the object explained.

63,618.—P. S. DEVLAN, Jersey City, N. J.—*Coating Wood.*—April 9, 1867; antedated March 24, 1867.—Liquid silicate of soda is mixed in equal proportions with paper pulp and the compound spread on wood to form a coat thereon.

Claim.—The coating of wood with the compound of silicate and vegetable fiber, substantially as and for the purpose specified.

63,619.—DAVID DICK, Meadville, Pa.—*Gas and Air Engine.*—April 9, 1867.—The air is intermittently

expanded by material which is alternately ignited and extinguished in a closed chamber connected with the generator. The ignition of the combustible is controlled by the motion of the engine. The air which has been deprived of its oxygen is expelled from the generator and fresh air is introduced thereto by a revolving plate that vibrates back and forth around the internal diameter of the cylinder, until it meets a longitudinal diaphragm which divides the induction from the induction passage.

Claim.—First, a generator for heating the air for an air engine by burning a combustible material contained in a closed chamber connected with the generator, substantially as described.

Second, a mechanism, substantially such as described, for alternately producing and extinguishing combustion in the generator of an air engine.

Third, the combination of the section C of the generator, with the tube L, and shaft G', substantially as described, to alternately transfer the combustible material from the closed chamber to the generator, as set forth.

Fourth, a mechanism, substantially such as described, for simultaneously expelling the products of combustion from the generator and introducing fresh air therein.

Fifth, the combination of the stationary diaphragm O with the rotating partition plate Q and generator A, substantially as and for the purpose set forth.

Sixth, the igniting tube H, combined with its piston I, substantially as and for the purpose set forth.

Seventh, the combination of the igniting tube with the generator and closed chamber, substantially in the manner and for the purpose described.

63,620.—WILLIAM C. DODGE, Washington, D. C.—*Boat Detaching Tackle.*—April 9, 1867.—The davit fall is connected with two links which pass through the thwarts of the boat, and are engaged by a bar which being curved at one end is simultaneously disengaged from the links by a longitudinal movement, which is effected by a lever beneath the middle thwart.

Claim.—First, a boat-detaching device, consisting of two locking points or bolts connected by a rigid sliding bar, and having no loose or working joints between said locking points, arranged to operate in combination with the eye-blocks E, substantially as described.

Second, the sliding bar B, having its rear end bent as shown in Fig. 4, for the purpose of enabling both ends to be disengaged from the eye-blocks simultaneously by a single movement, substantially as described.

Third, the combination of the sliding bar B with the spar H, or its equivalent, when arranged for joint operation, as and for the purpose herein set forth.

63,621.—EDWARD DOEN, New Britain, Conn.—*Curtain Fixture.*—April 9, 1867.—The curtain cord runs in the groove of the knob and the projecting prong forms a festoon hook. The knob is bolted to a clutch which is adjustable on the ratchet plate.

Claim.—The combination of the glass or porcelain festoon prong knob d, with the ratchet or holding plate b, as and for the purpose described.

63,622.—JOHN EARNSHAW, Providence, R. I.—*Power Loom.*—April 9, 1867.—The thread carrier rod is eye-pointed and the thread is carried by it in lieu of a shuttle. A shuttle thread engages the loop and the rod is retracted, leaving two filling threads in the shed. The rod slides on bars projecting from the side of the loom, and is actuated by a rocker shaft, a vibrating arm, and connections. The ordinary cap piece of the reed is removed to permit free manipulation of the warp. The shuttle has a segmental guide groove and is operated by a divaricated arm upon a rocker shaft, its two horns engaging the back end of the shuttle alternately.

Claim.—First, an eye-pointed filling thread carrier in combination with mechanism for carrying an interlocking selvedge thread, substantially as set forth.

Second, in combination with an eye-pointed filling thread carrier and mechanism for carrying an interlocking selvedge thread, the reed, substantially as described.

Third, the spring f, arranged to operate the eye-pointed filling thread carrier, substantially as described.

Fourth, the within-described method of weaving by passing a double thread of filling between the warp threads, locking the filling by an independent selvedge thread crossing the warps and binding, and beating up the filling, substantially as set forth.

Fifth, the shuttle *e*, operating in a vertical plane, and crossing the head of the filling thread carrier transversely, substantially as set forth.

Sixth, the vibrating arm *n*, which actuates the shuttle, in combination with the arm *j*, and lever or cam *i*, for operating it, substantially as described.

Seventh, the notch or recess *l* in the shuttle races, for supporting or steadying the filling thread carrier when the shuttle is passing through the loop of the filling thread, substantially as described.

Eighth, providing the eye-pointed filling thread carrier with a notch *m*, as and for the purpose set forth.

Ninth, the combination of the needle stock *D*, with guides *a*, substantially as and for the purpose set forth.

Tenth, forming the eye in the needle, substantially as and for the purpose set forth.

63,623.—JOSEPH L. A. EDWARDS, New Orleans, La.—*Cotton Planter*.—April 9, 1867.—The triangular harrow levels the ground in advance and has a roller attached by which it may be raised out of the ground. The trencher follows the harrow, and is succeeded by the seeder. The slotted wheel which receives the seed and drops it into the funnel box, and the spurred shaft which agitates the seed, are driven by gearing from the supporting wheels of the machine. The drum wheel has a brake attached to put the seeding mechanism out of gear. A scraper covers the seed as planted.

Claim.—First, the employment of the roller *B*, in connection with the separate parts, substantially as and for the purpose set forth.

Second, the arrangement of the holes on the drum wheel *I*, and the arrangement of the wheels, substantially as and for the purposes set forth.

Third, the combination of the harrow *C*, the groover *F*, the seed box *G*, and the scraper or coverer *O*, as and the agitator *K*, and brush *N*, substantially as and for the purpose set forth.

Fourth, the arrangement of the above devices, all connected and operating substantially as and for the purposes described.

63,624.—S. T. EMERSON, Amboy, Ill., assignor to himself and J. B. EDAMS, same place.—*Switch Chair*.—April 9, 1867.—The lower edges of the chair are slightly concave and the lower face is salient, thicker at the center than at the ends, and rests on a resilient pad.

Claim.—First, the shape of the bottom of the switch chair, viz: that portion of it that comes in contact with the cross tie or head block, said shape being a surface inclined from either end down to a given point half way between the ends, and not parallel to the face of the chair, and the planes of the bottom being slightly concave from either side to a point half way between the sides, substantially as herein described and specified.

Second, the switch chair, with a bottom as described, in combination with india-rubber seat, as herein described.

63,625.—LAVINIA H. FOY, Worcester, Mass.—*Pin for the Attachment of Bows and Rosettes*.—April 9, 1867.—The plate has a pin on one side for attachment to the bow, and a similar pin on the reverse side for the attachment to the collar or dress.

Claim.—An improved article of manufacture in a bow and rosette pin, constructed substantially as shown and described.

63,626.—LEWIS FRANCIS, New York, N. Y., assignor to himself and CYRUS H. LOUTREL, same place.—*Making Spring Backs for Books*.—April 9, 1867.—The material for the back is stretched over a steam pipe attached to a frame, and is held in position by hooks and a spiral spring, which are attached to a rod below. The heat of the pipe dries the mucilage and sets the shape of the back.

Claim.—First, the mode, substantially as described, of making spring backs for blank books.

Second, as a new and useful article of manufacture, a spring back for blank books, when the same shall be constructed substantially as described.

63,627.—OBADIAH V. GARNETT, Versailles, Ky.—*Medical Compound*.—April 9, 1867.—Medicine for the cure of fever and ague. The sulphate of iron and alumina is heated until the water of crystallization is expelled; 4 ounces of the result is mixed with 1 ounce of cayenne pepper.

Claim.—The combination of the medicines in the compound herein set forth.

63,628.—DAVID B. GOERVY, Birmingham, Pa.—*Mortising Hubs of Wagon Wheels and the Tenons of Spokes to fit in the Hub*.—April 9, 1867.—The tenons of the spokes have a corrugated surface to correspond with similar surfaces in the mortises and with the faces of the adjacent tenons.

Claim.—Corrugating the tenon of spokes of wheels, and bracing and uniting the end of said tenons in their mortise, so as to form a solid part of hub, as herein described and for the purpose set forth.

63,629.—H. H. GRIDLEY, Auburn, N. Y., and MARY L. GRIDLEY, Burlington, N. J.—*Fruit Box*.—April 9, 1867.—The point and slot of the respective edges are interlocked and form a conic frustal shell into which a bottom is dropped; ragged projections made by punching in the sides of the box prevent its retraction; the shell is shrunk thereon.

Claim.—The joining of the ends of the shell by hooking them together, as shown, and introducing a slide key or other equivalent device, as described, to assist in keeping said ends firmly together.

Also, securing the bottom in its place by means of projections on the inside of the shell, formed from the material thereof, either above or below the bottom, or both above and below.

Also, the shrinking of the wet or green shell upon the dry bottom, when in combination with the above devices.

63,630.—L. C. HAINS, Bedford, Ohio.—*Cheese Vat*.—April 9, 1867.—The furnace is made in two sections, with flue dampers and air inlet to graduate, direct, and check the caloric current beneath the vat which fits the above furnace.

Claim.—First, the arrangement of a vat heater in sections *A*, *B*, and central flue *C*, provided with the damper *D*, as and for the purpose specified.

Second, the sliding dampers *H*, in combination with the flue *C*, damper *D*, and fire box *B*, as and for the purposes set forth.

63,631.—WILLIAM G. HARTLEY, Saxonville, Mass.—*Loom for Weaving Piled Fabrics*.—April 9, 1867.—Two united piled fabrics are woven simultaneously and cut apart by a revolving knife operating in connection with a guard finger in the loom, to form velvet and similar goods. To vary the length of the pile the guide bars are set nearer or further apart.

Claim.—A bill or guard finger *21*, provided with a slit or opening forming two cutting edges, when employed in connection with a circular revolving knife *w'*, substantially as and for the purpose set forth.

Also, the within-described arrangement and combination of the mechanism for operating the knife *w'*, consisting of the shaft *Q'*, crank *o'*, connecting rods *R'* and *Y'*, upright lever *S'*, pulleys *V'* *W'*, drum *20*, and bevel wheels *16* and *17*, substantially as and for the purpose set forth.

63,632.—JOSEPH V. HARTMAN, Marathon, Ohio.—*Churn Power*.—April 9, 1867.—Motion is communicated by clock work to the system of levers which reciprocate the churn dashers.

Claim.—The dash handles *G* *G'*, levers *F* *F'*, links *E* *E'*, bar *D*, and pendulums *C*, arranged and operated as above described, and for the purpose set forth.

63,633.—JOHN HAWORTH, Frankford, Pa.—*Photographic Camera Stand*.—April 9, 1867.—Ratchets on the hinged legs and pawls on the summit of the pillar permit the independent adjustment of the legs, and facilitate any necessary change in height and presentation of the camera.

Claim.—First, the combination of the board I, uprights *c c*, ratchets E E, pawls F F, pillar A, the several parts being constructed and arranged in relation to each other, substantially as described and for the purpose specified.

Second, the combination and arrangement of the spring G and lever H with the pawls F F, substantially as and for the purposes set forth.

63,634.—G. W. HEATH, Burlington, Pa.—*Horse Hay Fork.*—April 9, 1867.—An adjustable lever in connection with the short arm of the fork varies the throw or opening of the arms of the fork. The lever is adjusted by means of a pin and different holes perforated in the short arm of the fork.

Claim.—The arrangement of the adjustable link B, in combination with the short arm A, lever C, and bar D, in the manner and for the purpose shown and described.

Also, providing the upper end of the short arm A of the fork with a series of two or more perforations, in the manner and for the purpose described.

63,635.—THOMAS HEATON, Cornwall, N. Y.—*Check Rein.*—April 9, 1867.—The supplementary rein passes through loops in an ordinary rein, thence through the terrets and gag-rein loops and through the rings of the bit up to the head band. The replication of the rein gives it additional force and draws the angle of the mouth upward.

Claim.—First, the arrangement of the check rein, main rein, and loop C, in the manner described, for the purpose specified.

Second, the main reins B, provided with loops *f*, in combination with the check rein A, whereby the latter can be removed and applied at pleasure, and adapted to an ordinary rein, in the manner as and for the purpose specified.

63,636.—THOMAS R. HICKS, New Britain, Conn.—*Vent Plug.*—April 9, 1867.—A bushing is screwed into the cask and has an aperture on one side. In the upper socket of the bushing is a screw thread in which fits a hollow screw plug containing a valve, which is kept upon its seat by a spiral spring.

Claim.—As a new article of manufacture, a spring pressure vent plug, constructed substantially as and for the purpose described.

63,637.—WILLIAM W. HOWELL, Philadelphia, Pa., assignor to himself and M. MARSHALL, same place.—*Rolling Mill.*—April 9, 1867.—The springs aid the operator in introducing the bar to the desired groove, and the shield guides the bar as it is turned up and directs it in its proper course between the rolls.

Claim.—The combination of the recessed roller B, roller A, shields E, and springs *a*, the whole being arranged and operating as described.

63,638.—LAFAYETTE HUNTOON, Milford, Mass.—*Steam Engine.*—April 9, 1867.—Improvement on his patent of May 15, 1866. The exhaust steam is carried from one cylinder to a larger one in which it is used expansively; but one steam chest and valve are used. The valve is moved by the finger of a rock shaft, which is actuated by crank, connecting rod, arm, &c., moved by the eccentric. The valve governs six openings in the seat leading in the round of the movements from the chamber in the valve to each end of each cylinder and to the ultimate exhaust.

Claim.—First, the combination with the steam cylinders of the steam chest and valve and ports for conducting the steam to and from the said cylinders, under the arrangement herein specified, so that but one valve and steam chest need be employed with the said cylinders as set forth.

Second, the arrangement of the herein described mechanism for operating the valve, the same consisting of the rocker shaft S, vibrating recessed arm H, connecting rod U, with its dovetail end *b*, and the rocker shaft W, with its crank V, and finger Z, the said mechanism being connected with the eccentric rod Q, substantially as and for the purpose set forth.

63,639.—GEORGE W. HURST, Chestertown, Md.—*Churn.*—April 9, 1867.—The dasher has openings for the passage of the cream, and the rod has tubes throughout its length for the passage of air, which is

controlled by valves at the lower ends and adjustable covers at the upper ends of said tubes.

Claim.—The upright square shaft D, with its square dasher J, with oblique apertures K, with extended arms H, and atmospheric tubes E, and valves G, when arranged, constructed, and combined as herein described, and for the purpose set forth.

63,640.—ISAAC B. HYMER, Warsaw, Ind.—*Railroad Rail.*—April 9, 1867.—The rail is composed of four pieces, of which one forms the base and the central supporting flange; this is embraced by two side pieces whose upper portions form a dovetailed socket for the flange underneath the upper cast-steel track rail.

Claim.—The rail D, having a dovetailed tenon clasped between the side plates B B, which are supported against and upon the bed rail A, substantially as described and represented.

63,641.—ZALMON L. JACOBS, Hebron, Conn.—*Beehive.*—April 9, 1867.—The inner hive is formed of frames fastened together by coiled hooks so arranged that the hook end of one passes over the shank of the next. The feed box is reversible, and its mouth is covered with cloth. Boxes arranged upon slides in front of the hives conceal the entrance. The inner hive is placed upon a broad shelf, the greater portion of which is removable.

Claim.—First, the narrow board C, in combination with the board D, substantially as and for the purpose specified.

Second, constructing and arranging the hooks O, so as to connect with each other directly or without intermediate staples or pins, substantially as and for the purpose described.

Third, in combination with the frames L, the employment of the extensible hooks O, when the same are made extensible by means of coils Q, or their equivalents, substantially as and for the purpose described.

Fourth, the combination and arrangement of the reversible box S, the cloth V, and the receptacle U, substantially as described, and for the purpose of feeding bees.

Fifth, the adjustable or changeable appendages *c*, in combination with the case A, or its equivalent, substantially as and for the purpose described.

63,642.—JOHN JENK, Washington, D. C.—*Button.*—April 9, 1867.—The shouldered shank has at one end a disk, and at the other a barbed point, which pierces the clothes, and then enters the head of the button, piercing the diaphragm against whose inner surface the shoulder of the barb impinges to prevent retraction.

Claim.—The diaphragm *f*, confined in the head of a button, substantially as described, and employed in connection with the shouldered shank *a* and disk or fixed piece *b*, in the manner and for the purpose set forth.

63,643.—J. HERVA JONES, Rockford, Ill.—*Hand Seed Planter.*—April 9, 1867.—The respective planters are linked together, and the relative distance of their lower ends is adjusted by slotted plates and hinges and set screws at their upper ends.

Claim.—First, the combination of two single-hand seed planters for joint operation by means of the fulcrum link or cross-bar, and the adjustable hinge, arranged and operating as described.

Second, the combination of the thrusting handles with the slotted hinge and adjusting screws, when constructed and arranged as described.

Third, the hinges, constructed of two leaves, each the counterpart of the other, and united by interlocking the hooks and eyes, for the purpose of dispensing with a pivot pin, and of securing economy of construction, as set forth.

63,644.—ELEAZER MARBLE, Hanover, Wis.—*Washing Machine.*—April 9, 1867.—The lower frame has corrugated rollers, and is suspended by pivoted bars in the seed box; the upper similar frame rests on the lower, and each is connected to a lever on opposite sides of its point of oscillation, so as to be reciprocated on each other, in opposite directions, as the lever is vibrated.

Claim.—The combination and arrangement of the two series of corrugated rollers E and F, with the adjustable pendulum bars P, substantially as and for the purposes set forth.

63,645.—ALDEN B. MARSHALL, Medfield, Mass.—*Carpenters' Bench.*—April 9, 1867.—The tool tray is suspended by its central dividing board to the beam of the tressel; its sides are hinged, and are hooked together to contain tools, or are displayed as a table. The legs are removable, and are attached by elastic straps.

Claim.—First, the application to a carpenters' horse of a tool box, so as to admit of its being adjusted lengthwise or crosswise to the said horse, or detached therefrom, the said box being constructed and arranged substantially as shown, for the purpose herein set forth.

Second, securing the legs of the horse to its body by means of the elastic bands or their equivalents, substantially as hereinbefore explained.

63,646.—JOHN MARTINO, JACOB BEESLEY, and JOHN CURRIE, Philadelphia, Pa., assignor to STUART, PETERSON & Co., same place.—*Heating Stove.*—April 9, 1867.—The cast-iron fire chamber is surmounted by a cap, and the latter by a cylindrical casing, containing an oven encompassed by the calorific current. It combines in small compass heating and cooking arrangements.

Claim.—The cast-iron body B of the stove, the upper portion of which has a number of inclined flat sides, and the lower portion of which is cylindrical, in combination with the ring or ledge W and with the cap F, cylindrical casing H, oven chamber K, and flues L and J, the whole being arranged substantially as and for the purpose described.

63,647.—DON C. MATTESON and T. P. WILLIAMSON, Stockton, Cal.—*Cultivator Teeth.*—April 9, 1867.—The cultivator tooth has a reversible bit; a double mold board, and a broad blade extending laterally; all attached to a curved standard by screw bolts.

Claim.—First, the double-pointed adjustable bit A, and the beveled foot of the curved standard C, resting on the said bit, in combination with the double mold board or shovel B, the same fitting over the standard and bit, substantially as described, for the purpose specified.

Second, the oblong blade or share D, in combination with the manner of fastening the teeth together by bolts passing through the mold board bit or share, substantially as described.

63,648.—JOHN MATTHEWS, Jr., New York, N. Y.—*Pressure Gauge.*—April 9, 1867.—The capacity for expansion being greater on one side than the other, the index finger, which is axial in the normal state, is tipped by the rising of the diaphragm, and its inclination is registered on the graduated bar.

Claim.—The corrugated disk, made more sensitive or capable of greater action on one side of its axial line than on the opposite side thereof by giving a varied or unequal construction to the corrugations, substantially as and for the purpose or purposes specified.

63,649.—PATRICK FRANCIS MILLIGAN, Washington, D. C.—*Check on Car Conductors.*—April 9, 1867.—As a ticket is received by each passenger, upon payment of fare, it is dropped by him into a tube leading to a receptacle inaccessible to the conductor.

Claim.—The employment in a car or other similar vehicle of the checks or tickets C, check box B, drawer D and tubes a, b, when constructed and arranged substantially as and for the purpose specified.

63,650.—SIMON B. MINNICH, Landisville, Pa., assignor to himself and H. K. BURKHOLDER, Lancaster County, Pa.—*Stop Jointed Manure Drag.*—April 9, 1867.—The shaft to which the tines are attached passes transversely through the beam and is held in effective position by the detent lever, whose elevation frees the drag teeth to discharge the load.

Claim.—The arrangement of the notched lever E F X with the stop g on the jointed hook G K, in combination with the box H I, constructed and operating in the manner specified for the purpose set forth.

63,651.—WILLIAM MORRIS, Elkhart City, Ill.—*Animal Trap.*—April 9, 1867.—The wheel is rotated by a coiled spring, the radial wings being in turn detained by their latches which catch upon a detent lug on the case. The motion of the oscillating platform disengages the latch, the wing descends, and the next becomes ready for duty.

Claim.—First, the combination of the revolving wings B, the coiled spring D, or its equivalent, the oscillating platform E, latch F, and catch G.

Second, the combination of the latch F, the detent H, and guide plate I, substantially as set forth.

Third, the combination of the oscillating platform E, the spring E', detent H, revolving wings B, latch F, and catch G, substantially as set forth.

63,652.—GEORGE S. PETRY, Troy Grove, Ill., assignor to himself and GEORGE W. SNYDER.—*Propelling Street Cars.*—April 9, 1867.—A driving gear wheel is placed between the axles of the car and suspended upon a longitudinally sliding frame so as to engage alternately and at will with pinions on either of the car axles, reversing the motion of one axle when disconnected from the other and put in connection with its opposite by a lever and connections. The driving wheel is actuated by a coiled spring which is wound by lever and pawl, and the power is retained by lever and rucks while the transfer of the frame is being made.

Claim.—First, the driving wheel A, coiled spring B, idle wheel H, toothed bars l m, and sliding frame D D, in connection with the axle pinions l L, all related to each other and operating substantially as and for the purpose herein specified.

Second, the hand lever O, elbow lever P, connecting rod q, rock shaft C, and ratchet sleeve c, with pawls z f, for giving tension to the coiled spring B, substantially in the manner and for the purpose set forth.

63,653.—ALONZO C. RAND, Union Mills, Pa.—*Protecting China, Glass, and other Articles.*—April 9, 1867.—An annular groove in the foot or base of the vessel has an elastic projecting ring upon which it stands.

Claim.—The bottoms of vessels of china, earthen, porcelain or glass ware with grooves or depressions for the purpose of applying therein elastic rests, substantially as herein shown and described.

63,654.—FRANÇOIS LOUIS ROUX, Toulon, France.—*Plastic Compound for Protecting Metallic and Non-Metallic Surfaces from the Effects of Air and Water.*—April 9, 1867.—Composed of caoutchouc, 10 parts; spirits turpentine, 45; sulphate of baryta, 60; sulphur, 23; and white lead, 12, properly compounded and laid over a coat of paint or other preparative coating.

Claim.—The preparation, substantially as herein set forth, of a plastic compound applicable to the protection of metallic and non-metallic surfaces from the action of water, air, and other causes of deterioration to which they may be exposed.

63,655.—JACOB RUSSELL, Brooklyn, N. Y., assignor to himself, H. T. MCCOUN, J. L. ROMER, and T. T. BUCKLEY, same place.—*Machine for Making Nails.*—April 9, 1867.—The nail plate is fed by dogs from the table to the cutters, one of which is attached to a block forming part of the oscillating frame, the other being secured to the head block of the cross-rocking beam, which is oscillated vertically by cams and has its bearings in the frame. Springs behind the rocking cutter gauge the feed. A nipper rod catches the blank and turns it over flat, when it is seized by the grippers and headed by the punch. The punches are on each side and the mechanism is oscillated in alternate directions as the heads are made from alternate edges of the nail plate.

Claim.—First, the combination with a stationary nail plate feeding table, or its equivalent, of cutters, nipper, gripper, and headers, arranged for operation together on a bed or frame having an oscillating motion about an axis perpendicular or nearly so with the horizontal clipping edges of the cutters, substantially as specified.

Second, the arrangement relatively to the cutters and headers of the nipper K, operating to turn the

blank by striking it at or about the middle of its length, essentially as herein set forth.

Third, imparting to the headers M M an oscillating movement in unison towards and from opposite sides of the nail plate feed in addition to their heading motion, by means substantially as shown and described.

63,656.—SYLVANUS SAWYER, Fitchburg, Mass.—*Dividers and Calipers.*—April 9, 1867.—The fingers are moved by segment racks on their pivot ends, which are engaged by a screw thread on the handle. A set screw connects with a loose collar on the handle to fit the fingers.

Claim.—The combination of the screw or worm gear A D, with the stirrup and binder F, or its equivalent, as applied to dividers and calipers, the whole being constructed and operating substantially in the manner herein described and set forth.

63,657.—JOSHUA S. SHAFER, Plymouth, Mich.—*Land Roller.*—April 9, 1867.—Each section is hinged to the rear extension of the tongue and accommodates itself to the inequalities of the ground.

Claim.—Hinging the frames B B to the common end piece A, in which end piece rollers C C have their bearing for the purpose of making a flexible roller, substantially as specified.

63,658.—WARREN SHUMARD, A. LYON, and JASPER N. ROBBINS, Goshen, Ohio.—*Saw Mill.*—April 9, 1867.—The pivoted rest is automatically fed by a spring pawl upon a lever which is reciprocated by an oblique bar, attached to the saw gate and made adjustable to vary the feed.

Claim.—The arrangement of oblique adjustable bar M, on the sash H, in combination with the screw N, lever P, pawl Q, and segmental rack G, for the automatic feed of the rest B, in the manner set forth.

63,659.—PHILANDER SISSON, Brant, N. Y.—*Potato Digger.*—April 9, 1867.—The digging platform at the front end may be raised clear of the ground by a cam being pivoted at the rear for that purpose. The potatoes pass from the platform to a rake screen, between whose bars pass the forwardly curved teeth of the reel. The series of teeth are alternately nearer and more distant to act as stirrers and sifters.

Claim.—The hinged platform C, having a sharp cutting edge c^3 , projecting forward of the axle of the driving wheels and having stationary rake teeth j , projecting in rear of the axle, in combination with a revolving wheel having fingers f^1 , with flat connecting bars f^2 , substantially as described.

63,660.—GEORGE W. SLATER, New Haven, Conn.—*Bow Iron for Carriages.*—April 9, 1867.—The bow sockets have central projecting plates to traverse kerfs in the bows and are attached to their base plate by rivets cast on the inside of the same; a similar plate covers their other sides. These plates are pivoted to the seat frame.

Claim.—First, the casting of rivets or projections upon the bed plate a , substantially as and for the purpose set forth.

Second, the thimbles E E, as constructed and applied, in combination with bow irons C C, substantially for the purpose set forth.

Third, the back plate D, in combination with the bed plate a , when both are constructed as and for the purpose described.

63,661.—WILLIAM SOOY SMITH, Oak Park, Ill.—*Excavating and Dredging.*—April 9, 1867.—The receiving chamber is at the head of the suction pipes, and the mud is driven thence by an upward jet of steam in the discharge pipe. The mouths of the several suction pipes are governed by flap valves; and the mud is driven in by natural pressure as a partial vacuum is made in the receiver by the injected jet of steam.

Claim.—The combination and arrangement of the receiving chamber A, tubes $b b$, ejection pipe a , caps $c c$, rack D, pinion d' , car truck B, movable rail $e e$, upon the sliding frames $g g$ of the sills $h h$, substantially as herein set forth, for the purpose specified.

63,662.—JOHN P. SPANGLE, Hopewell Centre, N. Y.—*Car Coupling.*—April 9, 1867.—The pivoted

lever by which the connecting pin is raised operates in conjunction with a movable bumper and catch, so that the lever is released and the pin allowed to drop upon collision of the drawheads.

Claim.—First, the jointed upper lever C D, in combination with the coupling pin and the receiving drawhead, operating substantially as described.

Second, the lower lever G, in combination with the hook F, the spring M, and drawhead I, operating substantially as described.

63,663.—GEORGE W. SPAULDING, Norton, Mass.—*Switch.*—April 9, 1867.—The switch is formed of portions of common rails. The main rails are cut obliquely across to allow the passage of the wheel flanges from either side track when running onto the main track.

Claim.—A safety switch for railroads, composed of the grooved rail a , and the parts b and d , when constructed and operating substantially as above set forth.

63,664.—CHARLES W. STAFFORD, Saybrook, Conn.—*Garbage and Ash Box.*—April 9, 1867.—The box is inclosed in a case provided with a cover and can be elevated and dumped by a follower, which is operated by a rack pinion and chain.

Claim.—First, a garbage or ash box placed within a case provided with a lid or cover, and arranged as herein shown and described, to admit of being elevated and tilted or dumped, in order that its contents may be discharged into a cart, substantially as described.

Second, the rod H, attached to the bottom of the garbage or ash box D, and provided with the rack c , the hollow part C of the case A, in which the rod H works, the pinion F on shaft G, and the chain, all arranged to operate in the manner substantially as and for the purpose set forth.

63,665.—CHARLES W. STAFFORD, Saybrook, Conn.—*Ash or Garbage Box.*—April 9, 1867.—The semispherical stationary cover is connected by pivots at its base to its counterpart, which slides over it on the removal of the spring catch. A roller in front facilitates the removal of the box.

Claim.—A portable garbage and ash box, constructed of iron or other suitable metal, having a roller B in its base, fixed and movable semispherical covers E F, and suitable handles, all constructed and arranged substantially as herein shown and described.

63,666.—J. DUTTON STEELE, Pottstown, Pa.—*Bridge.*—April 9, 1867.—The double series of inclined main and counter braces in connection with the brace rods make a light truss in which vertical posts are unnecessary.

Claim.—The combination of the two series, substantially as set forth, or their equivalents, made either of wood or of iron, in the manner and for the purpose hereinbefore described.

63,667.—LEVI STEVENS, Fitchburg, Mass.—*Machine for Carbureting Air to Produce Inflammable Gas.*—April 9, 1867.—The air passes through the tortuous passage of a shallow box partly filled with liquid hydrocarbon and saturated porous substances. From this box the air passes into one end of a cylinder containing a meter wheel having disks of wire gauze attached to its axis. This cylinder is kept half filled with the liquid by a float and valve. From this cylinder the air passes through another box similar to the first, and from that to the burners.

Claim.—The use of the meter wheel for the purpose of carbureting atmospheric air, in the manner substantially as described.

Also, the flowage regulator, constructed of the several parts specified, and arranged substantially as described and for the purposes set forth.

63,668.—ANSON K. STONE, Oronoco, Minn.—*Wheel Carriage.*—April 9, 1867.—Oblique braces extend from each axle to the contrary end of the carriage box, and have brace springs connecting with the lower sides of the axles.

Claim.—The combination as well as the arrangement of the two main springs D D and the four elastic braces or brace springs $c c c c$ with the two axles and the sweep bar, as specified.

Also, the combination as well as the arrangement of the elastic braces *d d* with the four elastic braces *c c c c*, the two main springs *D D*, the two axles, and the sweep bar, the whole being substantially as herebefore explained.

63,669.—ANSON K. STONE, Oronoco, Minn.—*Wheel Carriage.*—April 9, 1867.—The main springs connect with the axles and act as a perch. The auxiliary springs aid in supporting the axles and serve as braces to the main springs.

Claim.—The above-described arrangement of four main springs *D D E' E'* with each other, the carriage body, the rear axle, and the sweep bar of the front axle.

Also, the combination as well as the arrangement of the auxiliary or transverse brace springs *F F* with the main springs *D D* and *E' E'*, arranged and applied to the carriage body, the rear axle, and the sweep bar of the front axle, substantially as specified.

63,670.—WILLIAM S. STORMS, Middletown, Ohio.—*Furnace for Steam Boilers.*—April 9, 1867.—The unignited gases which escape from the furnace are collected in a chamber, and when oxygenated by conduction of atmospheric air through flues, are returned to the fire chamber for combustion.

Claim.—First, the combination with the fire chamber of a furnace or other heater of an auxiliary chamber communicating with the fire chamber and outside air through flues and passages, arranged substantially as shown and described.

Second, the combination of the fire chamber and boiler with the upper arch and lower arch or fire bridge of the furnace, under the arrangement and for operation as shown and described.

63,671.—WILLIAM D. STROUD, Oshkosh, Wis.—*Corn Shelter.*—April 9, 1867.—The obliquely-ranged teeth on the respective plates have a raking action on the ears of corn. The oscillating plate is pivoted at one end, adapting itself to the size of the ears by a spiral spring. The shelled corn drops on a screen below.

Claim.—The movable plate *c* and the stationary plate *b*, with the diagonal setting of the teeth thereon relatively one to the other on the respective plates, the lever *d*, the inside rim *n*, the outside rim *m*, the hopper *e*, the adjustable screw *s*, the adjustable spring bearing *g*, and the screen *f*, when constructed and arranged relatively to themselves and to the frame *a*, substantially as described, for the purposes set forth.

63,672.—EDWARD SULLIVAN, Pittsburg, Pa.—*Piston Packing.*—April 9, 1867.—Inwardly opening valves are placed in the ends of the piston, the steam duct communicating with the central recess to conduct steam to force out the flexible side rings. The sliding plates are rabbeted together to prevent leakage of steam.

Claim.—First, the recess *C* between the packing rings of a piston head of a cylinder of a steam engine, as herein described and for the purpose set forth.

Second, the plates *g* and *h*, when used in combination with a joint or joints in metallic and expansive packing of a piston head, as herein described and set forth.

Third, in connection with the above the valve *x*, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

63,673.—JOHN TESSEYMAN, Dayton, Ohio.—*Planing Machine.*—April 9, 1867.—The tool passes through a slot in the head of the bolt, which is adjustable about an axis tangential to its path when in operation, and which traverses the oblique-faced holding washer and the end of the arm. The washer has radial serrations on its rear face, which is perpendicular to its axis, and the arm has similar serrations, so that by loosening the bolt the tool may be turned in the plane of the main axis of the head and fixed, by tightening the nut, to any inclination.

Claim.—First, the provision in a planing head of an obliquely-faced washer or tool holder *H*, adjustable about an axis tangential or nearly so to the path of the bit, substantially as set forth.

Second, a tool holder for a disk or conical planer, consisting of the oblique-faced and serrated washer *H*, slotted bolt *D E f*, nut *E*, and serrated head *B*, for the purpose set forth.

63,674.—CHARLES H. VANHOUTEN and JOSEPH M. CRANE, Newark, N. J.—*Machine for Pouncing Hats.*—April 3, 1867.—The hat is fastened to the block by the binder, which fits around the edge of the rim. Pressure on the treadle shifts the belt to the fast pulley and rotates for the vertical shaft, when the pouncer is applied by hand.

Claim.—The sliding rim block, provided with the ring *G*, for adjusting the same, and having a hinged ring or button *H*, in combination with the hat block *D*, when arranged to operate substantially as herein shown and described and for the purposes set forth.

63,675.—THOMAS VARNEY, San Francisco, Cal.—*Quartz Mill.*—April 9, 1867.—The grinding surfaces approach each other and gradually assume a horizontal direction as they descend. These surfaces are smooth and have radial grooves containing wood.

Claim.—The combination of the slots in the smooth grinding surfaces filled with wood with the peculiar form of the revolving grinder *m* and stationary grinder *p*, when constructed and operating substantially as described and for the purpose as set forth.

63,676.—W. J. WALKER, Baltimore, Md., assignor to CAROLINE M. WALKER, same place.—*Manufacture of Light Bread.*—April 9, 1867.—Explained by claim.

Claim.—The combination of super-phosphate of lime and muriatic acid in nearly equal quantities, and bi-carbonate of soda in such quantity as when united in the dough will in process of baking evolve sufficient gas to make light bread or pastry, substantially as above described.

63,677.—WILLIAM WAY, SAMUEL B. WAY, and SAMUEL C. POMEROY, South Butler, N. Y.—*Dish Washer.*—April 9, 1867.—The dasher wheel in the lower portion of the box throws water upon the plates and other vessels which are laid upon the racks above. The dasher shaft is driven by a square-ended coupling rod introduced longitudinally through the end of the box.

Claim.—First, the depression *C* in the bottom of vessel *B* for collecting all the water in the machine immediately about a wheel *D*, which is in diameter considerably smaller than the diameter of the main chamber *B*, substantially in the manner and for the purpose set forth.

Second, the washing wheel *D* having buckets with concave faces in a radial direction, and arranged spirally in a longitudinal direction, substantially as and for the purpose set forth.

Third, the lateral sliding shaft *f* and coupling *e*, in combination with a horizontal washing wheel *D* and rack *K*, substantially in the manner and for the purpose herein specified.

63,678.—JAMES A. WEBB, Madison, N. J., and CHRISTOPHER CORY, Lima, Ind., assignors to CHRISTOPHER CORY, Lima, Ind.—*Evaporating Pan.*—April 9, 1867.—The passages in the steam compartment formed under the pan are regulated by means of partitions and valves to confine the heat to the center or side of the pan.

Claim.—First, the application of steam, or its equivalent, to evaporating pans by means of under channels, with or without valves, so arranged as to produce the greater amount of heat and ebullition either at the center or at one side of the pan or at certain given portions thereof, as desired, while other portions of it shall be less heated and agitated, as herein set forth.

Second, the applying of steam beneath the pans so that their interior shall be left unobstructed for the work of the operator.

Third, the combination with an evaporating pan of a steam channel or chamber, substantially as above set forth.

Fourth, the application of non-conductors of heat to the under steam channel or chambers of evaporating pans, substantially as set forth and described.

63,679.—EDWIN WESCOTT, Hudson City, N. J.—*Sawing Machine.*—April 9, 1867.—The feed rollers are so arranged that each pair can be moved in or out by turning a screw without disturbing the connection with the driving mechanism. The endless screw gears into wheels on the roller shaft at any point of their lateral adjustment. One jaw of the gauge and one pair of rollers are made yielding by cushions.

Claim.—First, the screw spindle J and worm wheels *f f'*, in combination with the feed rollers D D', constructed and operating substantially as and for the purpose described.

Second, the adjustable boxes *l l'*, gudgeons *m*, set screws *n*, and saw spindle L, when constructed and arranged as herein set forth for the purpose specified.

63,680.—ALBERT M. WHITE, New York, N. Y.—*Nozzle for Hose Pipes.*—April 9, 1867.—The nozzle screws into its socket and presses the base valve towards or upon its seat, thereby regulating the flow of water, which passes through side openings into the exit pipe.

Claim.—The combination of the socket A, pipe B, and collar C with the valve *g* and valve seat *e*, all constructed, arranged, and operating substantially as herein shown and described.

63,681.—T. R. WHITE, Philadelphia, Pa., assignor to himself and W. G. BEDFORD, same place.—*Rock Drill.*—April 9, 1867; antedated March 29, 1867.—The hollow cylindrical drill-stock has three radial and three curved cutters, arranged alternately, and partially projecting therefrom; these cutters have serew rods secured by nut within the stock.

Claim.—First, the combination of a drill stock and detachable cutters D E, when the latter are constructed and adapted to each other and for attachment to a stock, substantially as and for the purpose specified.

Second, the detachable block C, in combination with the drill stock and with the detachable cutters D E, their rods *c* and nuts *d*, or their equivalents, the whole being constructed and arranged substantially as and for the purpose set forth.

Third, a rock having three radial and three curved cutting edges, arranged in respect to each other as shown and described.

63,682.—T. R. WHITE and W. G. BEDFORD, Philadelphia, Pa., assignor to W. G. BEDFORD and WIMER BEDFORD, New York, N. Y.—*Well Boring Apparatus.*—April 9, 1867; antedated March 29, 1867.—The drill shaft is connected to a block, which slides

in a slot of its operating disk. The spring blocks keep the wrist block at the rising end of the slot until it reaches the highest point, when it and the drill rod suddenly descend. The upper end of a pawl rod has a pin traversing an elliptical slot in a disk upon the drill-operating shaft, and its catch engages a ratchet wheel on a bevel wheel shaft, which by suitable connection to the drill shaft causes its partial rotation at each stroke. The drill is fed by the spring bar, which comes in contact with inclined ribs in a bracket through which the rod slides, and causes the rotation of the screw of the drill rod in the sliding nut. The contrary rotation of the screw is prevented by a spring pawl and crown ratchet.

Claim.—First, the revolving disk E, with its slot and spring catches *b b'*, or their equivalents, in combination with the sliding block F connected to the drill rods, and the projection *d*, or its equivalent, the whole being constructed and operating substantially as and for the purpose described.

Second, the rod H and spring bar *p*, screw I and nut G', secured to the drill rods, in combination with the bracket G, and its inclined projections *n n*, and the within-described operating devices or their equivalents, the whole being constructed and arranged for joint operation, substantially as specified.

Third, the swivel *e*, with its ratchet *j*, in combination with the rod H and its spring pawl *i*, substantially as and for the purpose set forth.

Fourth, the shaft D', its wheels N and K, in combination with the rod J, wheel *k*, cam disk L and rod M, the whole being arranged and operating substantially as described.

63,683.—A. W. WILCOX, Worcester, Mass.—*Melodeon.*—April 9, 1867.—A chamber over the reeds has a valve at top and bottom. The swell box surrounds the chamber, and has a valve between it and the reeds. These three valves are to alter the tone, and are opened or closed by stops. Valves at the top and bottom of the swell box are operated by a lever.

Claim.—First, the combination with chamber B of the valves *1' 2'* and *3'* for the purposes stated.

Second, the combination with chamber B and swell box C of the valves *1' 2'* and *3'* and D E, arranged for joint operation, as set forth.

63,684.—WM. HENRY WOODS, San Francisco, Cal.—*Bit Brace.*—April 9, 1867.—The collar has within it a sleeve block and axial pin, so that as it is screwed fast upon the shank of the brace, it is rigidly held to its place, preventing rattling.

Claim.—The brace head, consisting of the collar D, the block E, the pin *g* and the steps *m* and *n*, with the nut G, substantially as and for the purpose described.

63,685.—ANDREW R. WORTH, Nantucket, Mass.—*Seed Planter.*—April 9, 1867.—The seed wheel has cups corresponding to the number of grains planted in each hill, is adjustable as to distance, and drops the seed in the tube, which delivers it in the rear of the plow. The automatic hoe covers the seed, and is succeeded by the leveling roller. The machine is operated by devices in connection with the driving wheels.

Claim.—A seed wheel N, provided with a number of cups exactly corresponding to the number of seed required to be planted in a single hill, or so placing the cups at such a distance apart as will regulate the required distance of the seed from each other, when planted in a drill.

Also, the block *m*, with its spring *o*, in combination with the bar U, with its spring *s*, inclined portion *r* and stop *q*, operating substantially as and for the purpose set forth.

Also, a hopper or seed receptacle M, with its partitions or plates *h*, and having its opening *i* to the seed passage, constructed substantially as above described, in combination with a revolving seed wheel N, provided with a number of seed cups *g*, equal to the number of seed to be planted in a hill, substantially as set forth.

Also, a hopper or seed receptacle M, made removable, in the manner and for the purpose set forth.

Also, the boxes X and roller T, in combination with the frame R, arranged and operating substantially as and for the purpose set forth.

63,686.—J. H. ALDRICH, Nashua, N. H.—*Cattle Car.*—April 9, 1867.—The troughs are exposed by opening a shutter on the outside of the car. A false bottom holds the feed above the water below it in the trough.

Claim.—The combination and arrangement of the water and feed trough, separated by the lid, when constructed and used upon a cattle car, in the manner and for the purpose herein described.

63,687.—W. D. ARMSTRONG and W. I. ARMSTRONG, Harlem, Ill.—*Gate.*—April 9, 1867.—The lower ends of the levers are pivoted to the central posts and above to the middle standard of the gate. The rear lever is pivoted at top to the rear standard of the gate, and at bottom to a post in the ground behind. The gate is partially counterbalanced and rises as it slips open by a longitudinal motion.

Claim.—First, the combination of the eccentric pulley or wheel I with one of the central posts B, and with the cord or chain S of the heavy or balance weight R, substantially as herein shown and described and for the purpose set forth.

Second, pivoting the lower ends of the side levers J to the central posts B, by a long bolt K, substantially as herein shown and described and for the purpose set forth.

Third, attaching a spring catch V to the forward end of the gate, and operating it by the cords or chains M, by which the gate is operated, substantially as herein shown and described.

Fourth, the combination of the guards L with the

sides of the gate G, and with the side levers J, substantially as herein shown and described and for the purpose set forth.

Fifth, the combination of the long pulleys or friction rollers N and U with the central posts B, and with the cords or chains M and S, substantially as herein shown and described, and for the purpose set forth.

63,688.—COLUMBUS AULLS, Bridgewater, Mich.—*Sheep-feeding Trough.*—April 9, 1867.—The trough is made to revolve on hinges attached to the standards, being left bottom up when not in use, to prevent its collecting snow, &c. It has a counterbalance to keep it steady when upright.

Claim.—First, constructing the trough A with one sideboard *a'* extended beyond the ends of the trough, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the counterbalances E with the trough A, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the standards B, having slats or braces D attached to them, with trough A, substantially as herein shown and described and for the purpose set forth.

Fourth, hinging the trough A to the standard B, substantially as herein shown and described and for the purpose set forth.

63,689.—ROBERT BAIN, Brooklyn, N. Y.—*Pipe Wrench.*—April 9, 1867.—One jaw has sliding adjustment in the strap pivoted in the other. A thumb screw and key fix the adjustment to suit any sized pipe.

Claim.—In combination with the jaw levers A and B the sliding strap C, with its screw D, and wedge, or jib, F, for operation together, essentially as herein set forth.

63,690.—EDGAR B. BEACH, West Meriden, Conn.—*Convertible Rifle Sight.*—April 9, 1867.—The adjustable slide is attached to the barrel in a transverse dovetail groove, and has attached to it a spring hinge to which the open and covered reversible sights are affixed, the one retiring as the other is raised. It is held in position by a spring catch.

Claim.—The combination of the covered sight *c* and open sight *d*, constructed and arranged so as to be changed to present either the one or the other, substantially in the manner described.

63,691.—GEORGE M. BEARDSLEY, Fentonville, Mich., assignor to himself and C. D. BOUTELL, Deerfield, Mich.—*Apparatus for Upsetting Tires.*—April 9, 1867.—The hand lever acts through the segmental gear rack, toggles, pivoted levers, and connecting rods to vibrate the arms; the tire is clamped to the latter by cams and adjustable blocks, between which it is placed. The cams are operated automatically by the same movement which operates the arms.

Claim.—First, in combination with the levers *d* and a device for operating the same, the levers B, rod *g*, and cams *h*, when the latter are used in connection with movable or stationary jaws $r^1 r^2$, the arms H, substantially in the manner and for the purpose set forth.

Second, the self-clamping lever cams *h* in combination with the jaws r^1 , forming a clamping device, as herein described.

Third, the movable jaws $r^1 r^2$ in combination with the arms H II, swinging upon the same center, for the purpose herein set forth.

63,692.—GEORGE M. BEARDSLEY, Fentonville, Mich., assignor to himself, C. D. BOUTELL, and G. CARPENTER.—*Straw Cutter.*—April 9, 1867.—The curved knife is set eccentrically in connection with a slot in the solid fly wheel, and the straw is fed continuously through a square opening, being bounded by four belts running on rollers whose axes are rectangularly arranged. The jaws are extended except when the knife is cutting, and allow free exit to the straw.

Claim.—First, the knife C when shaped as shown, and set eccentrically upon a fly wheel solid, except as to a slot conforming to the knife, substantially as and for the purpose set forth.

Second, the endless bands E in combination with the pulleys G, constructed, arranged, and receiving motion, substantially in the manner and for the purpose set forth.

Third, a mechanism for operating automatically and simultaneously the jaws P and Q in relation to the knife C, substantially as and for the purpose set forth.

63,693.—HIRAM BECKWITH, Grass Lake, Mich.—*Scaffold Bracket.*—April 9, 1867.—The blades of the brackets lie on two consecutive courses of shingles, their rear parts raising at right angles and connecting at top. The lower one has a brace diverging behind and fastening at its foot to the shingles below.

Claim.—A roof bracket, constructed substantially as herein shown and described, with two blades, with their back pieces, and supported by the brace D, for the purposes set forth.

63,694.—JOHN P. BIRCH, Philadelphia, Pa., assignor to himself and G. W. PATERSON, Newburyport, Mass.—*Rotary Steam Engine.*—April 9, 1867.—The pistons have radial sliding movement in their case and their inner ends rest in indentations of the sleeve upon a shaft axial to the cylinder. This case has eccentric bearing in the head of the cylinder and the steam acts on the portions of the pistons projecting from the case. The pistons have a soft metal packing to the cylinder and the case. That to the cylinder is in form of a three-sided prism, and rests in angular grooves of the piston plates, and that to the case is plano-convex to fit the piston and a segmental groove of the case and allow oscillation therein. The steam has one education and two induction openings, to allow the rotation in either direction. The cylinder is supported on trunnions.

Claim.—First, the combination with the steam cylinder and eccentric piston case of the pistons under the arrangement herein described, so that the said pistons, although revolving upon a common axis or center of motion concentric with that of the steam cylinder, shall be unconnected with and separate from each other and the said cylinder, substantially as shown and described.

Second, the combination of the hollow piston case, mounted upon a shaft, having its bearing in one end of and eccentrically to the steam cylinder, with the pistons separate from each other, but revolving upon a common axis, which is also the axis of the steam cylinder, substantially as shown and set forth.

Third, the arrangement of the steam cylinder with reference to its three bearing points located one upon each side of the cylinder, and the third upon the shaft of the piston case, substantially in the manner and for the purposes herein specified.

63,695.—F. A. BLAKE and H. A. TYRRELL, Worcester, Mass.—*Flue Scraper.*—April 9, 1867.—The spring upon the rod expands against the inner surface of the flue to clean it; stop pins limit the expansion of the spring.

Claim.—First, the combination with rod A of the spiral spring, substantially as and for the purposes stated.

Second, the combination of spring B with rod A, and pins *a* and *b*, substantially as and for the purposes set forth.

63,696.—A. T. BOON and D. M. OSBORN, Gallesburg, Ill., assignor to A. T. BOON and THOMAS R. MARKILLIE.—*Car Coupling.*—April 9, 1867.—The entering link strikes the inner projection of the forked arm and brings up the other projection to engage it. The guide plates hold the link in position, and the catch engages the effective projection. The catch is raised and sustained by a cam lever to uncouple or prevent coupling.

Claim.—The pivoted catch or dog B, curved guides F, rubber bar *e*, and lever C, as arranged, and combined, and operating in combination with the forked arm D, and link E, substantially in the manner and for the purpose as herein set forth.

63,697.—A. BRISBANE, New York, N. Y.—*Wooden Pipe.*—April 9, 1867.—The boards are steamed and bent longitudinally in cylindrical form till the edges lap on each other, and are then riveted.

Claim.—As a new article of manufacture, wooden pipes or tubes formed by bending boards, slats, or strips of wood longitudinally, as herein described.

63,698.—H. C. BRISTOL, Ravenna, Ohio.—*Cultivator.*—April 9, 1867.—Rectangular frames are pivoted in front of the axles, and chains from their front bars are attached to the double tree. The side bars give bearings for adjustable standards. The frames are adjustable by levers and ratchet racks. A central plow on a pivoted standard has a segmental adjustment slide, passing through a backward extension of the tongue which supports the driver's seat.

Claim.—First, the movable frames C, provided with the adjustable standard G and shares H, as arranged and connected in combination with the levers D, draft chains P, and carriage, for the purpose and in the manner set forth.

Second, the jointed standard I, provided with the shovel J and guide stay K, in combination with the standards G, shares H, and carriage, as and for the purpose described.

63,699.—MAHLON BROOKFIELD, Brookfield, Iowa.—*Let-off Mechanism for Looms.*—April 9, 1867.—The traction belt of the pulley on the warp beam is connected to a weighted beam; and the amount of traction is regulated as the amount of yarn upon the beam decreases by the turning of the screw rod upon which the lever weight is suspended. The rod is rotated by changeable sets of gearing interposed between it and the beam, the sets corresponding to various sizes of yarn, and indicated by the horizontal lines on the scale beam. The vertical lines upon the latter correspond to definite proportions of radial capacity of the beam. A quantity of yarn being wound, the revolutions are counted, the thickness measured, and from this data the proper initial position of the weight is found and also the proper set of gearing for reaching zero on the scale as the last coil is unwound from the beam.

Claim.—The graduated scale beam F, combined with a feed screw H, and weight suspended from a friction strap or device on the warp beam, and to be used in connection with different sets or speeds of gear, substantially as described and represented.

63,700.—CLARENCE E. BROWN, Northampton, Mass., assignor to himself and FLORENCE MANUFACTURING COMPANY, same place.—*Blacking Case.*—April 9, 1867.—Explained by the claim and illustration.

Claim.—A blacking case, composed of the exterior shell or case A, surrounding and containing the brushes B C, the latter brush C being provided with a rim b formed so as to fit over and support the blacking box D, all these parts being arranged in the manner and for the purpose herein shown and described.

63,701.—JOHN CARROLL, New York, N. Y.—*Sheet Metal Boiler and other Vessels.*—April 9, 1867.—The heads have spiral corrugations on their rims similar to those on the body to which they are screwed.

Claim.—Providing the cylindrical body A of sheet metal vessels with spiral corrugations which extend from end to end of the body for the purpose of strengthening the same as well as to facilitate the attachment of the heads B B to the body, which heads are also corrugated, substantially as herein shown and described.

63,702.—ENOCH CARTER, Newburgh, N. Y.—*Purifying and Preparing Glass Ore.*—April 9, 1867.—The glass ore is melted in a reverberatory furnace, with or without alkalies as a flux, and is used in lump or dropped in water as cullet. It is manufactured by itself or in conjunction with other material.

Claim.—First, melting the glass ore or rock in a reverberatory or other furnace, with or without alkalies or salt as a flux, and using the product in lump as it comes from the furnace, or dropping it in water as "cullet."

Second, the use of this "cullet" for the manufacture of glass, either alone or in combination with the crude ore with alkaline, sand, lime, quartz, or other materials.

63,703.—MICHEL CELLERIE, Philadelphia, Pa.—*Machine for Stretching and Winding Silk Thread.*—

April 9, 1867.—The object is to equalize the thread and stretch it after it is twisted and spooled. The pressure on the brake lever is variable at will; the thread is reeled from the spool in the trough to the reel, which is driven by frictional contact with a pulley on the main shaft; the thread is distributed on the reel by a traversing guide. The reel, when full, is removed from its bearings, and the detachable part being removed allows the removal of the skein.

Claim.—First, in combination with a silk reeling machine, constructed as described, an adjustable lever brake applied to the pulley of the spindle, which carries the bobbin from which the silk thread is reeled, for the purpose of subjecting the thread to a uniform tension and thus equalizing its quality, as specified.

Second, the removable friction reel R R', constructed, arranged, and operating as described.

63,704.—H. S. CONNELLY, Clymer, N. Y.—*Combined Roller and Seeder.*—April 9, 1867.—The boxes of the inner journals of the forward rollers slide vertically in the frame, and balance each other on a pivoted beam to whose ends they are connected. The pivoted scrapers clean the rollers. The seed slide is operated by a cam disk on the shaft of a roller running on the surface of one of the main rollers. An additional roller spans the balk left by the others.

Claim.—First, resting the inner journals of the main rollers in adjustable bearings and connecting said bearings with the driver's seat, substantially as and for the purpose set forth.

Second, the combination of the cross arm f, with the adjustable bearings e e and the seat C, for the purpose of allowing the one seat to act upon the two rollers, substantially as specified.

Third, the combination with the subject-matter of the preceding claim of the joints formed of the elongated tenons d and mortises e for allowing each roller an independent action, as specified.

Fourth, the combination of the pivoted scrapers G with the adjusting roller B, as shown and described and for the purposes specified.

Fifth, the arrangement of two or more slides K K, resting in compartments v and connecting by screws and slots w x, or equivalent, with the single head u, in such a manner that the escape of the contents of each compartment may be exactly gauged to produce the desired mixture, as specified.

Sixth, the special construction of and arrangement of the machine, as herein set forth.

63,705.—JOSEPH M. COOMBS, Boston, Mass., assignor by mesne assignments to GEORGE W. CHIPMAN and JOHN RABDIN, Lynn, Mass.—*Carriage Wheel.*—April 9, 1867.—Boxes are bolted into the felloe to receive the spokes, which have heads between which and the inner flanges of the boxes are annular rubber springs and washers. Adjustable nuts tighten the spokes. Similar flanges and rubber springs are also attachable to the inner ends of the spokes.

Claim.—An elastic wheel constructed with a provision for contraction of the bearing surface of the felloe towards the hub, when also so constructed that the expansion of the sides of the wheel produced by such contraction is resisted by springs, substantially as set forth.

63,706.—JOSEPH CROMPTON, Little Falls, N. J.—*Bolt and Bolt Head.*—April 9, 1867.—For the attachment of one plate to another where the inner side of one is inaccessible. The bolt has an eccentric head which is passed through the opening in said plate and then moved, so that the shoulder bears against the inside of the plate; the said position is maintained by a key, and the screw bolt is furnished with the usual nut.

Claim.—First, the eccentrically-headed screw bolt C, in combination with the nut E and the eccentric collar H placed around the bolt, substantially as described.

Second, the combination of the bolt C, having an eccentric head F with the eccentric collar H, or its equivalent, the patch or plate B and the boiler plate or article to which the plate B is united, substantially as shown.

63,707.—DAVID CUMMING, JR., New York, N. Y., assignor to himself and STEPHEN WM. SMITH, same

place.—*Cutter Head for Wood Molding Machines.*—April 9, 1867.—The cutters are held between an upper and lower guide disk, and the spindle has vertical adjustment to bring either guide into connection with the pattern. In operating, the pattern and stuff are clamped together and the head adjusted so that the guide and cutters are brought to the pattern and stuff respectively. After as much has been cut away as the grain allows, the pieces reversed, and the cutter head having been adjusted to bring the guide to the pattern, the remainder is cut. The spindle is carried beneath the head and plays in a guide box.

Claim.—A cutter head formed with a guide both above and below the cutter, in combination with mechanism for raising or lowering the cutter relatively with the bed, so that the pattern and wood to be planed can be laid either side upwards on the bed (according to the direction of the grain of the wood when planing) and the cutter and guides be brought to their proper places relatively to the wood and the pattern, as set forth.

63,708.—JOHN T. DAWSON, Frostburg, Md.—*Churn.*—April 9, 1867.—The revolving dasher is attached to a vertical shaft in a rectangular box and has four beveled wings which throw the cream upward above a perforated horizontal disk that retains the butter as formed.

Claim.—First, the revolving dasher D, constructed substantially as described, and operating in combination with the rectangular vessel or its equivalent, essentially as set forth.

Second, the pan E, arranged and operating in combination with the dasher D, substantially as specified.

63,709.—WM. H. DIBBLE, Bordentown, N. J., assignor to SAMUEL S. WHITE, Philadelphia, Pa.—*Dental Apparatus.*—April 9, 1867.—Improvement on his patent of October 17, 1865. The tongue and cheeks are kept from contact with the teeth of the lower jaw, and the saliva drawn off by an air pump through a perforated tube into a receiver. The air-escape valve is between the receiver and the operative bulb of the pump.

Claim.—First, placing the air valve which allows the escape of air when the pump is compressed below the reservoir which receives the liquids drawn from the mouth, substantially as set forth.

Second, placing the rest which supports the upper jaw upon the same frame which sustains the tongue-holder or plate K, substantially as set forth.

Third, connecting the tongue-holder or plate K directly with the tube which receives the saliva and other liquids from the mouth, substantially as shown.

Fourth, perforating the tube J at any suitable point on that side which is protected by plate K from contact with the tongue, so that saliva and other liquids can be drawn out of the mouth without interruption, substantially as shown.

Fifth, making the apparatus flexible in some convenient part, by inserting a flexible division as in the tube H, or by a joint where the tube is left rigid, substantially as set forth.

63,710.—E. R. DOBBS, Poughkeepsie, N. Y.—*Gate.*—April 9, 1867.—The grooved wheels of the gate run on way rods which are inclined to open the gate by connection to the platforms of the carriage way, which are depressed by the passing carriage. Recoil springs raise the platform and incline the way rods in the other direction, when the gate shuts.

Claim.—The pivoted or adjustable ways D J, with the gate B resting thereon, in combination with the platforms M M, connected with the ways, to operate in the manner substantially as and for the purpose herein set forth.

63,711.—JACOB M. EBY, Warren, Ill.—*Double-shovel Plow.*—April 9, 1867.—The standards have side bends to place them in the proper transverse position in respect to the beam and each other. The fore end of the beam is formed into a hook for the singletree.

Claim.—First, an improved iron double-shovel plow, formed by the combination of the beam A, handles B, standards or supports E, and braces D and G with each other, when said parts are formed and arranged substantially as herein shown and described.

Second, making the uprights or standards E, substantially in the shape herein shown and described and for the purpose set forth.

63,712.—JACOB FICKINGER, Kingsville, Ohio.—*Grinding Mill.*—April 9, 1867.—The fans cause a current of air to flow over the upper stone from the central opening of the curb, and in its passage it is deflected by the caps through the vertical openings in the said stone to the grinding face beneath it.

Claim.—The fans F, cap G, and openings c, in combination with the mill-stones and curb, as and for the purpose set forth.

63,713.—JAMES B. FIELDS, Jersey City, N. J., assignor to himself and PETER FIELDS, same place.—*Quartz Mill.*—April 9, 1867.—The cylinder surrounds the grinding wheel, which is eccentrically journaled in respect to it, and revolves at different speed thereto. The matter to be crushed enters one end of the cylinder, and passes out beneath the shields and ganzo covered openings near the periphery of the same. The cylinder runs on anti-friction rollers.

Claim.—First, the hollow rotating cylinder B, in combination with the crusher G, the latter being placed within the former, and having their crushing or pulverizing surfaces c g, moving with different speeds, by the means substantially as and for the purpose set forth.

Second, the shields E, attached to the inner surfaces of the sides a a of cylinder B, in combination with the openings d in the sides of the cylinder B, covered with screens, and the crusher G, all arranged to operate in the manner as and for the purpose specified.

63,714.—ALBERT FINK, Louisville, Ky.—*Bridge.*—April 9, 1867.—Metallic shoes receive the ends of the wooden braces, and have traversing bolts connecting them by links to the upper and lower string pieces, and on the transverse bolts are also straps connecting them with the braces, and others with the plates which are clamped to the sides of said braces. Each brace consists of two strips to allow the repair of the same, one half at a time, without the necessity of scaffolding.

Claim.—As a new and useful improvement in bridge trusses, the peculiar connection of wooden braces with the upper and lower chords of a bridge truss, by means of cast-iron shoes G H and F, brace straps J K and K, and plates I I and I, for the purpose of forming a firm connection either for the resisting of compressive or tensile strains, substantially as described in the above specification.

63,715.—JOHN GARDNER, Viroqua, Wis.—*Saw Set and Gummer.*—April 9, 1867.—The saw rests upon an anvil and a block. The hammer, with a poll or cutter face is brought down by a cam oscillated by a lever, whose range of motion is governed by an adjustable stop.

Claim.—The cam lever E pivoted to the posts F, rest G, hammer B, spring D, anvil J, and rest I, when all are constructed and arranged upon the bed plate A, as herein set forth for the purpose specified.

63,716.—GEORGE GEER, Galesburg, Ill., assignor to himself, T. G. HADLEY and WILLIAM HAMILTON, same place.—*Cherry Stoner.*—April 9, 1867.—The cherries pass from the hopper down inclined chutes to the cavities where they are consecutively operated upon by the descending forked plungers, which push the stone through the elastic diaphragms, and return with the impaled fruit, which is stripped from them and falls into an inclined discharging trough.

Claim.—First, the rocking shaft and the curved forked plungers with the handle or lever made and arranged and operating in the manner as and for the purpose herein shown and described.

Second, the upright plate for the combined purpose of arresting the downward stroke of the plungers and stripping the cherries from the forks, made and arranged substantially as shown and described.

63,717.—ALEXANDER GORDON, Rochester, N. Y., assignor to H. D. GORDON, same place.—*Cultivator.*—April 9, 1867.—The middle plow has adjustable wings; the rear plows one on each side are pivot-

ed to the cross-bar and are laterally adjustable by brace bars which connect them crosswise to each other.

Claim.—First, the adjustable or swinging clamps *a* in combination with the mold board *B*, for the purpose of holding the wings *v*, substantially as shown and for the purposes specified.

Second, the skeleton metallic cross-bar or tie *C*, constructed as shown and described, and arranged in connection with the shovel and teeth or hoe standards, for the purposes set forth.

Third, the diagonal guide or extension bars *b* in combination with the teeth bars *D*, as shown and described.

63,718.—C. GULLMANN, Poughkeepsie, N. Y.—*Carpet Fastener.*—April 9, 1867.—The lower rod has a roughened surface to bite upon the carpet, and an upper rod covers and protects the lower one, and is itself clamped by curved screw bolts.

Claim.—The combination of the protecting rod *A* and detaining rod *B*, substantially as and for the purpose described.

63,719.—JAMES T. HALL, Trenton, N. J., assignor to himself and JOHN T. and ISAAC PIERCE and H. T. FOWLER.—*Horse Hay Fork.*—April 9, 1867.—Improvement on the patent of John T. Pierce, March 6, 1866. Guards on the cross-head of the spiral tines prevent the elevator ratchet wheel and pawl from catching on the cross-beams or other obstruction in the barn. By pressing down on the cross-head the spiral and straight tines are forced down into the hay, the former revolving in so doing.

Claim.—First, the use of the guards *m* when used in combination with the cross-head *A* and yoke *B*, as herein described and for the purpose set forth.

Second, in combination with the above the pawl *i* and ratchet wheel *C*, when used for holding the tines *J* in a fixed position, as herein described and for the purpose set forth.

63,720.—SAMUEL A. HALLADAY, Marilla, N. Y.—*Stove Pipe Drum.*—April 9, 1867.—The calorific current passes by divaricated flues to the annular flue space in the cylinder, which has spiral plates to compel the currents to sinuous courses therein. The plates around the cylinder form shelves.

Claim.—The inverted hollow arch *A* supporting the heater, its ends connecting the spiral flue *D* with the short pipe *a*, for the passage of the products of combustion, as herein set forth, for the purpose specified.

The ring *G* and the shelves *f* in combination with the flue *C* and the drum *B*, as and for the purposes set forth.

63,721.—HOMER M. HANDY, Miles, Mich.—*Bolt Cutter.*—April 9, 1867.—The handles are pivoted to each other and to the jaws, and the latter are pivoted to each other, forming a double toggle.

Claim.—First, securing the curved and abutting handles *A* and *B* one to the other by means of the plate *a* and *a'* and *b* and *b'* riveted to said handles, and the pivot or journal *c*, all as herein set forth.

Second, pivoting the jaws *C* and *D* to each other by means of the tongue *c* and straps or plates *E* and *F*, substantially as herein shown and described and for the purpose set forth.

63,722.—ABNER S. HARDING and NICHOLAS REED, Otisville, N. Y.—*Combination Padlock.*—April 9, 1867.—The disks are numbered on their peripheries and perforated with central holes and radiating slots for the passage of the bolt. The bolt has an axial bar and radial arms. The arms having passed through the slots in the disks, the latter are disarranged and oppose the withdrawal of the bolt. A screw under the shackle fastens the lid which may be opened to remove and rearrange the disks.

Claim.—The hinged lid *e* of the case *a*, in combination with the screw *g*, shackle *E*, disks *C*, and bolt *B*, constructed and operating substantially as and for the purpose described.

63,723.—M. B. HUDSON, Canandaigua, N. Y., assignor to himself, J. S. ROBINSON and J. G. HUDSON, same place.—*Churn Dasher.*—April 9, 1867; an-

tedated March 1, 1867.—A valve in the form of an inverted funnel slides over upon the dasher rod and socket of the dasher. It is removable for washing, and serves to cover all the openings at the top of the dasher at once, and obviate the use of several distinct valves.

Claim.—The special combination and arrangement of the valve *C*, with the conical dasher *A*, the said valve being situated outside the dasher, and being removable from the dasher and rod, and covering all the ports when in use, as herein set forth.

63,724.—WILLIAM HUNTER, Hastings, Minn.—*Corn Planter.*—April 9, 1867.—The hollow cylinder is of length sufficient to extend over three corn rows, and has within it three parallel rows of hoppers attached 120° apart, and having three hoppers in a row, so as to plant three rows simultaneously, and nine to a revolution. The seed slides are actuated by cam projections and levers.

Claim.—The combination of the hollow cylinder *B*, with the slide bars *c c c*, the hoppers *f f f* and the lever *h*, constructed and arranged for planting corn, substantially as herein described.

63,725.—GEORGE IPE, Kent, Ohio.—*Fence Post.*—April 9, 1867.—The post is stepped upon a rib on the top of the foundation frame, and is bolted to an upward flange of the same.

Claim.—An improved stool for fence posts, made of cast iron, cast solid in one piece, and in substantially the form herein shown and described—that is to say, consisting of the base plate *a*¹, inclined side plates *a*² and top plate *a*³, having flanges *a*⁴ formed upon its upper side, as and for the purpose set forth.

63,726.—THOMAS B. JORDAN, Gloucester, N. J.—*Starting Apparatus for Street Cars.*—April 9, 1867.—A cam is pivoted to an arm, one end of which is bent around the axle, and being connected through a frame and catches to the draft pole, operates upon the tread of the wheel to start the cars when the team moves. The cam drops back after having performed its duty.

Claim.—The combination of the lever *b*, eccentric block *c*, the cord *e*, the sliding cross-bar *f*, the latch *i* and the spring *h*, with the sliding tongue *C*, the car wheels *B* and the axle *A*, arranged and operating substantially as and for the purposes herein described.

63,727.—JACOB J. KAMM, Fort Wayne, Ind.—*Burning Fluid.*—April 9, 1867.—Composed of sulphate of alumina and potassa, 2 drachms; alcohol, 4 drachms; camphor, 1 drachm; potassa, 1 drachm; chloride of sodium, 2 oz.; acetate of lead, 1 drachm; naphtha, 1 quart.

Claim.—The combination of the within-specified ingredients in the manner described, for the purpose of forming an illuminating non-explosive burning fluid.

63,728.—RICHARD KEESE, Bennington, Ohio.—*Churn.*—April 9, 1867.—The revolving dasher rod is stepped in the bottom of the churn box, and its radial dashers are secured by set screws. The wings have a varying obliquity, dividing the cream, and throwing it up, down, or diversely, as may be found most efficient.

Claim.—The adjustable dashers *D E G*, and thumb screws *C*, constructed and arranged in relation to each other, as specified, and in combination with the shaft and body of the churn, operating as and for the purpose set forth.

63,729.—WATSON KING, Springfield, Ill.—*Horse Rake.*—April 9, 1867.—The crank arms upon the axle are extended below the wheel axles, for the purpose of attaching the traces to them to hold the teeth to their work. The thills are hinged to the rear edge of the axle, and the clearer bar is placed above the thills, so as to carry the clearing teeth entirely above the rake teeth.

Claim.—First, extending the crank arms *a* below the axle of the wheels, so that the traces may be attached to these extensions, for the purposes herein shown and described.

Second, the combination with bar *C*, the thills *D*, the cleaning teeth *G* and hinge *c* of the rake head *A*,

all arranged substantially in the manner and for the purpose herein shown and described.

63,730.—W. M. KIRKPATRICK, Littleton, Ill.—*Sash Supporter*.—April 9, 1867.—A rubber cushion is inserted in a recess of the sash, and its outer protruding face engages with the side of the window casing.

Claim.—A sash supporter consisting of a stationary rubber cushion or disk inserted in a recess in either the sash or the frame, with its outer face protruding therefrom sufficiently to press upon the corresponding face of the frame or sash and hold the sash in place, substantially as herein shown and described.

63,731.—W. A. LEWIS, Springfield, Vt., assignor to himself, H. H. MASON, and JOSEPH MESSINGER, same place.—*Mop Head*.—The thread on the handle has its socket in the thumb nut, and the reverse thread on the latter has its socket in the collar of the yoke.

Claim.—The operating thumb nut C, provided with external and internal screw threads, in combination with the fixed screw B on the handle, and the sliding jaw F, substantially as and for the purpose described.

63,732.—WILLIAM LINDSEY, Oberlin, Ohio.—*Cattle Pump*.—April 9, 1867.—The weight of the cattle on the platform depresses the plunger, which is sleeved on the education tube, and forces water upward through the latter. The return motion when the cattle withdraw is made by a coiled spring beneath the plunger.

Claim.—First, the spring C, link b, valve a, and collar D, as arranged in combination with the plunger E, pipe F, and cylinders A B, for the purpose and in the manner as specified.

Second, the sleeve J, platforms L, and arms M, as arranged in combination with the pipe F, plunger E, spring C, for the purpose and in the manner as described.

Third, standards N, links P, arms K, and trough Q, as arranged in the manner and for the purpose herein specified.

63,733.—HENRY LOEWENBERG, New York, N. Y., assignor to himself and EMILE GRANIER.—*Compound for Printers' Ink*.—April 9, 1867.—Explained by the claims.

Claim.—First, a printers' ink made of sirup, molasses, honey or other saccharine substance, in combination with suitable coloring matter, substantially as and for the purposes described.

Second, a printers' ink composed of sirup, molasses, honey, or other saccharine substance, in combination with glycerine or oily matter, or both, and with suitable coloring matter, substantially as and for the purpose set forth.

63,734.—HENRY LOEWENBERG, New York, N. Y., assignor to himself and EMILE GRANIER.—*Marking Compound*.—April 9, 1867.—Iodine or bromine is added to ordinary ink or pigment to render it indelible.

Claim.—A marking compound, either in liquid or solid form, containing iodine or bromine either, or both, substantially as and for the purpose set forth.

63,735.—RUSSEL LOOMIS, Saratoga Springs, N. Y.—*Fire Escape Ladder*.—April 9, 1867.—Two revolving scroll grooved disks act upon the cross-bars on the lower members of the combination toggle or "lazy tongues" arrangement of levers upon which the platform is mounted. The disks are rotated simultaneously by a crank to elevate or lower the scaffold, and the apparatus is mounted on a carriage.

Claim.—The revolving disks D D, having in their sides the scroll grooves c c, the friction rollers i i on the cross-bars d d, and the cap h, in combination with the lazy tongues B, arranged and operating substantially as and for the purpose herein described.

63,736.—JOHN LOW, New Britain, Conn., assignor to himself and WILLIAM NASH.—*Ox-bow Pin*.—April 9, 1867.—The pin passes through the hole in the bow while the semicircular spring is retracted, and then the latter is freed and embraces one side of the bow to prevent accidental retraction of the pin.

Claim.—The construction of the plate a b c, with arm n and spring t, in the manner and for the purposes herein specified.

63,737.—GEORGE W. MCGILL, Washington, D. C.—*Spike*.—April 9, 1867.—Explained by the claims and illustration.

Claim.—First, a spike split into three parts or prongs, the center prong being longer than the side prongs, and said side prongs being so beveled that on being driven into the wood they will spread and diverge from the center prong in opposite directions, while the said center prong goes down into the wood perpendicularly, substantially as shown and described.

Second, a spike split into three parts or prongs throughout the whole extent of the shank that is to be driven into the wood, with the side prongs beveled as described, so that the spike may be driven into the wood and the side prong made to spread and diverge without boring, substantially as described.

63,738.—JOHN MERLETT, Round Brook, N. J.—*Spike*.—April 9, 1867; antedated April 1, 1867.—The spike has wedge-shaped projections whose shoulders project wholly beyond the surface of the shank. A collar around the spike near the head has a cutting edge, which trims the fibers of the wood around the hole and wedges into it to make a water-tight joint.

Claim.—First, the wedge-shaped ribs c d, forming shoulders c' d' at their upper ends and arranged upon the lower portion of the spike, substantially as herein set forth, for the purpose specified.

Second, the lug g, constructed with cutting edge n' and with inclined sides g', in combination and arranged in relation with the wedge-shaped ribs c d and with the body of the spike, substantially as herein set forth, for the purpose specified.

63,739.—J. H. MOORE, Warren, Mass.—*Carriage*.—April 9, 1867.—Mounted on the coupling bars are long backwardly-extending spring bars; thorough braces extending from the ends of the bars to the fore axle support the seat and body.

Claim.—The combination of the carriage body, its seat, thorough braces, springs, and perches, when arranged with respect to the fore and hind axle of a carriage, substantially as shown and described.

63,740.—S. L. MYERS and GEORGE WILLISON, Massillon, Ohio.—*Machine for Polishing Wagon Spokes*.—April 9, 1867.—The emery wheel rotates on its vertical axis and the spoke is held by a chuck which is rotated by a hand crank and is also capable of a longitudinal reciprocation. The spoke holder is attached to a hinged portion of the frame so as to be brought up to or away from the wheel.

Claim.—First, the board D, pivoted at d, to the frame A, and having the braces I I, sliding shaft G, with arms H H, the latter bearing the chuck K, and crank L, when all are constructed and arranged in such a manner that the operator may, when desired, impart a combined revolving, vibrating, reciprocating motion to the spoke, substantially as herein set forth.

Second, the concave horizontal table C, covered with an elastic cushion upon which the polishing material is placed, when constructed and operating as herein set forth for the purpose specified.

63,741.—JACOB K. NELSON, Greenpoint, N. Y.—*Screw Cutter*.—April 9, 1867.—The revolvable head has radial bearing blocks or cutters which are adjustable from the outside.

Claim.—In combination with the revolving head B, the detachable socket D, fitted with loose or detachable blocks F F G or H, forming chasers, cutters, steadying blocks, or grippers, and made capable of radial adjustment from the outside of the revolving head of the hand tool or wrench, substantially as and for the purposes herein set forth.

63,742.—JAMES O'KANE, New York, N. Y.—*Dies for Forming Hinges*.—April 9, 1867; antedated April 1, 1867.—The hinges are made in long continuous strips, and are afterwards cut apart. The draw plate has slits for the wings on each side of and communicating with a circular groove in which the flanges are closed around the pintle.

Claim.—The two communicating slits or channels r r, arranged with reference to the circular groove s of a draw plate, as and for the purpose set forth.

63,743.—DWIGHT J. OSBORN, Windsor Locks, Conn.—*Sash Supporter*.—April 9, 1867.—The lever has two arms to which are pivoted two bolts for the purpose of locking either one or both of the sashes, in any position to which they are adjusted; the handle is moved in an upward, downward, or lateral direction to effect the required engagement or free either or both the sashes.

Claim.—First, the arrangement upon the plate A, of the part B, operated by the handle D, in combination with the pieces c c, having projections upon them for the purpose of entering and supporting the sashes, substantially as set forth.

Second, in combination with the supporter constructed as above, the piece G, for fastening the handle D, substantially as set forth.

63,744.—ISAAC OSGOOD, Utica, and ALEXANDER MUNROE, German Flats, N. Y.—*Apparatus for Dyeing, Bleaching, and Washing, and Drying Yarns and Thread*.—April 9, 1867.—The thread is wound in the form of bobbins on a hollow perforated cop tube which is placed over a short tube through which the liquid to clean or dye the yarn is pumped, passing through the perforated stem and the yarn wound thereon. Cleansing, bleaching, or dyeing liquid may be forced through, followed by dry air or steam.

Claim.—First, the apparatus for dyeing, bleaching, or cleansing threads or twists of any fibrous material, consisting of the perforated metallic bobbins or cop tubes when used in combination with the tanks C and D, force pump E, pipes b and e, and vertical pipes r, the whole arranged and operating substantially as described.

Second, the use of a perforated cop tube in combination with a perforated cop-sheath, substantially as set forth.

Third, the method of dyeing, bleaching, or cleansing threads or twists of any fibrous material, substantially as hereinbefore described.

Fourth, as an article of manufacture a perforated metallic bobbin consisting of stem n and base m, when constructed substantially as described.

63,745.—EDWIN and THOMAS S. PARKER, Schenectady, N. Y.—*Steam Engine Slide Valve*.—April 9, 1867.—The steam passes through apertures in the roof of the valve to nearly equalize the pressure above and below.

Claim.—In the valve B, constructed substantially as herein shown and described with the cavity C, the apertures c c, as and for the purposes set forth.

63,746.—B. F. PRASLEE, Lake Village, N. H.—*Knitting Machine Needle*.—April 9, 1867.—The journal being of the same piece as the latch cannot work loose, and thus be liable to injure the work or the needle.

Claim.—Forming fixed journals a a, on the latch of the needle, substantially as and for the purpose herein specified.

63,747.—J. B. PETTEY and JEROME FREDERICKS, Conneaut, Ohio.—*Stuffing Box for Deep Well Pumps*.—April 9, 1867.—The packing box is expanded by its enclosed divided sections, which are driven apart by the revolution of a conical-threaded enlargement on the tube.

Claim.—First, an elastic stuffing box for oil wells formed of a rubber cylinder cased in leather, or its equivalent, combined with a hollow taper screw forming part of the well tubing and working in a female screw within the cylinder divided into two or more longitudinal sections, constructed and operating substantially as and for the purpose herein described.

Second, the perforated collar f, placed on the tubing below the stuffing box, and the washer g, on the screw e, above the stuffing box in combination therewith, constructed as and for the purposes herein described.

63,748.—JOSHUA REGESTER, Baltimore, Md.—*Faucet*.—April 9, 1867.—On the handle on the disk valve stem is a flange or hood which comes in contact with the sides of the faucet and limits the motion of the valve.

Claim.—In combination with the perforated disk valve d, cut-off plate b, and longitudinal stem e, hav-

ing two bearings b and g, the construction of the handle C, with a flange h, adapted to operate substantially as described.

63,749.—THOMAS RESTIEAUX, Boston, Mass.—*Deodorizing Petroleum*.—April 9, 1867.—Nitrate of mercury is applied to petroleum to remove the peculiar odor of the latter.

Claim.—The application of quicksilver to petroleum and any of the products of petroleum as herein described, using for that purpose the aforesaid solution, or any other substantially the same and which will produce the intended effect.

63,750.—C. M. REYNOLDS, Champaign, Ill.—*Car Coupling*.—April 9, 1867.—The sides of one draw head have pivoted jaws pressed in by springs; and the other draw head has an arrow-headed tongue whose sides are furnished with springs to keep the tongue central when released, so that it may be drawn out without catching the sides of the draw head.

Claim.—The arrangement of the bumpers A A', constructed as described, with the jaws C C, springs b b, and cam D, when used in combination with the draw bar B provided with springs a a, and connected to the bumper A by the pin T, as and for the purpose herein specified.

63,751.—M. S. ROBERTS, Lewiston, N. Y.—*Peat Machine*.—April 9, 1867.—The conveyor frame is made in three sections, the upper one resting upon the top of the framework; the others being hinged so as to be raised or lowered to bring the buckets into the proper position to dig the peat. The buckets are carried by an endless band from the peat bed to the top of the machine, where their contents are discharged into a disintegrating mill, from whence the peat passes between pressure rollers, and falls into a trough, which carries it forward and distributes it upon the ground to be dried.

Claim.—First, the so hanging and arranging the outer section of the conveyor frame to its main portion that it can be raised or lowered, and set at any desired angle with regard thereto, substantially as and for the purpose described.

Second, forming the bottom of the mill of a series of knives or cutter blades fixed in a common revolving frame in combination with the partition or plates hung across such portion of the mill, substantially as and for the purpose described.

Third, the fixed partition plate of the mill in combination with the side opening thereof, substantially as described for the purpose set forth.

Fourth, the arrangement of a series of scrapers in the bottom box of the mill as and for the purpose described.

Fifth, the open endless distributor, having a series of partitions or cross plates, in combination with the bottom of the frame in which it moves, substantially as and for the purpose described.

63,752.—ADAM ROSENBERGER, Brandonville, W. Va.—*Hand Loom*.—April 9, 1867.—The described devices are for the purpose of shifting and adjusting the harness.

Claim.—First, the combination with the roller P, staples G, and pivoted frame Q, of the hooks H i, treadles G, attaching pieces F, and levers S S, all constructed and arranged in the manner described and employed to effect the shifting of the harness, as set forth.

Second, in combination with the above, pendant K, thumb screw L, pulley J, and cords e, arranged as described and employed for adjusting the harness as specified.

63,753.—E. P. RUSSELL, Manlius, N. Y.—*Gridiron*.—April 9, 1867.—The two sections are hinged so as to maintain a rectangular position when required. The bars of each one cross the other at right angles; the sides being equally open and adapted to set above a stove pipe opening.

Claim.—The two halves A C and B D, when constructed so that the bars of one-half shall cross the bars of the other, and when combined and arranged with the square heeled hinge E F, operating as described so as to form a reversible gridiron.

63,754.—HENRY SAWYER, Boston, Mass.—*Starch Gloss.*—April 9, 1867.—Paraffine is used in combination with starch to give linen a glossy appearance.

Claim.—The use or employment of paraffine in combination with starch substantially in manner and for the purpose as before described.

63,755.—LEVI C. and JOHN M. SCHERMERHORN, North Gage, N. Y.—*Milk Vat.*—April 9, 1867.—Steam and water pipes are introduced between the exterior and the interior vats to regulate the temperature of the contents of the latter.

Claim.—The perforated steam and water pipes introduced into the space between the exterior and interior vats, for the purpose of heating regularly with steam, and instantly (when necessary) shutting off the steam and applying jets of cold water to cool the contents of the inner vat, by means and for the purposes herein described.

63,756.—A. D. SCHNACKENBERG, Brooklyn, N. Y.—*Portable Soda Fountain.*—April 9, 1867.—The body is made of cast iron lined. The valve is conical and fits into the valve seat without packing.

Claim.—Closing the end of the high pressure tube *b*, directly with a conical plug *B*, without the use of a leather or other washer or packing for the valve, all made and operating substantially as and for the purpose herein shown and described.

63,757.—ELIJAH C. SEARS, Crystal Lake, Ill.—*Farm Gate.*—April 9, 1867.—The gate is held in position by guides, and slides between anti-friction rollers on the fence post.

Claim.—First, in the construction of a board gate the arrangement of the double guide *e*, and the friction rollers *g g'* in the rear cleat *b*, in combination with the upper board *d* of the fence *A*, operating as herein described.

Second, the single guides *m m'* at the top and bottom of the cleat *k*, in combination with the roller *g*² and the upper and lower boards of the gate *B*, arranged and operating as herein set forth.

Third, the notch *i*, in the center post *h*, to clear the double guide *e*, when the gate is opened or closed, as herein specified.

63,758.—J. S. SILLS, Cedarville, Ill.—*Washing Machine.*—April 9, 1867.—Two semicircular sections which fit the bottom of the tub are attached by a series of parallel, rounded slats. A circular rubber board has similar slats, a corrugated plate above, and a handle at each side by which a rocking or vertical motion can be given.

Claim.—The corrugated board *I*, in combination with the upper rubbing board *E*, having the slats *D*, rim *G*, handles *F*, the lower rubbing board consisting of the semicircular boards *A* and slats *B*, substantially as herein set forth for the purpose specified.

63,759.—DAVID M. SMITH, Springfield, Vt.—*Clothes Pin.*—April 9, 1867.—The wooden key has slotted cylindrical heads which enter grooves in the respective jaws and form a hinge. They are retained by pins.

Claim.—The wooden key *B* for connecting the two jaws *A*, consisting of the central piece *d*, having slotted cylindrical ends *e e*, held in place by means of the pins *e e*, as herein shown and described.

63,760.—LEWIS W. SPENCER, New York, N. Y., assignor to SCHREIBER CORNET MANUFACTURING COMPANY, same place.—*Machine for Forming the Branch Tube of Valve Cases for Cornets.*—April 9, 1867.—The chuck has a sliding plate adjusted laterally by a screw, and to which a circular plate is pivoted whose axis is at right angles to that of the mandrel. The blank is secured to the circular plate and the tube blanks brought one at a time in line with the sliding drill and drilled out. A pin holds the plate in position. A turning tool is then attached to the sliding drill rest to dress the outsides.

Claim.—The combination of the mandrel, the slide on the chuck of the mandrel, the index plate with its spindle at right angles to the axis of the mandrel and also to the slide, and the sliding stock or tool holder, substantially as and for the purpose described.

63,761.—LEWIS W. SPENCER, New York, N. Y., assignor to SCHREIBER CORNET MANUFACTURING COMPANY, same place.—*Machine for Forming the Bells of Cornets.*—April 9, 1867.—The blank is placed on the "former" and forced down with the leaden disk into the die by turning the sleeve nut of the "former" shaft.

Claim.—The combination of the die, the leaden or equivalent disk, the former, and the follower, substantially as and for the purpose described.

63,762.—CHARLES STARBUCK, Philadelphia, Pa.—*Cam Hitching Hook.*—April 9, 1867.—The eye of the hook and its mousing are both contained in the same loop so as to be closed positively when strain is applied. They are opened by spreading the eyes like handles of shears.

Claim.—The construction and application of the cam lever *A'* so that it will operate in combination with the main portion *A* of the hook, substantially in the manner described for the purposes specified.

63,763.—GEORGE STEVENSON, Zionsville, Ind.—*Grain Cleaner.*—April 9, 1867.—A stationary cam on the casing acts in combination with the spring attached to the rubber bar to effect the independent vibrating movement of the latter while the screen revolves.

Claim.—The stationary cam disk *C* and the spring *I*, in combination with the screen *B*, for operating the rubber bar *n*, arranged substantially as herein described.

63,764.—JAMES W. SUIDTER, Sharon, Wis.—*Portable Fence.*—April 9, 1867.—The panels overlap each other, and are attached and supported by interlocking braces mounted upon interlacing braces mounted upon subordinate cross braces, which are staked to the ground.

Claim.—The portable fence constructed with panels *A*, cross braces *B*, and foot pieces *C*, with or without the pin *D*, said parts being respectively constructed, and the whole combined substantially as set forth.

63,765.—W. TASH, Berlin, Ill.—*Wagon Brake.*—April 9, 1867.—The wagon box rests on grooved rollers which run on guide bars beneath the box when descending a hill, thereby drawing the rod which is attached to the box at one end and the brake lever at the other, and regulating the friction of the brake by the grade of the hill.

Claim.—The rollers *s s* upon the guide rods *g g* of the bolster *d*, in combination with the guide bars *s s'*, box *A*, substantially as herein shown and described.

63,766.—HIRAM THOMPSON, Worcester, Mass.—*Machine for Shaping and Heading Bars of Metal.*—April 9, 1867.—The blank is placed between the dies in the lower roller, and the moving die is forced to its fellow by a knuckle joint operated by the pressure of the upper roller, which also finishes the head as it passes beneath it. The dies are opened by fixed cams which engage pins playing in radial slots of the roller, which also finishes the head as it passes beneath it. The dies are opened by fixed cams which engage pins playing in radial slots of the roller and connected to the middle pivot pin of the knuckle joint.

Claim.—First, the arrangement for giving motion to the jaw *a* and die *f* of the knuckle joint *b* and wheel *B*, as described.

Second, the combination with the revolving wheel *A*, jaw *a*, and die *f* of the wedge *o*, and set screws *l* and *2*, said parts being constructed and arranged for operation substantially as and for the purposes set forth.

63,767.—JOHN ROBERT WALLACE and BENJAMIN A. McCLAIN, Murfreesboro', Tenn.—*Cotton Cultivator.*—April 9, 1867.—The two shares in front of the machine are attached to pivoted rods which are adjusted by a chain connecting with the frame. They can be raised out of the ground by a lever within reach of the driver. The rear cutter wheel rotating in a plane transverse to the line of motion of the frame, is driven by gearing from the main axle and chops gaps in the row, leaving it in hills.

Claim.—The scrapers or shares *H* arranged or applied to the front part of the machine, so as to be ca-

pable of being adjusted higher or lower to penetrate a greater or less depth into the soil, and also capable of being raised entirely therefrom, substantially as set forth.

63,768.—ALEXANDER WARNER, Brooklyn, N. Y.—*Window Blind Fastening*.—April 9, 1867.—A bolt on one of the slats engages one of a semi-circular series of holes in a plate attached to the stile.

Claim.—The slat fastener consisting in the combination of plates *b* and *b'*, when provided with holes or recesses, the bolts *a* and *a'*, substantially as and for the purposes herein shown and described.

63,769.—W. T. WELLS, Decatur, Ill.—*Gate Latch*.—April 9, 1867.—The gate bolt is moved longitudinally by raising or releasing the gravitating handle to which it is pivoted, and which is itself pivoted to the stile of the gate.

Claim.—An improved gate latch formed by the combination of the adjustable bolt *D*, and pivoted lever handle *F*, with each other and with the frame of the gate *B*, substantially as herein shown and described.

63,770.—D. M. WESTON, Boston, Mass.—*Centrifugal Machine for Draining Sugar and other Substances*.—April 9, 1867.—The cylinder is suspended by a revolving shaft which permits lateral motion. The bottom of the cylinder has a series of apertures through which the sugar is discharged. When the machine is in operation, the apertures are closed by a valve and the water driven through the foraminous periphery.

Claim.—The construction of centrifugal machines made to separate liquids from other substances, by suspending such machine at the tops by flexible connections, operating substantially as above described.

Also, the construction of the openings *i i i i* in the bottom of the cylinder *g* in such machines and the valve *j*, for the purpose and operating substantially as above described.

63,771.—GEORGE H. WHITE, Huntington, N. Y.—*Load Scraper*.—April 9, 1867.—The scraper is supported on two castor wheels and adjusted vertically by a spur wheel and rack.

Claim.—First, the scraper plate *A*, constructed substantially in the form and manner herein shown and described.

Second, the combination of the pivoted castor wheels *E* with the scraper, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the pinion wheels *J* and racks *I*, with the pivoting blocks *D* of the wheels *E*, substantially as herein shown and described and for the purpose set forth.

63,772.—ANTHONY L. WHITNEY, Brooklyn, N. Y.—*Steamer for Culinary Purposes*.—April 9, 1867.—The kettle with perforated bottom sets into the outer kettle while boiling, and for steaming is supported by a perforated pan resting on the rim of the kettle.

Claim.—The combination of the vessels *A B* and *D* with each other, substantially as and for the purpose herein shown and described.

Also, the intermediate vessel or pan *D*, made and operating substantially as and for the purpose herein shown and described.

63,773.—BAXTER D. WHITNEY, Winchendon, Mass.—*Machine for Grinding Saws*.—April 9, 1867.—The revolving grindstone or wheel is brought in contact with the surface of the cylindrical saw which slowly revolves and traverses longitudinally from end to end, when its motion is reversed by suitable mechanism. The saw mandrel has a friction roller and gauge, and the grinding wheel is adjustable in position.

Claim.—Reducing the plates of cylindrical saws to an even and uniform thickness, by means of the sliding frame *B*, on which the saw *E* is supported, revolved and moved laterally by the action of the reversible screw *L*, slide *P* and lever *M*, in combination with the grindstone or grinding wheel *K*, ar-

ranged and operating in the manner substantially as herein described for the purposes set forth.

63,774.—WM. WICKERSHAM, Boston, Mass.—*Egg Beater*.—April 9, 1867.—The segment gear worked by the crank connects with a pinion to oscillate the beater.

Claim.—The device in egg beaters of giving the segment gear, and consequently the beater knives *e e c c*, a vibrating motion by means of a crank and connection rod frame, and arranged as described.

63,775.—JOHN P. WRIGHT, Canton, Minn.—*Scaffold*.—April 9, 1867.—The platform has nuts engaged by the vertical screw, by which it is raised or lowered, and this screw is turned by a winch below and by a hand wheel resting on the platform and sliding up an angular shaft which carries a bevel wheel engaging a similar one on the main screw. When extended, the ends of the scaffold are connected to smaller platforms supported on the ratchet posts, and which are raised and lowered by cords, which pass over sheaves at the post heads.

Claim.—First, the arrangement of the posts *P P*, with the platforms *o*, in combination with the screw shaft *E*, substantially as described.

Second, the shaft *L* and bevel wheel *M*, in combination with the shaft *E* and nuts *N N*, substantially as and for the purposes set forth.

63,776.—N. A. WRIGHT, Prairie DuChien, Wis.—*Book Holder for Pews*.—April 9, 1867.—The spring ends of the holders are attached to the backs of the pews, and the free ends of wood or metal are of convenient form to sustain books, hats, &c.

Claim.—The spring holder *C*, when adjustable through the slot *a*, in the socket *H*, to regulate the tension of the spring, when combined and arranged as and for the purpose specified.

63,777.—ISAAC B. WIGGIN, Washington, D. C.—*Burning Fluid*.—April 9, 1867.—Composed of naphtha, 40 galls.; kerosene oil, 2 galls.; gum camphor, 1 lb.; gum turpentine, 1 lb.; oil of lemons, 1 oz.; oil cloves, 1 oz.; and the tri-phosphate of soda and ammonia, commercially termed microcosmic salt, 4 oz.

Claim.—The incorporation of microcosmic salt with the above-named compound of hydrocarbons, reference being had to the use of denser materials, both in the composition of the hydrocarbons and the microcosmic salt, so as to make a fluid that can be burned in any kind of lamp, without smoke, bad odor, or danger of explosion.

63,778.—Canceled.

63,779.—AARON C. ANDREWS, New Haven, Conn.—*Uniting India-rubber with Leather*.—April 16, 1867.—By forming grooves at the points of junction the surface in contact is extended to form a more perfect union.

Claim.—Uniting india-rubber to leather or other material by forming grooves or creases in such material, into which the rubber is pressed previous to vulcanizing, as and for the purposes specified.

63,780.—ASA BEE, White Oak, West Va.—*Saw Mill*.—April 16, 1867.—The clamp plates of the saws have guide rollers whose grooved peripheries run on V-edged reversible plates. The lower saw guides have clearers to prevent the sawdust from entering between the guide rollers and the guides. The feed is caused by levers and adjustable springs connecting the upper sash bar to a gripping rod operating the feed wheel.

Claim.—First, the application of the guide rollers *N*, or their equivalents, to the stirrups *J*, substantially as and for the purpose specified.

Second, the V-shaped adjustable and reversible guide bars *O*, when constructed and applied substantially as and for the purposes set forth.

Third, the clearers *P*, when constructed and applied in the manner and for the purpose explained.

Fourth, the combination of the springs *T T*³ *T*⁵ and lever *T*¹, when constructed and operating as described, to communicate motion from the saw sash to the grip iron.

Fifth, the spring T³, when constructed and made adjustable in the slotted lever T¹, in the manner specified for the purpose of changing the feed, as described.

Sixth, a grip iron, when constructed with adjustable gripping blocks V¹ V², substantially as and for the purpose specified.

Seventh, the adjustment of the blocks W¹ W², by means of the arm X and clamp Y, as and for the purpose described.

63,781.—HENRY M. BIRD, Cambridgeport, Mass.—*Mold for Pipe Casting.*—April 16, 1867.—Improvement on the patent of George T. Sheldon, April 3, 1866, (No. 53,690.) The annular supporting flanges support the sand molds and cores, which prevent the contact of the hot metal with any chilling surface.

Claim.—The combination as well as the arrangement of two or any other suitable number of the flange-finishing and core-supporting flasks D, provided with masses E of molding sand, or its equivalent, with a pipe mold A B and its core C, the whole being substantially as and for the purpose described.

63,782.—GEORGE S. CALDWELL, Syracuse, N. Y.—*Harness Buckle.*—April 16, 1867.—The two toothed jaws in the opposite edges of the frame have pins resting in inclined slots; when the strap is applied between the jaws the drawing action on the strap will close the jaws upon its edges.

Claim.—The combination and arrangement of the buckle as herein set forth, viz., with the toothed jaws B B, resting in the edges of the frame, and bearing upon the edges of the tug or strap by means of the pins and inclined slots i k, or equivalent, as specified.

63,783.—NEIL CAMPBELL, Brooklyn, N. Y., assignor to himself and WILLIAM FRAIZER, same place.—*Axle Box.*—April 16, 1867.—The removable base is held by dovetail flanges and the solid springs are confined in place between brackets on the axle boxes and the top plates of the pedestals. The arm of the axle in the oil chamber of the box has enlarged removable sleeves secured by lugs in conjunction with a collar and key.

Claim.—First, the flanges a a' on the exterior of the pedestal, in combination with the grooved and shouldered removable base plate C, substantially in the manner and for the purpose described.

Second, the removable base plate, constructed so as to be applied as described and also with sockets to receive a tie rod and end braces D D, substantially in the manner shown and described.

Third, the combination of the brackets E', studs d d', and solid springs F F, substantially in the manner and for the purpose described.

Fourth, the combination of the enlarged sleeves K with a grooved face bearing block H, having flanges l l, substantially as described.

Fifth, the lugs h h, collar i, and pin j, in combination, as a means for securing a removable sleeve K to the arm of a railroad car axle, substantially as herein described.

Sixth, the box E, with brackets E' on its sides and the pedestal with semi-cylindrical chambers and with a cap A, so that solid springs F F may be employed and confined in place by means of the removable base plate C, all substantially in the manner described.

63,784.—CHARLES COLLIER, Charlestown, Mass.—*Machine for Making Drain Water Pipes.*—April 16, 1867.—The clay cylinder is connected with a hydraulic cylinder, which, operating the plunger, ejects the tile from the receiver. The plunger when revolved by its handles is run back on its shaft, allowing the cylinder to assume a vertical position for re-filling.

Claim.—A clay cylinder or receiver B, in combination with an hydraulic cylinder operating a piston or plunger D, for ejecting the clay from the receiver in the required form for a pipe or tile, substantially as described.

Also, connecting the head or plunger D with the piston E of the hydraulic apparatus, by means of a screw e, so that it may be moved toward and from the clay-cylinder by hand, for the purpose specified.

63,785.—GERMOND CRANDELL, Washington, D. C.—*Paper File.*—April 16, 1867.—One end of the wire is a point and the other a socket to receive the former.

The hinge is a coiled spring and it is manipulated by pressure on projecting arms.

Claim.—A bill and paper file made as herein described, or its substantial equivalent.

63,786.—MICHAEL DECAMP, South Bend, Ind.—*Millstone Feed.*—April 16, 1867.—The upper end of the damsel is angular and enters a similar axial bore of a sleeve topped by a horizontal circular disk. A rectangular-ended shaft standing vertically and axially in the hopper enters and receives motion from this sleeve, and has at top a pulley communicating by a belt to the fan shaft. The fan causes an exhaust of air at the point of grain discharge from the revolving disk, and draws out the impurities.

Claim.—First, the separator, constructed and operating substantially in the manner herein described, and applied in the relation substantially as shown and described to the millstone feeder and the eye of millstones, for the purpose set forth.

Second, the construction of the mouth of the separator, in the manner substantially as shown and described, so that the separator is adapted to be applied to a mill, and to operate substantially as described, for the purpose set forth.

Third, the arrangement of a millstone feeder and a separator in the relation to one another substantially as shown and described and for the purpose set forth.

Fourth, the raised step e e', arranged on an inclined support and in relation to the inclined partition b and the passage d, substantially as and for the purpose described.

63,787.—HERMAN EHL, Utica, N. Y.—*Sash Supporter.*—April 16, 1867.—Vertical bars attached to the sash slide in metallic collars imbedded in the frame; thumb screws engage the bars to maintain the position of the sash.

Claim.—The employment and use of one or more rods or bars C, attached to the sash and operated substantially as described.

Also, in combination with said rods or bars C and sash B, the nuts or disks D and thumb screws E, the whole being attached and operated substantially in manner described, for the purpose mentioned.

63,788.—GEORGE EICHENSEER, Waterloo, Ill.—*Threshing Machine.*—April 16, 1867.—The fore end of the machine is vertically adjusted by the screw-threaded king-bolt and side bolts. The driving pulley is vertically adjusted by the movement of its step plate upon inclined slides. This pulley has a pawl connection to the shaft, which permits the machinery to run when the belt is stopped. The cylinder has end disks of metal and teeth to clear the space between them and the sides of the feed chute. The grain slides into the discharge chute from an adjustable pivoted plate, and receives the impact of the wind, which is guided by an adjustable deflecting plate. At the chaff discharge, the heavier parts pass into a trough having an under branch leading to the feed chute, and furnished with a valve, which when closed forces the matters into the other and waste branch. The threshing cylinder is adjusted longitudinally by screws at the ends of its shaft.

Claim.—First, the combination of the screw bolts a and a', substantially as and for the purpose set forth.

Second, the combination of the shaft e, its bearing block e² and sliding bar e³, the ways e⁴ with the screw bar e⁵ and handle nut e⁶, all acting substantially as and for the purpose set forth.

Third, the combination of the pulleys e¹¹ and e¹², for packing the driving band D, substantially as and for the purpose set forth.

Fourth, the cutter teeth h² for cleansing the crevices between the flanges h³ and the feed plate h⁴, as set forth.

Fifth, the application of the drop guide plate k⁵, as set forth.

Sixth, the combination of the conduits o³ and o⁴, with the door o⁵, substantially as and for the purposes set forth.

Seventh, the combination of a feed plate h¹, arranged for vertical adjustments, with the threshing cylinder h², arranged for lateral horizontal adjustment, substantially as set forth.

Eighth, the combination of the separators k¹ k², with the return feed plate k³, chaff discharge plate k⁴

and guide drop plate *k*⁵, all with the air currents adjusted and directed by the vane *p*⁴, substantially as set forth.

63,789.—JOHN ELLIS, New York, N. Y., and EDWARD C. KATTELL, Binghamton, N. Y.—*Apparatus for Distilling and Refining Petroleum, &c.*—April 16, 1867.—The oil passes through a coil in the upper condenser into the still, which is charged with steam by a pipe. The lighter portions of the oil are volatilized, and pass from the still to the condenser. The heavy portions of the oil pass into a tank and through a coil into the retort, heated by superheated steam. The vapors from the retort pass through one condenser into another, and the refuse oil escapes through a tube. The residuum passes into a still, where it is again subjected to heat, the vapors passing to a condenser.

Claim.—First, the using of steam and superheated steam for the purpose of separating and removing the more volatile from the less volatile portions of petroleum, kerosene, benzine, naphtha and turpentine, while these fluids are in a state of spray or drops, as specified.

Second, the oil pipes E and K and condensing tubes D and I, when constructed and arranged in relation to each other, and a retort as and for the purpose specified.

Third, the separating tank, tub or tube, in combination with an upper and under retort, for the purpose of separating the water and earthy impurities from the oil before the latter flows into the lower retort.

Fourth, the using in a retort scraps of metal wire, wire sieves, nails, turnings, or other metallic or earthen materials, or even vegetable substances, which will either form a screen or a porous mass through which oil can trickle down, so as to expose a large surface of it to the action of heat.

Fifth, the using in a retort or retorts of a series of nearly or quite horizontal plates, shallow pans or shelves, which may lie concave or with edges turned up, plain or convex, perforated with from one to numerous openings, or without any openings over which oil can flow or drop, or run from point to point, in combination with the pipe I and coil K, so as to expose a very large surface to the action of steam, and to form a very large evaporating surface.

Sixth, the using an agitator in a circular or nearly circular retort, for the purpose of throwing the oil into a spray or drops, so as to expose every drop as far as possible to the direct action of heat, and allowing the oil or fluid being distilled to flow through the retort in a steady stream, but not to accumulate in any considerable quantity in the retort, substantially as represented in the drawings.

Seventh, the condensers A M and Q, containing internally plates, disks, turnings, or an agitator into which the vapor of oil and cold water are allowed to flow for the purpose of condensing the vapor, substantially as represented in the drawings and described in the specification.

Eighth, the blowing the inflowing oil into a state of spray by a current of steam, by allowing the steam to strike the stream of oil, substantially as is represented by the oil pipe *u* and the dotted steam pipe *t* in the drawings of retort L.

63,790.—DANIEL FITZGERALD, New York, N. Y.—*Bed Bottom.*—April 16, 1867.—The elastic cord is passed and repassed through the holes or slots of the rail from end to end, its loops serving to support the end of the slat.

Claim.—The bar B, provided with holes or openings, cut directly through it from side to side, when used in combination with an elastic or other band or cord passed through said openings, in the manner represented, for the purpose of forming a reversible bed bar, which will support the slats when either side is down, substantially as herein set forth.

63,791.—J. C. GASTON, Cincinnati, Ohio.—*Churn.*—April 16, 1867.—The hollow hub of the dasher has radiating arms; a guard plate secured by pendants to the lid, obstructs the egress of cream, while it permits the free ingress of air.

Claim.—First, in the dasher the inverted cup-shaped hub E, the cavity *b* being cylindrical, and two

or more series of radial arms F, secured to the exterior of the hub E, all constructed substantially as above described, and for the purpose specified.

Second, in combination with the lid B, which has the enlarged central perforation *a*, the guard plate *c*, pendants *b* and blocks *c*, arranged substantially as and for the purpose above described and set forth.

63,792.—G. GREGORY and F. B. MORSE, New Haven, Conn., assignors to themselves and W. H. COOPER, same place.—*Joint for Carriage Top Brace.*—April 16, 1867.—A stud is attached to one car and a corresponding recess on the other to secure the connecting screw from strain.

Claim.—The herein described stump joint, as an improved article of manufacture, consisting of the two parts A and B, upon the ear of one of which is formed a stud *a*, and in the other a corresponding recess, so that the said stud forms the bearing or pivot for the joint, substantially as herein set forth.

63,793.—WM. HALL, Dubuque, Iowa.—*Machine for Forming Tubes of Sheet Metal.*—April 16, 1867.—The blank is laid upon the grooved underplate beneath the mandrel, and the hinged plate forced over it to curve the blank; the edge of the latter entering the longitudinal slot. The mandrel is revolved as many times as desired.

Claim.—First, the grooved plates A *a*, hinged together and operated as and for the purpose set forth.

Second, the slotted mandrel F, in combination with gear wheels C C, arranged and operating as described.

Third, in combination with the grooved plates A *a*, the sliding straight-edged bar H H, with its elevated projecting flange, as operated and described.

Fourth, the sliding frame G G, with its clamping device *b b* and wheels *d d*, in combination with the inclined plane *m m*, operating substantially as described and for the purpose set forth.

Fifth, the combination and arrangement of the plates A *a*, mandrel F, gear wheels C, sliding frame G, with its parts *b b*, inclined plane *m m*, and sliding bar H H, with projecting flange, substantially as and for the purpose set forth.

63,794.—JOHN A. HEYL, Boston, Mass.—*Railway Switch.*—April 16, 1867.—The four-crank shaft has its two end cranks connected by rods to the toggles, which are pivoted to the rails. A wheel on the locomotive has lateral movement to accommodate it to either of the two inclined levers on the central cranks, which operate to connect the switch with either track.

Claim.—The arrangement of the bars I I, the cranked shaft G, the connecting rods H H, the lever E, the toggles F F, the connection bar D, the whole being applied to the switch, and so as to aid in operating it in manner and under circumstances substantially as hereinbefore explained.

63,795.—WALTER HUBBARD, Meriden, Conn.—*Table Cutlery.*—April 16, 1867.—The handle and blade are cast together, after which the carbon is eliminated from the iron, converting it into malleable iron.

Claim.—The solid-handle cast metal knife herein described, the same being a new article of manufacture.

63,796.—ORANGE D. HUNTER, Terryville, Conn.—*Ox Bow Pin.*—April 16, 1867.—The engaging bolt slides in a segmental groove, and its projection is secured by a drop pawl, which may be raised through a perforation in the slide plate beneath it.

Claim.—Securing the bolt *e* on the plate *b* by means of the prongs *c*, in combination with the drop latch *h*, substantially as and for the purpose described.

63,797.—A. B. HURD, Watkins, N. Y.—*Uniting Stove Pipes, &c.*—April 16, 1867.—The coupling is secured by projections on one pipe running in a groove round the other, or they are fastened by narrow projecting beads on each, clasping the circumferential beads of the other.

Claim.—First, uniting joints of stove pipe, by means of the projections made by the indentations *a* on one piece being shoved longitudinally in the groove *b* of the opposite piece, and then turned into the circumferential groove *c*, as shown and described.

Second, uniting joints of pipe by means of the circumferential beads *e* and *n*, and the narrow slits *h*, when arranged for joint operation, as herein described.

63,798.—MOSES A. JOHNSON, Lowell, Mass.—*Machine for Felting or Furling Yarn, &c.*—April 16, 1867.—The main cylinder has a cork surface employed because of its pliable, elastic, and enduring qualities, its even surface and non-liability to injury from steam or water. The yarn is carried between said cylinder and fibrous belts, passing around steam-heated cylinders, and motive and idler rollers. Perforated pipes beneath the belts throw jets of hot water on the latter.

Claim.—In combination with a cork surface, aprons, cylinders, and steam rolls, and the presence of heat and moisture for felting or furling yarns, composed of wool, fur, hair, in whole or in part, substantially as described.

63,799.—CYRUS G. JONES, Orono, Me.—*Saw Mill Dog.*—April 16, 1867.—The log is clamped on two or more of the trucks and run forward to the gang saws. As the saws come in proximity to the truck the log is clamped at another point. The clamping jaws are operated by racks and pinions.

Claim.—First, the short carriage A, constructed substantially as shown and described, for use in front or rear of the saw, and having the two independently moving jaws H and I, mounted thereon in such a manner as to dog the log from above and below, substantially as herein set forth.

Second, the jaw I, mounted on the guide rods R, and arranged to be operated by the wheel D and cord U, substantially as described.

63,800.—F. H. JONES, Attica, N. Y.—*Windlass for Wells.*—April 16, 1867.—The loose drum has a friction disk which is backed by springs and engages a similar disk on the crown ratchet sleeve, having longitudinal movement on the winch shaft. This ratchet engages a similar ratchet of the shaft to remove the collar and engage the disks. The shaft has a spur ratchet and drop pawl to prevent back rotation. The disks act as brakes in lowering the bucket.

Claim.—The loose drum C and windlass shaft B, in combination with the disks *j* and E, springs Z, sleeves D, clutch *f*, winch G, and adjusting screw N, arranged and operating substantially in the manner and for the purpose set forth.

63,801.—JAMES LEFEBER, Wayne county, Ind.—*Portable Fence.*—April 16, 1867.—The triangular cross posts are connected by cross pieces in whose slots the rails are fitted. A cross piece surmounts the top of the posts above the running rider.

Claim.—The double triangle, consisting of the posts A A, bars E E, and cross pieces *e e*, and rails 1, 2, 3, 4, 5, 6, and 7, in combination with the cross pieces *c c c c* and D D, all arranged and constructed substantially as and for the purposes set forth and described.

63,802.—R. B. LOCKE, New Orleans, La., and WILLIAM B. ULRICH, Concordia Parish, La.—*Gas Burner.*—April 16, 1867.—A small axial tube supplies the jet in the bulbous cap around the main burners; the jet remains lighted while the main pipe is closed and is closed when the main pipe is lighted. The same spigot acts to make these changes of connection, having side ramifications which conduct to the axial tube in the former case, and a divisional piece which closes the said tube in the latter case.

Claim.—First, providing a gas burner with a small secondary gas taper or burner, which is so arranged as to serve as a means for lighting the gas when admitted to the principal burner, substantially as described.

Second, in combination with a gas burner, which is provided with a smaller gas burner or taper for lighting it, we claim a cock D, which is constructed so that it shall cut off the gas from the smaller burner when gas is admitted to the main burner, substantially as described.

Third, the divisional piece *d*, or its equivalent, applied to the orifice *a*, of the grooved cock D, and constructed with gas escapes *e e*, in combination with a self-lighting burner, substantially as described.

Fourth, the hood of shell G, in combination with a

self-lighting gas burner which is constructed substantially as described.

63,803.—ROBERT O. LOWREY, Saratoga Springs, N. Y.—*Cement Roofing.*—April 16, 1867.—Interstices are left between the boards of the sheeting to form clinches for common mortar that is spread thereon. When the mortar is dry roofing cement is spread over it.

Claim.—A plastic foundation for roofs to receive, hold, and absorb more or less of the roofing cement, constructed and applied substantially as set forth.

63,804.—WILLIAM H. McLELLAN, New Orleans, La., assignor to St. CHARLES STREET RAILROAD COMPANY, same place.—*Fare Box.*—April 16, 1867.—The ticket is dropped into the hopper whose tilting brings up the rest shelf where the fare is visible to the passenger and driver. On release of the push plate the ticket is allowed to slip into the locked receptacle.

Claim.—The combination of the push arm A, tilt door and shelf B, tilt C, and sliding shelf D, when these several parts are constructed and arranged for conjoint operation as described, for the purpose set forth.

63,805.—JOSEPH MILLER, Cuba, N. Y.—*Manufacture of Sheet Iron.*—April 16, 1867.—The sheet is formed slightly thicker than ultimately required, and heated to nearly the welding point by jets above and below the plate immediately before passing between the finishing rollers.

Claim.—The improved mode of manufacturing sheet iron, as herein shown, by raising it to a welding heat just as it is about passing between the finishing rollers, substantially as and for the purpose described.

63,806.—JOSEPH MORGAN, West Springfield, Mass.—*Hay Loader.*—April 16, 1867.—A portable grooved drum is attached to the inside of the wheel of a wagon; has an automatic connection with the wheel, and connects by a cord running over pulleys on a crane with the fork directed by the attendant.

Claim.—The attachment of a wooden grooved drum to the inside of a wheel of a hay cart or wagon revolving upon the hub in combination with the crane and machinery by which said drum is connected to and disconnected from the wheel automatically, the whole constructed and operating substantially in the manner as herein described.

63,807.—CHARLES MORRILL, New York, N. Y.—*Pendulum Level and Sight Combined.*—April 16, 1867.—The pivoted graduated frame carries a swinging bob with index attached to indicate the degree of inclination. A rib on the inner side prevents deviation of the bob. A set screw confines the motion of the frame.

Claim.—First, the combination of a swinging frame C with a suitable stock A, substantially as herein specified.

Second, the combination of the swinging frame C, stock A, and arms B, substantially as herein specified.

Third, the combination of the set screw H with one of the arms B and swinging frame C, substantially as herein specified.

Fourth, the combination of the globe-sight E G with the stock A and swinging frame C, substantially as and for the purpose herein specified.

Fifth, the bob or pendulum D, with the graduated swinging frame C, when such bob is pivoted at its upper end to the upper part of said swinging frame, substantially as shown and described.

Sixth, providing the inner surface of the swinging frame C, with a rib *d*, and constructing the lower end of the bob or pendulum conformably thereto for the purpose of allowing the bob or pendulum none but the required motion.

63,808.—E. L. MORSE, St. Louis, Mo.—*Compress for Cotton, &c.*—April 16, 1867.—The lifting rods connect the lower platen to wrist pins on the solid wheels rotated by the right and left worm gears of the rotating shaft.

Claim.—The combination of the endless screws E' on the power shaft E with the screw guard sectors or

wheels C, the lifting rods C², and platen D, when acting substantially as and for the purpose set forth.

63,809.—A. M. OLDS, New York, N. Y.—*Vegetable Slicer*.—April 16, 1867.—The knife blade in connection with an adjustable inclined plane regulates the thickness of the slice.

Claim.—The combination of the adjustable inclined plane B, with the grater A, slots D, and triangular apertures F, when constructed and arranged substantially in the manner and for the purposes set forth.

63,810.—DEWEY PHILLIPS, Shaftsbury, Vt., and WILLIAM REID, West Arlington, Vt.—*Securing Heads in Seamless Casks*.—April 16, 1867.—Explained by the claim.

Claim.—The method herein described of putting the heads or bottoms in seamless casks or other vessels by making the heads or bottoms of a less diameter than the inner diameter of the shells at the croze, and then compressing the ends of the shell into close contact therewith preparatory to putting on the hoops, substantially as described.

63,811.—DAVID R. PRINDLE, East Bethany, N. Y.—*Portable Furnace for Boilers*.—April 16, 1867.—An improvement on his patent No. 25,442. The fire-place is surrounded by air spaces which are covered by a horizontal plate projecting to form a deflector, to drive the caloric current forward and under the boiler.

Claim.—First, the construction of a combined furnace and support for boilers, caldrons, or steaming vessels of an extended horizontal base D on outer jacket E, and a constructed fire box which is formed of side plates F F' and F'', substantially in the manner described.

Second, in a furnace which is adapted for supporting and heating caldrons or steaming vessels, the air spaces *g g g* for protecting the fire box plates, formed substantially as described.

Third, the deflector plate G, adapted to serve as a cover for the rear air space *g*, and also as a means for directing the heated products of combustion forward around the bottom of the caldron, substantially as described.

Fourth, a heating furnace, which is also adapted to serve as a firm and safe support for a caldron or steamer, constructed substantially as herein described.

63,812.—ELIAS RHODES, Jr., Clyde, Ohio.—*Horse Hay Fork*.—April 16, 1867.—The lower ends of the links are pivoted to the jaws, and the upper ends of the outer links to the cross head to which the attachment rings are pivoted. The jaws are kept in position by a lug operated by a lever pivoted in the cross head.

Claim.—First, the tubular rods or links A B C, provided with the shanks *l* and head F, constructed and applied as and for the purpose set forth.

Second, the arrangement of the lever arm G provided with the lug *h* in combination with the cross-head E, tubular links A B C, shanks *b*, and jaws D, when the several parts are constructed and arranged as and for the purpose set forth.

63,813.—WM. B. RICE, Utica, N. Y., assignor to himself, JOHN RICE and E. S. MUNSON.—*Metallic Bobbin*.—April 16, 1867.—The upper end of the bobbin is strengthened by an inserted annular piece. The enlargement at the base is of a stepped conical form, an axial section showing acute re-entering angles. It is made of sheet zinc.

Claim.—First, the combination of a hollow metal base C with a tubular metal spindle A, constructed and united substantially as and for the purpose set forth.

Second, the inverted conical shoulders formed at the base of the hollow spindle when the said spindle is attached to the hollow metallic head, substantially as and for the purpose set forth.

63,814.—ALBERT D. RICHARDS, Lowell, Mass.—*Apparatus for Making Medical Plasters*.—April 16, 1867.—Attached to the upper surface of the block is a bed piece, concave upon its upper side. The shield pan hinged to the block has an opening in its bottom. The material is spread on the leather, which is exposed by the opening in the shield. The form of the block renders the deposit thin on the edge of the plaster. A catch holds the shield when down.

Claim.—First, the bed piece B when made with sunk panel and raised edge, substantially as shown and described, and for the purpose set forth.

Second, the pan C when made with the opening having chamfered edges, in combination with the bed piece B.

63,815.—GEORGE O. SANDERSON, Boston, Mass.—*Gas Cooking Stove*.—April 16, 1867.—The stove has gas pipes with burners beneath the oven and in the cylindrical lining of the pot holes. The pipes have side openings for admission of air to mix with the gas.

Claim.—First, the combination and arrangement of the pipes G G with the oven L, substantially as described and for the purpose set forth.

Second, the combination of the basins B B' with the pot holes of the cooking stoves, substantially as described and for the purpose set forth.

Third, the combination of the short cylinders D D with the rear pot holes and the top of the oven, substantially as described and for the purpose set forth.

63,816.—JOHN SCHAEFFER, St. Louis, Mo., assignor to SAMUEL BAXTER, same place.—*Steam Safety Valve*.—April 16, 1867.—The valve has an under and an upper seat; the latter to close the opening to the locked up chamber containing the levers. The valve stem and weighted lever are loosely connected together to avoid any jamming.

Claim.—The arrangement of the double-seated safety valve C with reference to the case D and levers E and F, substantially as and for the purpose set forth.

63,817.—FRANCIS B. SCOTT, Lancaster, N. Y.—*Lady's Fan*.—April 16, 1867.—The embossed card fan is strengthened by extensions from the wooden handle, and the middle is perforated to avoid obstructing the view.

Claim.—A lady's fan having a perforated center piece A with or without designs printed or formed thereon, as a new article of manufacture, substantially as described.

63,818.—FRANCIS B. SCOTT, Lancaster, N. Y.—*Window Screen*.—April 16, 1867.—The perforated figured card is enclosed in a frame for a cheap screen.

Claim.—A window screen made of perforated card board and supported in a wood or iron frame, as a new article of manufacture, substantially as described.

63,819.—LOUIS W. SPENCER, New York, N. Y., assignor to SCHREIBER CORNET MANUFACTURING COMPANY, same place.—*Machine for Cutting the Wind Passages in the Rotary Valves of Cornets*.—April 16, 1867.—The cylindrical blank having a journal pin at each end, is clamped by the jaws to the clutch and presented to the rotary cutter by movement of the screw rest on which the clutch is supported.

Claim.—The combination of the mandrel with its burr cutter, the chuck capable of being turned and held in position and provided with gripping jaws, substantially as described, and the two carriages capable of being moved at right angles, the one with the other, substantially as and for the purpose described.

63,820.—A. N. TOWNE, Chicago, Ill.—*Handle for Signal Lanterns*.—April 16, 1867.—The bent handle is hung upon the guard handle and attached to the building or car.

Claim.—Bending a lamp handle at or near the center at a right angle, in combination with a guard handle, or its equivalent, as and for the purpose set forth.

63,821.—A. D. WESTBROOK, Buffalo, N. Y., assignor to himself, R. W. DANIELS and JOHN HUMPHREY, same place.—*Protecting Pad for Interfering Horses*.—April 16, 1867.—The pad strap catches in the crevice between the heel and the shoe, and is fastened by a hook engaging with the clip in front.

Claim.—Retaining the pad in place on a horse's hoof by means of a hook J which engages with the clip *e* of the shoe, substantially as set forth.

63,822.—PETER MEYERS, Stouffville, Ohio, administrator of the estate of EMANUEL YOUNG, de-

ceased.—*Wood Reamer*.—April 16, 1867.—The reamer head has acute angular ribs, and is preceded by a guide which maintains its central position.

Claim.—As a new article of manufacture a tapering reamer constructed substantially as set forth.

63,823.—JOHN ALLEN, Palmer, Mass., assignor to himself and SAMUEL TERRY, same place.—*Die for Swaging Calks for Horseshoes*.—April 16, 1867.—The swage sockets are formed in the edges of removable plates, one-half in each plate, and the bottoms of the sockets are open to allow scales to drop through into the channels in the bed below.

Claim.—A toe-calk die constructed of the plates *a b c* with the grooves *d e f g*, arranged and constructed substantially as and for the purpose set forth.

63,824.—GEORGE B. ATWOOD, Philadelphia, Pa.—*Permutation Lock*.—April 16, 1867.—One-half of the thickness of the disks is cut away at the periphery to a small depth, and the remainder slotted radially. A fixed plate the thickness of the slots has projections enclosing the annular grooves of the disks. The inner disk is attached to the spindle, and has a pin entering a segmental groove in the next, by which the latter is moved, and so on consecutively. When the disks are rotated into proper position, which is done by alternate and specific turning of the knob in contrary directions, the spindle can be drawn forward to engage and turn the cam which throws the bolt. The measuring ring is made loose to mislead the dishonest.

Claim.—First, locking the spindle *D* in a position disconnected from the bolt *F* by preventing longitudinal motion without preventing rotary motion in the said spindle by means of the disks *E E' E''* and block *K*, constructed and arranged to operate together substantially in the manner described and set forth.

Second, I claim the loose measuring ring *I* in combination with the knob *C*, arranged and operating together substantially as and for the purpose described.

63,825.—JOHN AUGSPURGER, Trenton, Ohio.—*Portable Fence*.—April 16, 1867.—Each panel has one long and one short post. The former rests upon the ground and has hooks to receive the shorter part of the adjoining panel, and a spring plate above one of the socket rings to prevent the disconnection of the hinges.

Claim.—The construction of a light and portable fence in lengths of panels with one short and one long post, substantially as shown and described, to be connected in a worm or zigzag shape by means of the hooks *C C'* and eyes or staples *D D'*, in combination with the spring *E*, as set forth.

63,826.—JOHN AUGSPURGER, Trenton, Ohio.—*Portable Fence*.—April 16, 1867.—The panels being attached, as stated, the slide passing between the vertical posts and braces prevents their attachment.

Claim.—The construction of a light portable fence in lengths or panels, with one short and one long post, substantially as shown and described, to be connected and secured in a worm or zigzag form by means of the prolonged and gained rails *F F'*, in combination with the slide *D*, as shown and set forth.

63,827.—JOHN AUGSPURGER, Trenton, Ohio.—*Portable Fence*.—April 16, 1867.—The projecting ends of certain of the rails are gained together, and their detachment prevented by the interlocking of the intervening rail ends, which are halved out in contrary way to the gains of the other rails.

Claim.—First, the construction of a light portable fence in lengths or panels, with one short and one long post, substantially as shown and described, to be connected and secured in a worm or zigzag shape by means of the prolonged and gained ends of certain of the rails, and the notched and tongued intermediate rails, as *a b*.

Second, in combination with the elements of the first clause, the additional block *D* attached to the end of the supporting foot of each panel, to serve as an anchor to give the fence additional firmness.

63,828.—JOHN AUGSPURGER, Trenton, Ohio.—*Portable Fence*.—April 16, 1867.—The panels are hinged together, and their detachment prevented by

the engagement of the two blocks, or a block and gain, when the panels are turned in a zigzag form.

Claim.—First, the construction of a light and portable fence in lengths or panels, with one short and one long post, substantially as shown and described, to rest upon the surface of the ground in a worm or zigzag shape, and to be connected and secured by means of the hooks *C*, staples or eyes *D*, and cleats *a b*, or cleat *E* and oblique gains *F*, operating as shown and set forth.

Second, in combination with the elements of the preceding clause, the block *H*, serving as an anchor, as set forth.

63,829.—JOHN AUGSPURGER, Trenton, Ohio.—*Portable Fence*.—April 16, 1867.—The detachment of the panels is prevented by drop buttons.

Claim.—The construction of a light portable fence in lengths or panels having one short and one long post, substantially as shown and described, and connected and secured in a worm or zigzag form by the hooks *a* and staples *b*, in combination with the gravitating button *D*, and anchor block *C*, the whole operating as shown and set forth.

63,830.—WILLIAM M. BALL, Morristown, Ind.—*Cultivator*.—April 16, 1867.—The middle shovel standard is attached to a central beam; the others are curved right and left, and stayed by rods. The handles rest upon a vertical post on the rear portion of the beam.

Claim.—First, the arm *s*, provided with screw thread and nuts *t*, as described, in combination with bar *e*, for the purpose herein specified.

Second, the arm *s*, provided with screw thread and nuts *t*, the bar *e*, handle *d*, standards *C C C*, braces *b b b* and beam *A*, when the whole are combined, arranged and operating in the manner and for the purpose substantially as herein set forth.

63,831.—LOUIS BAUHOEFER, Philadelphia, Pa.—*Mattress and Life Preserving Float*.—April 16, 1867.—Two mattresses filled with cork have between them an air bag, confined in a fibrous sack to prevent rupture, the whole forming an elastic bed, which may be separated into several distinct life preservers in accidents on water.

Claim.—First, an air bag *C* and a mattress or cushion *D*, arranged within a frame substantially as and for the purpose described.

Second, the frame *A*, with its buoyant cushion *B* and detachable buoyant cushion *D* and detachable air bag *C*, the whole being arranged substantially as and for the purpose set forth.

Third, the frame *A*, with its detachable cushion *D*, in combination with the detachable cover *e* and the strips *e e*, or their equivalents, for the purpose specified.

63,832.—J. C. BEACH, Bloomfield, and J. ABBEY, Orange, N. J., assignors to J. C. BEACH, Bloomfield, N. J.—*Machine for Disintegrating and Pulping Fibrous Material*.—April 16, 1867.—The spirally ribbed cylinders are geared together, the edges of the ribs acting as shears to cut the material. The case has ribs in opposite directions to those on the rollers, and acting with them to disintegrate the pulp. A longitudinal bar is placed below and nearly touching the engaging portions of the rollers. The hopper is near one end and the exit pipe centrally situated at the other. The cutting ribs on the rollers are multiplied toward the exit.

Claim.—First, the combination of the two spiral ribbed cylinders *A A*, constructed and operating together in the manner and for the purpose set forth.

Second, the flat-faced bar *p* and the adjustable boxes *t*, either or both of them, when used in combination with the spiral ribbed or grooved cylinders constructed and operated as shown.

63,833.—W. W. BEAN, Iowawea, Iowa.—*Wagon Brake*.—April 16, 1867.—The draft bolt slips back in slots in the hounds when descending a hill; the tongue connects by a key block with the adjustable reach, whose attached rubber is held against the wheel.

Claim.—The application of the key block *C*, Fig. 3, in combination with brake operating upon the wheels by the action of tongue bar sliding in the holes *F* made

in the tongue hounds, with the frame E and brace bars D D connected with the wooden rubber, as substantially described.

63,834.—WM. S. BEEBE, Philadelphia, Pa.—*Concession Fuse for Explosive Shells.*—April 16, 1867.—Explained by the claims.

Claim.—First, so attaching an inertia fuse to the interior of a hollow projectile that while it is secure against any ordinary shock, it will be broken loose by the discharge of the cannon or mortar from which it is fired, when such fuse is so constructed and arranged that, lying loosely in the powder during the flight of the projectile, it will turn its loaded end against the wall of the cavity in the projectile and explode when the flight of such projectile is suddenly arrested or checked, substantially as above described.

Second, a percussion or frictional fuse which is constructed with a loaded head A, terminating in a feathered tail a, and adapted for use in spherical and other tumbling shells, substantially as described.

63,835.—E. B. BEECHER, Westville, Conn., and JOSEPH G. DAVIS, HENRY S. FROST, and ANTHONY G. DAVIS, Watertown, Conn.—*Blind Fastening.*—April 16, 1867.—The grooved friction wheel on the shaft of the bevel wheels commanding the lower hinge of the shutter has two semicircular clamps, by pressure on which the grooved wheel is clamped to fasten the hinge.

Claim.—First, the combination of the grooved friction wheel or pulley H, the two semicircular clamps or brakes I, and the slotted cap or case G with each other, with the shank of the knob or handle F, and with the shaft E of the gear wheel D, substantially as herein shown and described.

Second, the shaft E, connected to the gear wheel D and to the knob or handle F, in the manner herein shown and described, and for the purpose set forth.

63,836.—H. C. BERRY, Wauseon, Ohio.—*Wood-turning Lathe.*—April 16, 1867.—The back rest has a slotted segmental frame with two pivoted adjustable bars attached, having friction rollers upon their ends to afford revolving bearings for the wood which is being turned.

Claim.—A back rest for a wood-turning lathe composed of the segment A, in combination with the spreading bars B B and the friction rollers d d, constructed and operating substantially as and for the purpose herein specified.

63,837.—SALMON BIDWELL, Bordentown, N. J.—*Button for Fastening Carriage Curtains.*—April 16, 1867.—The slotted plate of the curtain slips upon the pin, and a gravitating latch holds it in position.

Claim.—The construction and arrangement of the vertically swinging triangular plate b, pivoted in the pin A, in such a manner that its inner point may fall by its own gravity and rest against the upper edge of the shoulder upon the pin G, its lower point fitting over and securing the plate D, as herein shown and described for the purpose specified.

63,838.—WILLIAM ZELLER, Lebanon county, and RICHARD LECHNER, Berks county, Pa., assignors to JAMES WALLACE, Lebanon county, Pa.—*Plow.*—April 16, 1867.—The lever operates the rod longitudinally to thrust obstructions from the breast of the plow.

Claim.—The jointed rod D D', used in combination with the beam and the handle H, as and for the purpose specified.

63,839.—JAMES E. BLAIR, New Haven, Conn.—*School Desk.*—April 16, 1867.—The cover is attached by links to the stand and retains its attachment, but is removable to expose either surface.

Claim.—A school desk cover, reversible in the manner substantially as described, having one of its surfaces coated or plated, as herein set forth.

63,840.—REINARD BLUM, Champaign, Ill.—*Hand Cultivator.*—April 16, 1867.—The plow shank is adjusted by wedges which secure it in the beam. The supporting wheel runs in the slotted beam. A strap connects the ends of the handles.

Claim.—The arrangement of the beam A, wheel

B, shank C, provided with point or tooth D, with the handles E E and strap F, for forming a hand cultivator, substantially as specified.

63,841.—DOUGLAS BLY, Macon, Ga.—*Attachment to Mucilage Bottles.*—April 16, 1867.—The cover is attached to the brush handle, and the brush passes down between the flexible, intumed jaws of the cylinder, which is vertically adjustable.

Claim.—First, an attachment to a mucilage bottle for clearing the brush, having such a range of motion that when lowered it rests beneath the surface of the liquid, but when raised for action it rests above the surface, as set forth.

Second, an attachment to a mucilage bottle, so arranged that the clearing edge for the brush is situated below the mouth of the bottle, as specified.

Third, a device for clearing the brush of a mucilage bottle, consisting of flexible jaws, between which the brush rests, as herein set forth.

Fourth, the combination of the nibs e and stops d with the attachment B and bottle A, operating substantially in the manner and for the purpose specified.

Fifth, the cover g, provided with the slits h, for shutting over the flange of the attachment, as herein set forth.

63,842.—CHARLES BOERNICKE, Philadelphia, Pa.—*Wood Boring Bit.*—April 16, 1867.—The tool is for boring a hole larger at bottom than at top, and it contains a movable cutting lip which is thrust outward by its pivoted rod, which is pressed inward by the side of the hole as the tool advances, or by a washer surrounding the said hole.

Claim.—The combination and arrangement of the tube A, composed of the slotted parts e f, within which is pivoted the rod b, provided at its lower end with the horizontal cutter c, working through the slot near the lower end of the tube A, its upper end bent so as to project in an inclined line through the slot in the upper part of the tube A, and held outwardly by means of the spring d, as herein set forth, for the purpose specified.

63,843.—A. BORROWMAN, New York, N. Y.—*Car Bell.*—April 16, 1867.—Explained by the claim and illustration.

Claim.—Suspending the tongue B in the slotted bell A by means of the pin C, passing through the upper side of the bell and through the end D of the tongue B, as herein set forth, for the purpose described.

63,844.—HENRY D. BOSS, Williamsburgh, N. Y.—*Boot Jack.*—April 16, 1867.—Explained by the claim.

Claim.—A boot jack having the inside of its jaws provided with an india-rubber bearing surface for the boot heel, inserted therein, substantially as and for the purpose specified.

63,845.—F. PHILIP BOURNE, Williamsbridge, N. Y.—*Propelling Attachment for Children's Slids.*—April 16, 1867.—Two slotted levers hung on pins in the middle knee, have picks projecting from their segmental ends by which to propel the sligh.

Claim.—The attachment of lever picks B to sleds, &c., substantially as and for the purpose described.

63,846.—BENJAMIN F. BRADY, New York, N. Y.—*Exercising Apparatus.*—April 16, 1867; antedated April 8, 1867.—The levers have rectangular projections with series of holes for adjustable attachment of the tension springs.

Claim.—First, the combination of the levers F with the seat a, and with springs applied in such manner that their tension will oppose the backward movement of the said levers, substantially as herein set forth, for the purpose specified.

Second, the outriggers B, levers F, arms D, and springs E, combined in relation with each other and with the box A and seat a, substantially as herein set forth, for the purpose specified.

63,847.—ELLISON BROWN, Indianapolis, Ind., assignor to himself and JAMES B. BELL, Cincinnati, Ohio.—*Composition for Coating Leather.*—April 16, 1867.—Composed of asphaltum, 10 lbs.; fish oil, 1 gall.;

spirits of turpentine, 1 gall.; rosin, 2½ lbs.; beeswax, 1 lb.; lampblack, ¼ lb.

Claim.—The water-proof oil polish compounded of the ingredients named, or their chemical equivalents, in the manner and for the purpose substantially as set forth.

63,848.—PETER BRUSO, Erie, Pa., assignor to himself and CHARLES B. CLARK, Buffalo, N. Y.—*Electro-Magnetic Battery.*—April 16, 1867.—The adjustable arm connects the opposite poles and has a binding screw for holding the platinum, and an adjustable yoke for holding the zinc.

Claim.—The adjustable connecting arm A, for the cups of the electro-magnetic batteries, consisting of the pivoted attachment *f f q* and sliding clamp for the platinum, constructed and operating substantially as set forth.

63,849.—W. F. BUCKELEW, Shreveport, La.—*Cotton Tie.*—April 16, 1867.—The ends of the wire are engaged, and the bent and sharpened ends thrust into the bale.

Claim.—The point *A b a*, in combination with the point *c* and the bend *b C*, as and for the purpose set forth.

63,850.—IRA S. BULLARD, Geneva, N. Y., assignor to himself and C. H. PARKER, same place.—*Attachment for Controlling Draft in Stove Pipes.*—April 16, 1867.—The perforations of the movable plate register with the openings in the plate beneath, and the position of the former is indicated and maintained by a finger. A graduated scale and a circular series of depressions engaged by a spring pin.

Claim.—The construction and arrangement upon the side of the stovepipe A of the circular box B provided upon slotted face C with a semicircular graduated ring D and depressions *b*, into which fits the pointed stud of the spring index hand H secured to the end of the damper spindle G, sliding slotted plate I, hung upon said spindle and held in place by means of the spiral spring *b'*, substantially as herein shown and described for the purpose specified.

63,851.—JOHN BURNS, Elyria, Ohio.—*Corn Planter.*—April 16, 1867.—The sections of the frame are laterally extensible. Blades project from the periphery of the front wheels and are followed by seed conductors connected by sliding valves with the seed box. The blade wheels are lifted above the ground by action of a lever which connects the frame and tongue rigidly together, throwing the forward weight on the neck yoke.

Claim.—First, the wheels D, provided with the rotary cutting blades E, in combination with conductors O and seed boxes Q, when arranged and operated conjointly with the adjustable frames A B, as and for the purpose described.

Second, the levers J L and links M K, as arranged, in combination with the pole H and adjustable frames A B, for the purpose and in the manner set forth.

63,852.—W. W. BURSON, Rockford, Ill.—*Straw Cutter.*—April 16, 1867.—The feed rollers have serrated corrugations. The trough is inclined in relation to the knives which are upon the revolving pulley, whose arms incline outward to allow the feed behind the knives. The stationary cutter has serrations to prevent the slipping of the twigs upon it.

Claim.—First, the arrangement of the cutting knives *a a'*, in combination with the spiral arms *h h'* of pulley A, constructed and operating substantially as described.

Second, in a combined fuel and feed cutter, the manner of fastening the cutting knives *a a' b b'* to the pulley A, substantially as described.

Third, the arrangement of the knives *a a' b b'* to the pulley A, and the construction of the stationary cutter *c*, operating substantially as and for the purpose set forth.

Fourth, the arrangement of the feed passage I with relation to the cutters *a c*, substantially as described and operating for the purpose set forth.

Fifth, the construction of the feed rollers *d d'*, for the purpose of giving an intermittent feed motion, as described.

Sixth, the placing of the additional knives *b b'* upon

the pulley A, and additional serrated plates *i i* upon the feed rollers *d d'*, substantially as described and operating for the purpose set forth.

Seventh, the combination and arrangement of the nut F with shaft H and cutter pulley A, substantially as described and operating for the purpose set forth.

63,853.—JOHN T. CAMPBELL, Rockville, Ind.—*Portable Fence.*—April 16, 1867.—The panels consist of posts and rails of inch stuff held together by the same screw bolts which connect panel to panel, and are braced by stake rods which are run between the rails and have series of notches to allow of use on uneven surfaces.

Claim.—First, the cross stakes C with the notches *b*, combined with the wedge *c* and arranged for supporting the plank rails A, in the manner herein specified.

Second, a fence constructed with the plank rails A and posts B, so united by bolts and nuts *a* as to permit any required degree of inclination to be given to the rails, the posts remaining vertical, thus permitting its adaptation to convertible use, substantially as and for the purpose set forth.

63,854.—M. D. CONE, Port Gibson, N. Y., and A. N. DOUGLASS, Avon, N. Y.—*Hand Seeding Machine.*—April 16, 1867.—The machine is mounted on a wheelbarrow and is operated by an adjustable traverse wheel in the rear, which connects by an endless band with the seed cylinder. The revolving perforated seed cylinder regulates its delivery by an adjustable band with various sized holes.

Claim.—First, suspending the seeding apparatus from the front of a hand barrow by which they are drawn, substantially in the manner and for the purposes shown and described.

Second, the employment or use of the revolving seed cylinder C when it is made to contain the supply of grain, substantially as and for the purposes set forth.

Third, enclosing the grain cylinder C within the casing B, for the purpose of concentrating the seed after leaving the distributing cylinder and conveying it to the drill through the conductor.

Fourth, the adjustable perforated band *n*, in combination with the revolving seed cylinder C, substantially as and for the purposes set forth.

63,855.—JAMES L. CANHAM, Newark, N. J.—*Locking Apparatus for Ferry Boats.*—April 16, 1867.—The fenders have ratchet racks and the boat has spring pawls to engage therewith; the latter are drawn back by chains lapping around a shaft operated by a hand wheel.

Claim.—First, pivoting the blocks D to the frame of the boat, in such a position as to take hold of the teeth of the racks C and hold the boat locked, substantially as herein shown and described.

Second, the combination of the springs F, pivoted blocks D, chains G, shaft H, ratchet wheel J, and pawl K, with each other, substantially as herein shown and described and for the purpose set forth.

Third, attaching racks C to the fenders B, substantially as herein shown and described and for the purpose set forth.

63,856.—FREDERIC CARL, Charlestown, Mass.—*Machine for Stuffing and Currying Leather.*—April 16, 1867.—The cylinder has a coiled helical steam pipe attached to its inner side used to heat it when at rest, and has an axial steam drum with a foraminous jacket to protect the hides from its contact. The hides and adipose matters are placed within and the cylinder rotated.

Claim.—First, the combination of the rotating cylinder A of the shaft B D and perforated cage E, or its equivalent, as and for the purpose described.

Second, the combination of the cylinder A and coiled pipe G, as and for the purpose set forth.

63,857.—OLIVER S. CHAPMAN, Canton, Mass.—*Excavator.*—April 16, 1867.—The shovel bottom is hinged to a bent pivoted bar, and is partially cut away to avoid contact with the operating bar, and a supplementary door stops the aperture caused by this deficiency. The shovel mechanism is operated by the tightening of friction bands adjustable at one end and

at the other connected to the short arms of a rock shaft, whose longer arms are operated by grooves in a conical block, which has sliding movement on its shaft by a hub on the same. The flanges of two of the supporting wheels are notched to give bearing to levers by which they are turned. The compound gear wheel, whose shaft carries the gear wheel for the chains by which the crane is swung around, has a central disk attached to the shaft having lugs which enter segmental slots of the larger disk in which it is recessed; on each side of these lugs within the slots is placed a block of rubber to ease the machinery in starting.

Claim.—First, the shovels E, provided with the doors F' and f, arranged to operate as herein described.

Second, the combination of the laterally adjustable hmb h, provided with the inclines e' and the rock shaft c, for tightening the friction bands b, substantially as and for the purpose set forth.

Third, the combination of the bands U, rock shafts c, provided with the arms or levers d', and the block W, when arranged to operate as and for the purpose set forth.

Fourth, constructing the wheels with a notched flange, as represented in fig 1, for the purpose herein set forth.

Fifth, constructing the machine with the extra wheels T, of larger diameter than the wheels G, for the purpose of running the same on ordinary railway tracks clear of obstructions, substantially as set forth.

Sixth, the compound gear wheel, consisting of the movable portion F, having slots therein, and the disk F, with projections to fit into said slots, with the rubber or other yielding material interposed, the whole being arranged for joint operation, substantially as shown and described.

Seventh, the combination of the clutch wheel I, constructed and arranged as described with the endless chain H* and sprocket w and w', as set forth.

63,858.—ISAAC H. CHAPPELL, Decatur, Ill., assignor to himself and JAMES B. MILLISON.—*Planter and Cultivator Combined.*—April 16, 1867.—The plow standards are attached to the frames in front by chains and are pivoted to the beams above which are adjusted by levers secured to segmental bars; the plows are moved laterally by levers in reach of the driver. The seat is adjustable to bring the driver's weight over the rollers or cutters. Adjustable slides regulate the amount of seed furnished by paddles in the seed box, worked by a belt communicating with the supporting wheel.

Claim.—First, the combination of the adjustable lever J with the beams H, substantially as herein shown and described, and for the purpose set forth.

Second, the combination of the bent lever W, and cross bar X, with each other, and with the standards T, of the plow S, substantially as herein shown and described, and for the purpose set forth.

Third, making the seat bar N' adjustable, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the roller shaft G', arms H' I, shaft J' and arm K', with each other, and with the valve bar F', substantially as herein shown and described and for the purpose set forth.

63,859.—E. E. CHESNEY, Abingdon, Ill.—*Seed Planter.*—April 16, 1867.—The gauge wheels carry spokes to mark out the ground and are weighted to insure regularity in starting; they are attached to a single axle whose seed pockets pass through the hoppers of the dropping device. The broad faced supporting wheels are also run with a single shaft and act as coverers. Farrowing plows precede the seeder, and the seed is covered by the rear adjustable plows in soil non-reducible by the rollers. The tongue is attached to the rear cross bar of the frame, and is held and adjusted between vertical bars attached to the front cross bar.

Claim.—First, the combination of the gage wheels D, and single shaft C, with the seed boxes B, and frame A, of the machine, substantially as herein shown and described.

Second, operating the shaft C, to drop the seed by means of a hand lever K, substantially as herein shown and described.

Third, the combination of the tongue I, and upright bars J, with each other and with the frame of the machine, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the plows H and G, with the frame of the machine, substantially as herein shown and described.

63,860.—ENOCH CONGER, Lexington, Ohio.—*Shingle Machine.*—April 16, 1867.—One of the sashes has a lateral movement given to it by an inclined bar on the carriage, during the longitudinal movement of the latter, to cause an oblique cut in the block by one saw, to form the thick and thin ends of the shingle.

Claim.—First, in a shingle machine, the two saw sashes E and F, placed one behind the other, and to one of which a lateral movement is given for the purpose of giving a taper to the shingles sawed, substantially as herein shown and described.

Second, the combination of the sliding frame H, with the saw sash F, carriage J, to whose under side is secured the inclined bar L, working in the inclined groove of the cross bar h, of the sliding frame H, for the purpose of giving a lateral movement to the said sash, substantially as herein shown and described.

63,861.—SAMUEL B. COOPER, Beloit, Wis., assignor to himself and RICHARD TATTERSHALL, same place.—*Farm Gate.*—April 16, 1867.—The gate slides in a pulley on the pivoted, slotted post and a second pulley near the middle of the gate when shut, which is suspended from the brace attached to the top of the post so that the gate can be partially opened without revolving.

Claim.—First, the revolving slotted post B, for the purpose set forth.

Second, the brace E e, and pulley H, for the purpose specified.

Third, an improved farm gate in combination with the revolving slotted post B, brace E and e, pulleys H and a, gudgeons b, cap C, and fence post D, as herein set forth for the purpose specified.

63,862.—WILLIAM M. CRAWFORD, Ashland, Ohio.—*Farm Gate.*—April 16, 1867.—The gate is raised in the slides by a lever wheel attached to the post. The gate when shut rests in a slotted block under the middle of the bottom rail. A spring catch at the front end fastens the gate when shut.

Claim.—The lever wheel J, tongue board P, slide B, in combination with board C and block K, substantially as shown and described for the purpose set forth.

63,863.—C. O. CROSBY, New Haven, Conn.—*Corset Clasp.*—April 16, 1867.—The loops are made to slip on the steel plates; one carries a hook and the other an eye.

Claim.—The loop B, formed in the manner described, its two ends secured to the tongue d, substantially as set forth.

63,864.—JOHN CURRY, Stanford, Ky.—*Saddle.*—April 16, 1867.—An improvement on the "Murdock" spring saddle. Explained by the claim.

Claim.—The saddle constructed with head piece and cantel, mounted upon and secured respectively to bent plates C E, united by metallic side plates, and forming a skeleton frame for the support of the suspended seat.

63,865.—THEODORE D. DAY, New York, N. Y.—*Clasp for Skeleton Skirts.*—April 16, 1867.—The clasp is made of sheet metal, lined with paper cloth applied before the clasp is cut to guard the skirt from contact with the sharp edges of the metal.

Claim.—The clasp for skirts and similar articles formed with a lining to the clasps and the teeth, in the manner specified.

63,866.—THEODORE D. DAY, New York, N. Y.—*Clasp for Skeleton Skirts.*—April 16, 1867.—Improvement on his patent, September 5, 1865. The clasp forms a hinge having an upward and downward but no side vibration, and consists of two annular flanges, one of which laps around the edge of the other and has projections preventing side movement of the same.

Claim.—The lip or lips *i*, in combination with the clasp hinge *a b*, formed of sheet metal, in the manner and for the purpose set forth.

63,867.—ADOLPH DELKESAMP, Brooklyn, N. Y., assignor to THEODORE D. DAY, New York, N. Y.—*Clasp for Hoop Skirts.*—April 16, 1867.—The teeth are forced through the suspensory tape on each side of the spring and are elined inside.

Claim.—The button or clasp for skeleton skirts formed with the flange 2, the raised head 1, and the teeth 3, as and for the purposes specified.

63,868.—WILLIAM M. DEXTER, Augusta, Ill., administrator of the estate of JOHN A. DEXTER, deceased, assignor to WILLIAM A. NEWTON.—*Stalk Cutter.*—April 16, 1867.—The rectangular lower frame is attached to the tongue of the main frame by a band; they are unitedly supported by a truck, to which the splinter bar, draft pole, and double trees are attached. The cutters rotate near the rear of their adjustable rectangular frame, which is pierced in front by a shaft, on which gravitating hooks are loosely fitted.

Claim.—The truck H, applied to the tongues or poles C D of the frames A E, in combination with the splinter bar L and double trees M M, arranged substantially as and for the purpose set forth.

63,869.—CONSTANT J. DUMERY, Paris, France, assignor to FRANCIS C. CORNHUR, New York, N. Y.—*Apparatus for Tanning.*—April 16, 1867; antedated April 10, 1867.—The upper and under parts of the steam boiler are connected to a separate vessel, whose upper part, through which the pipes connect, has depending convoluted plates to insure circulation of the liquid in its passage from one pipe to another. The vessel has an axial winch shaft with agitating vanes against its conical bottom, and a discharge cock by which solid matter deposited from the liquid is stirred and drawn out.

Claim.—First, the receptacle C, applied outside of the boiler or heating vessel A, and communicating therewith by means of the pipe D E, substantially as herein set forth, for the purpose specified.

Second, the agitating blades or arms *i*, arranged within the receptacle C, and in relation with the opening *d* and tube *e*, substantially as herein set forth, for the purpose specified.

Third, the serpentine partitions F, arranged in the upper part of the receptacle C, substantially as herein set forth, for the purpose specified.

63,870.—J. B. DUNLOP, Meriden, Conn.—*Glass Cleaner.*—April 16, 1867.—The diagonally-fluted metallic plate has a handle attached and is used for cleaning glass.

Claim.—As an improved article of manufacture, a cleaner made substantially as described.

63,871.—BENJAMIN W. DUNNING, Brooklyn, N. Y.—*Cooking Kettle.*—April 16, 1867.—The boiler, meat pan, vegetable pan, and coffee pot are attachable to the furnace and heated conjointly or separately, sectional covers being adjustable to either contingency. They have adjustable strainers, closed except when brought into position with the spout.

Claim.—First, the adjustable covers *g* for closing the vessels to which they are secured, and being provided with strainers, substantially as herein shown and described.

Second, the combination with the rings *e* and *d* and plate *e* of the vessels A B C and D, or any or more of them, substantially as and for the purpose herein shown and described.

63,872.—W. W. DUTCHER and G. DRAPER, Milford, Mass.—*Loom Temple.*—April 16, 1867.—Improvement on the patent of J. Mathis, April 24, 1866. The cheek pieces are formed of single plates, and the separating disks or side bearings of the wheels are firmly attached. The wheels have frustal sockets to receive an axle pin common to all.

Claim.—Each toothed wheel as constructed with the frusto-conical eye, substantially as described.

Also, the toothed wheels so made, and their arrangement directly on, and so as to bear on one common pin and in a carrier, substantially as specified.

Also, our improved carrier, as made with the cheek pieces extended from and combined with a single supporting plate, as specified.

Also, the arrangement of a series of toothed wheels between cheek pieces, or their equivalents, and on and so as to bear on one common pin or axis, and with each wheel inclined thereto, and provided with an eye, which, while resting on the pin, will allow the wheel to be freely revolved thereon and between the cheek pieces.

63,873.—ALBURTIS EAGLE, Trenton, N. J.—*Machine for Mixing Roofing Composition and other Material.*—April 16, 1867.—The powdered slate is gradually fed through the slotted bottom of the cylinder containing tar, by a slotted sliding bar, which alternately closes and opens the holes.

Claim.—A machine for making compositions, consisting of a combination of a hopper D, which is provided with a slotted or reciprocating false bottom *m* and valves *h* of a cylinder B, which is provided with stirrers *s* on the shaft E and stationary arms *u*, and of a furnace A, all made and operating substantially as and for the purposes herein shown and described.

63,874.—JAMES EASTERLY, Albany, N. Y.—*Hinge for Covers for Tea Kettles and Hollow Ware.*—April 16, 1867.—The flanged stem of the lid enters radially, and turns laterally in the slot on the mouth of the kettle; a nib alongside the slot fits into a recess under the lid, and keeps the stem in the slot.

Claim.—First, the slot C entering first radially from the opening of the kettle top, then turned laterally as at C', in combination with the stem *g* of the cover, provided with a continuously-projecting ledge or flange *h* or its equivalent, arranged and operating substantially as set forth.

Second, the nib *d*, in combination with the recess *f* on the cover, arranged and operating in the manner and for the purpose shown and described.

63,875.—First, a H. EMERY, New York, N. Y.—*Hydraulic Press.*—April 16, 1867.—The smaller ram plunger inside the larger one is first connected with the water, and raises the platform to a certain height, when the lifting arms of the other plunger and its valve are thrown in operation, and the platform raised by the two rams in conjunction. In its descent the lifting arms of the larger ram are dislodged from its head, and the press is ready for another charge.

Claim.—First, a plurality of rams, arranged so as to operate consecutively upon the plateau of a press, substantially as set forth.

Second, operating or moving the plateau of a press by means of two or more columns of water or other liquids whenever these columns of water or liquid are so arranged that the plateau is moved through a part of its stroke by one more of the acting columns, but not all, and through the rest of its stroke by a part of or the whole of the columns so used.

Third, the arrangement of two or more concentric rams placed one within the other, and enclosed within a fixed cylinder to operate upon the plateau of a press, substantially as shown and described.

Fourth, the arrangement of the supply pipe H, with the fixed cylinder G and the two rams D E, for the purpose of operating the smaller ram E, while the larger one remains stationary, substantially as set forth.

Fifth, the arrangement of the supply pipe H, sliding packing I and compress ram D, substantially as and for the purpose set forth.

Sixth, the arrangement of the two sliding packings F I, packing ring G, and the compress ram D, substantially as described.

Seventh, the two supply pipes H K, arranged and combined with the fixed cylinder C, packing and compress rams E D, to operate substantially as shown and described.

Eighth, the shoulder or stop *e* or O on the packing ram E, with the nut Q in the compress ram, arranged to operate substantially in the manner as and for the purpose set forth.

Ninth, the two supply pipes H K, with the valve S, arranged to operate in connection with the packing and compress rams E D, substantially in the manner as and for the purpose specified.

Tenth, the levers V V, sliding wedges U U and and valve S, arranged to operate in the manner substantially as and for the purpose set forth.

Eleventh, the lifters X X, plateau P, and compress ram D, combined and arranged to operate substantially as and for the purpose specified.

Twelfth, the combination of the lifters X X, compress ram D and levers Y, arranged to operate substantially as and for the purpose set forth.

Thirteenth, the sliding wedges V V, plateau P, levers W W Y Y spring *f'* and valve S', combined and arranged to, operate substantially as and for the purpose specified.

Fourteenth, the plateau P and lifters X X, in combination with the levers Y Y, and the springs B', or their equivalents, arranged to operate substantially as and for the purpose set forth.

Fifteenth, the spring B', arranged with the levers Y Y, stops *w* and the cords *v*, to operate substantially as and for the purpose specified.

Sixteenth, the lifters X X, pawls Y' at the ends of the lifters X X, the recess *i* in the compress ram D, and the fixed rests *j j*, all combined and arranged to operate substantially as and for the purpose specified.

Seventeenth, the arrangement of the clamp frame D', wedge E' and the clews or loops *e' e'*, substantially as and for the purpose set forth.

63,876.—WILLIAM A. FIELD, Boston, Mass.—*Blacking Box Holder.*—April 16, 1867.—The box is clamped in the recess by the thumb screw. The pivoted cover shuts against a friction block of rubber.

Claim.—The combination of devices constituting the improved blacking-box holder, viz: the box A, its handle *a*, cover *b*, elastic block *c* and screw *f*, arranged substantially as specified.

63,877.—L. S. FISHER, Brodhead, Wis.—*Hanging and Guiding the Harness in Looms.*—April 16, 1867.—To insure true horizontal position and vertical movements to each of the leaves of the harness, each leaf is connected at the center of its top bar to both ends of the leaf next but one to it, by cords passing over shears in the frame above. The end guides of the heddle frames are loosely hung by cords at top and bottom, and are adjustable.

Claim.—First, hanging the harness in looms, in the manner substantially as shown and described, and for the purpose set forth.

Second, the adjustable guides F, in combination with the harness B B, constructed and operated in the manner as shown and described and for the purpose set forth.

63,878.—JACOB G. GOOD, Raps, Pa.—*Dung Hook.*—April 16, 1867.—The teeth are attached to the angular frame, to which handles are affixed. It is used for moving and piling dung.

Claim.—An improved dung hook, constructed substantially in the manner herein shown and described, and for the purpose set forth.

63,879.—R. J. P. GOODWIN, Manchester, N. H.—*Construction of Strainers.*—April 16, 1867.—The strainer has a flange turned on the wire cloth which is clamped between two rings of sheet metal; a hem on one encompassing the edge of the other.

Claim.—A strainer constructed with a flange formed as described and shown in "view c."

63,880.—ROBERT C. GRAVES, Barnesville, Ohio.—*Ventilating Apparatus for Railroad Cars.*—April 16, 1867.—The ventilating pipe has ogee bends through the roof of the car with funnel ends and gauze screens for the passage of air. Vertical pipes convey the foul air from the pipe and crescent-shaped openings with deflectors cause circulation to and from the pipe.

Claim.—The construction and arrangement of the supplementary outlets E E, having deflector *n* upon the pipe *c*, whose ends are curved upward and pass out of the top of the car, and whose under side is provided with crescent-shaped openings *e e*, having air guides *d d* inclined in opposite directions upon each side of the middle partition *b*, as herein set forth for the purpose specified.

63,881.—ALVA J. GRIFFIN, Lowell, Mass.—*Hydrocarbon Burner.*—April 16, 1867.—Improvement

on his patent of July 3, 1866, No. 56,143. The water and petroleum entering through the supply pipes which are regulated by stop cocks, flow through orifices in the ribs of the chamber above the retort, and being vaporized by heat, flow through the burner and the perforated pipe below. The steam mingling with the petroleum gas under the influence of heat resolves into its gaseous elements and passes through the coiled pipe above into the gasometer.

Claim.—First, constructing the chambers D E with longitudinal ribs B C and lateral ribs *b b b b* perforated with orifices, substantially in the manner and for the purpose set forth.

Second, the gas chamber or retort F when combined with the chambers D and E, substantially in the manner and for the purpose set forth.

Third, the coil pipe J, or its equivalent, when arranged in combination with the gas retort F and chambers D and E, substantially as and for the purpose set forth.

63,882.—ADAM P. GRUGER, Lancaster, Pa.—*Device for Cutting Washers.*—April 16, 1867.—The center being fixed, the knives revolve in concentric circles, cutting the washers or rings. The knives are adjustable by the sliding socket head on the horizontal bar.

Claim.—The manner of constructing the sliding socket head D with its open knife slot *d* and single binding screw F to each, thereby making the knives doubly adjustable, in combination with a horizontal bar C, united firmly with the vertical brace shaft A and center point B, in the manner and for the purpose specified.

63,883.—M. J. HAINES, Bristol, England, assignor to R. R. and J. H. WHITEHEAD, Great Britain.—*Driving Belt.*—April 16, 1867.—The belt is formed of narrow slips secured longitudinally side by side, their width forming the thickness of the belt.

Claim.—First, the construction and use of driving straps or bands composed of a number of longitudinal straps of leather, hide, or other suitable material of a width equal to the thickness of the intended strap and placed side by side and secured together in any convenient manner.

Second, the peculiar modes of fastening or securing together a number of longitudinal strips of leather with a view to forming an edge laid driving strap or band, substantially as hereinbefore described and illustrated by drawings.

63,884.—CHARLES HARDY, Biddeford, Me.—*Machine for Grinding Top Cards and the Workers, Strippers, and Licker-in Cylinders of Carding Machines.*—April 16, 1867.—The grinding emery wheel has longitudinal reciprocation on its slotted shaft by an enclosed screw therein, and grinds simultaneously two or more top flats and two or more cylinders. Each top flat reciprocates in a guide tangential to the wheel by a connecting rod to a crank pin. The bearings for the ends of the flats and of the cylinders are adjustable radially to the grinding shaft.

Claim.—The combination as well as the arrangement of the rotary grinder and mechanisms for supporting, grinding, and operating two or more top cards so as to cause them at one and the same time while being ground to have reciprocating motions in directions transversely of them and in planes tangential to the curved surface of the grinder, the whole substantially as specified.

Also, the combination of the box *x'* and its lateral adjusting mechanism with the carriage *z'* and its longitudinal adjusting mechanism.

Also, the combination of the plate *y'* and its pivot *b²* with the box X' and the carriage Z' and their mechanisms for effecting their longitudinal and lateral adjustment, as set forth, such employment of the plate *y'* and its pivot serving to enable the box to turn so as to readily adjust itself to the bearing of a card cylinder when placed within the box.

Also, the adjustable cap *f²* and the box *x'*, as made and applied together as set forth.

Also, the combination as well as the arrangement of the grinder and its operative mechanism and mechanisms for supporting and operating one or more top cards and one or more cylindrical cards on opposite sides of such grinder, in manner and for the pur-

pose of grinding such top cards and cylindrical cards at one and the same time by such grinder, substantially as described.

Also, in combination with each set of top card carriers and their slides, mechanism for supporting such set of carriers and moving them toward the shaft of the grinder, under circumstances and in manner substantially as hereinbefore specified.

Also, the combination of the rotary cleansing brush, its operative mechanism, and the adjustable gauge bar applied to the frame A, and for the purpose as set forth.

63,885.—C. HARRIS and P. W. ZOINER, Cincinnati, Ohio.—*Fireplace.*—April 16, 1867.—The interior fire pot with an open front has a deflecting dome above, which brings the smoke again in contact with the flame.

Claim.—The arrangement in a shell or case A open in front of the interior fire pot B, having a grated front C and recessed crown E, closed rearward and laterally and open in front, substantially as set forth.

63,886.—JAMES HARRIS, Kansas, Ill.—*Bridle.*—April 16, 1867.—The cheeks of the head stall pass through tubes attached to the bit and are united with supplementary reins, the driving reins being hung to the bit.

Claim.—The tubes F secured to the bit E, receiving the check straps G, having holding collars I, for the purpose described, substantially as specified.

63,887.—CHARLES T. HARVEY, Tarrytown, N. Y.—*Car Propelling Apparatus.*—April 16, 1867.—Improvement of his patent of May 8, antedated April 6, 1866. The body of the compound ferrule consists of two side sections bolted together over the balls of the socket joints, and the larger central anti-friction roller. The ferrule traverses a suitable channel, and has a spring carrying an anti-friction roller, which passes through the top opening of the channel to keep the main roller vertical. This bar bends down to give way to obstacles.

Claim.—First, the combination of the lateral rollers E E with the large roller B, the axis of the latter being at a right angle with the axis of the former, substantially as shown.

Second, the ferrule A', composed of a conical forward part O, a frame D, and a rear part N, the several parts being connected by joints which permit of lateral motion of such parts, substantially as herein set forth.

Third, the construction and arrangement of the ferrule A, or its body or portion that contains the anti-friction rollers in sections 1 2, substantially as set forth.

Fourth, the yielding finger or ferrule guide P, substantially as set forth.

Fifth, the combination of the hook M, connected to the part D, as shown, the conical shell N, and the conical end Q' of the rope or cable A', substantially as shown.

Sixth, the combination of the link G, connected to the part D, as shown by a universal joint, with the conical forward part O of the ferrule, substantially as shown.

63,888.—CHARLES T. HARVEY, Tarrytown, N. Y.—*Propelling Cars.*—April 16, 1867.—The operative plates on the cable which engage projections on the cars pass along guide ways of the track and a fixed helical guide surrounding the revolving drum. Curved guides conduct these plates from the track guide to that of the drum, and vice versa.

Claim.—First, the combination of a cable-driving drum A, with the stationary guides B, to control and guide a propelling cable while passing around such driving drum, substantially as set forth.

Second, the twisting conducting guide E, between a driving drum and railway track or any conducting pipe or guide, substantially as set forth.

Third, the construction and arrangement of a driving drum for propelling cables of two or more independent stationary guides coiled in opposite directions, substantially as set forth.

Fourth, the construction and arrangement of propelling cables with heads or ferrules whose operating faces or spurs project at right angles from the heads, substantially as described.

Fifth, the sliding heads or ferrules for keeping a

moving cable in proper position and preventing it from turning in its guide, substantially as set forth.

Sixth, combining with the spiral guide B anti-friction rollers for relieving the cable of friction, substantially as described.

Seventh, the hollow pipe K, constructed and arranged for conducting a propelling cable, substantially as set forth.

63,889.—CHARLES L. HAWES, Titusville, Pa.—*Hotel Register.*—April 16, 1867; antedated January 17, 1867.—Explained by the claim.

Claim.—A hotel register book with the margin of its leaves occupied by advertisements, substantially as described.

63,890.—JOHN F. HIRSCHIY and WILLIAM M. McDONALD, Wooster, Ohio, assignors to themselves and A. McDONALD.—*Harvester Rake.*—April 16, 1867.—The rake is reciprocated along the platform by adjustable jointed connections to a wrist on an exterior clutch wheel. The rake head moves on a curved rod, and the elevation of the rake to make its backward movement and its depression for the effective stroke are effected by the contact of its rear extension prong with guides and latches upon the rear of the platform.

Claim.—First, the attachment of the raking apparatus to an adjustable wrist on an exterior clutch wheel on an outer end of the carriage axle, substantially as and for the purpose described.

Second, the arrangement of the pitman C, rocking arm E, connecting rod G, and clasp H, with universal joint connections, the pivotal point of the rocking arm F being adjustable to vary the length of throw, substantially as described.

Third, the combination with the rear extension prong j of the rake head of the curved rod L, the bearings K M, latch N, and platform guide o o, substantially as described.

63,891.—ROBERT HOADLEY, Ansonia, Conn., assignor to N. C. STILES, S. S. WILCOX, E. N. CROCKER, F. O. TUCKER, and W. W. TUCKER, West Meriden, Conn.—*Spinning Top.*—April 16, 1867.—The hollow metal top is ballasted at its equator.

Claim.—Ballasting the thin top A B by the addition of the extra weight D, or its equivalent, distributed around the periphery at or near the zone of greatest diameter, substantially as and for the purposes herein specified.

63,892.—ROBERT J. HOLLINGSWORTH, Cincinnati, Ohio.—*Device for Seaming Sheet Metal Cans.*—April 16, 1867.—The metallic cylindrical former receives the sheet-metal cylinders to be soldered; an adjustable solder trough clamps the suture, and a soldering iron passes along to complete the operation.

Claim.—The tube or form C, in combination with the solder trough F, arranged for joint operation in connection with a soldering iron H, substantially as and for the purpose specified.

63,893.—A. J. HOLMES, Saratoga Springs, N. Y., assignor to WELLS L. ROBBINS, same place.—*Window Cornice.*—April 16, 1867.—The casing of the cornice is glazed to protect it from discoloration and abrasion.

Claim.—A cornice for interior decoration or for windows, doors and similar objects, constructed substantially as herein described.

63,894.—B. B. HOTCHKISS, New York, N. Y.—*Ox-bow Pin.*—April 16, 1867.—An improvement on the patent of Andrew Hotchkiss, July 17, 1849. Explained by the claims and illustration.

Claim.—First, the hollow ends of the arms B¹ B², arranged relatively to the main body A and to the trunnions b, substantially in the manner and for the purposes herein set forth.

Second, the coiled spring c, with extended ends operating on the arms B¹ B² b¹ b², substantially in the manner and for the purposes herein set forth.

Third, the studs A³ A⁴, in combination with the spring C and arms B¹ B² b¹ b², and the cheeks A¹ A² and body A, substantially in the manner and for the purposes herein set forth.

63,895.—ADRIAN HOUGET, Verviers, Belgium.—*Machine for Raising a Nap upon Cloth.*—April 16, 1867.—The cloth is teased in opposite directions on

the same side without removal from the machine, and may be presented twice to each teasing cylinder. It does not pass under the cylinders so as to catch the falling dirt, &c., and its napped surface is uppermost for inspection at all times.

Claim.—In machines for raising the nap on cloth, by means of two teasing drums, the arrangement, substantially as herein shown, of the teasing drums, conducting and stretching rollers, and suitable gear mechanism for imparting to the cloth its move to, against, and from the said teasing drums, and also to and from the receiving basin, in the manner and for the purposes set forth.

63,896.—JOSEPH E. HOVER, Philadelphia, Pa.—*Printing Paper.*—April 16, 1867.—The paper is coated with a size composed of starch, 4 parts; water, 240 parts; and carbonate of lime, 12 parts.

Claim.—A printing paper, the surface of which is coated with carbonate of lime, or its equivalent, for purpose specified.

63,897.—DAVID HOWARTH, Portland, Me.—*Folding Chair.*—April 16, 1867.—The legs are pivoted by a rod at their points of junction and are hinged to the seat in front; the bolts at the rear of the seat slide in grooves in the back posts when opening or shutting.

Claim.—The cross-legged chair, as described, when, by means of the pivot *c*, pivots *d*, grooves *k k*, and pins *m m*, it may be folded in the manner described and set forth.

63,898.—MATTHIAS H. HOWELL, New York, N. Y.—*Soap Frame.*—April 16, 1867; antedated March 27, 1867.—The base is mounted on wheels, and has a rabbet around its upper edge containing a rubber packing against which the sides are clamped. The frame is formed of plates bent at right angles and joined together at diagonal corners by hinged clamps.

Claim.—First, the frame divided vertically and diagonally, through two corners, into two parts or halves, substantially as herein set forth, for the purpose specified.

Second, the hinged locking bars *e* and lugs *n*, arranged with reference to each other, and operating to lock the two parts or halves of the frame together, substantially as herein set forth.

Third, the packing *u* within the rebate around the base or bottom *A*, in combination with the diagonally-divided upright portions of the frame, substantially as herein set forth, for the purpose specified.

Fourth, the diagonal trusses *w*, arranged with reference to the diagonal crossed braces *h h*, and with the sides of the frame, substantially as herein set forth, for the purpose specified.

63,899.—BARNABAS HUNT, Farmland, Ind.—*Broom Head.*—April 16, 1867.—Any number of tubes required are soldered together, and the broom corn is secured therein by cement or elastic bands. The center tube is made longer than the others to hold the handle.

Claim.—As a new article of manufacture, a broom head, consisting of a series of tubes *a*, made of sheet metal, and having the central longer than the others to receive the handle *f*, as herein shown and described.

63,900.—JOHN W. HUTCHINGS, Bridgeport, Conn., assignor to himself and JOHN H. EYRE.—*Sash Supporter.*—April 16, 1867.—The cam binds upon a plate applied to one of the retaining strips of the frame instead of directly upon the sash.

Claim.—The combination of the strip *B* and eccentric or cam lever *C*, as a sash supporter, substantially as and for the purpose described.

63,901.—WILLIAM JAMES, Richmond, Va.—*Bridge.*—April 16, 1867.—The suspensory wires are carried through ducts in the pier large enough for the passage of men and materials, around a cylindrical block built in said pier, and are anchored around windlasses; the whole gives an extended bearing without any point of extreme strain.

Claim.—First, the construction of the towers or supports of the bridge, with passages or flues through which the suspension rods, wires, or chains are passed, in such manner as to form extended frictional bearings

for said rods, wires, or chains, substantially as described.

Second, the central drum or shaft in the tower, around which the suspension wires or rods are passed, substantially as described.

Third, forming the sides of the passages or flues on which the suspension wires rest, with an extended flattened bearing surface, to adapt them to receive any desired number of such wires or rods arranged side by side in the same horizontal plane, substantially as described.

Fourth, securing the ends of the wires or rods, which pass through the perforated tower at a point or points at or near the base of said tower, substantially as described.

Fifth, the tight wires, rods, or chains, forming the bottom of the bridge and passing through the perforated tower thereof, in combination with the suspension rods or chains, substantially as described.

Sixth, the manner of applying the tight wire hand rail, whereby it is made to form an additional support to the bridge, as described.

Seventh, the employment of one or more suspension rods or wires *i*, intermediate between the tight wire and suspension rods or wires *h* and *k*, substantially as described.

Eighth, the arrangement of the suspension wires, rods, or chains *i k*; tight hand rail and bottom wires *g h*, and vertical ties or suspenders *l*, in combination with the perforated towers or supports *A*, in the manner and for the purpose described.

63,902.—JOHN G. JEFFREY, South New Berlin, N. Y.—*Medical Compound.*—April 16, 1867.—A counter irritant and stimulant, composed of gum guaiacum, 1 oz.; crude turpentine, 1 oz.; alum, 1 oz.; capsicum, $\frac{1}{2}$ oz.; saltpeper, 1 oz.; sassafras bark, 1 oz.; and wine, 1 gallon.

Claim.—The improved medical compound, composed of the ingredients in substantially the proportions herein specified.

63,903.—GEORGE JONES, Sangerties, N. Y.—*Coffee Pot.*—April 16, 1867.—Improvement on patent of Thomas Bishop, November 1, 1859. The condenser above returns the fluid to the coffee below. A ball in the spout forms an automatic valve by rolling from its seat when the pot is tipped.

Claim.—First, in combination with the space *E*, formed, constructed, and arranged substantially as specified, the tube space or passage *f*, substantially as and for the purpose specified.

Second, in combination with the body *A*, constructed with a space *E*, cylinder *F*, and spout *C*, the ball valve *H*, the whole arranged in the manner substantially as herein set forth.

63,904.—HENRI JUGE, New York, N. Y., assignor to himself and THOMAS H. ROCKWELL, same place.—*Eyeletting Machine.*—April 16, 1867.—Designed for the insertion and clinching of eyelets in cloth, &c. The punch cuts the hole and then serves as a central guide to receive the eyelets and hold them while being clinched. An adjustable stud gages the spaces between the eyelets while in course of insertion.

Claim.—First, the eyelet clinching head, having a tubular punch or cutter *f* applied to it, in combination with a perforated clinching head, having a pin *h* through it, said parts being arranged and operated so as to cut a hole through cloth or other substance, insert and clinch an eyelet at one operation, substantially as described.

Second, the clinching head *f'* provided with a tubular cutting punch *f*, substantially as and for the purposes set forth.

Third, in combination with eyelet punching and clinching devices, constructed substantially as described, the movable tube *i*, and movable stem *h h'*, with springs *k l*, and cam lever *B*, arranged so that they shall operate substantially as described.

Fourth, the adjustable pin *C*, applied to the cam head *B'* of lever *B*, for moving the stem *h h'*, substantially as described.

Fifth, in combination with the machine constructed as herein described, the adjustable gauge pin *v*, substantially as set forth.

Sixth, in combination with the machine constructed

as herein described, the adjustable gauge E, and adjustable gauge pin *v*, substantially as described.

63,905.—JAMES M. KEEP, New York, N. Y.—*Paper Fastening*.—April 16, 1867.—The split tube attached to the upper disk clinches below the conical plate within the lower disk.

Claim.—The plate A, provided with a divided tube B, when used in combination with the plate C, provided with the conical protuberance D and the inner plate E, in which is formed an opening F, to receive the tube B, the cone D serving to spread and secure the sections of the divided tube beneath the plate E, as and for the purpose specified.

63,906.—M. H. N. KENDIG, Washington, D. C.—*Garment Fastener*.—April 16, 1867.—The small chain connects two studs attached to the glove secured by a hook at one end, and at the other end adjustable by attachment to the slotted prong on the stub.

Claim.—The within described fastening device, composed of stubs or plates A and A', the latter being provided with a suitable retaining device D within which is adjustably secured a chain B, or equivalent device, the whole constructed and arranged substantially as described.

63,907.—O. G. KENNEL, EZRA H. SMITH, and G. L. MORRISON, New York, N. Y.—*Lamp Stove for Cooking*.—April 16, 1867.—Flues rise from the chamber whose perforated bottom forms the ceiling of the lamp chamber. The flues surround the oven except an upper central aperture, at which point the caloric current escapes into discharge pipes.

Claim.—The chambers H, in the case A, their lower ends opening into the chamber G, their outer sides placed a short distance from the side plates J, their upper edges extending upward within the box A, and provided with escape pipes L, said case A resting upon the perforated plate F, of the base D, when all are constructed and arranged as herein set forth, for the purpose specified.

63,908.—B. N. LAMPMAN, Rutland, Vt.—*Concrete Pavement*.—April 16, 1867.—Coarse gravel and coal tar are mixed together to form a layer three inches thick, which is compacted. This is covered with 1½ inches of concrete, consisting of 3 parts of iron furnace cinders, 1 part of coarse sand, mixed with coal tar; slaked lime is then sifted on.

Claim.—The concrete pavement herein described and set forth.

63,909.—S. M. LEE, New London, Iowa.—*Car Brake*.—April 16, 1867.—The pressure together of the cars, caused by checking the engine, causes their sliding draw-heads as they are pushed in to operate a lever connected with the brakes. This lever has its fulcrum on the shoulder of a longitudinal bar on which it rests. When backing the train, the lever is raised from the shoulder by a cord passing to the engineer, and the inward movement of the draw-head does not operate the brakes. A forward movement of the train resets the lever.

Claim.—First, the device for disconnecting the self-acting brake, when backing the train, consisting of the rope or chain *m*, bent shaft *l*, chain *t*, lever *h*, suspended bar *d*, provided with a shoulder *c* and lever *b*, to which the brakes are attached, or their equivalents, substantially as described.

Second, the rod F, with hook-shaped end, to which the chain *r* is attached, for the purpose of disconnecting the self-acting brake device, and attaching the brakes to the common brake rod and wheel, in combination with the above, substantially as described.

Third, the combination of the sliding bar E of the above described self-acting brake device, formed arm *p* and rollers *n o*, with the rope or chain *m*, substantially as and for the purposes described.

63,910.—HORATIO S. LEWIS, Communipaw, N. J.—*Skinning Cattle*.—April 16, 1867.—The hide is ripped as usual, and the head laid bare; the horns being attached to a ring in the floor, a rope is fastened round the neck of the hide, and running over the pulley on the floor passes round the adjustable drum on the horizontal shaft, which is secured by a

clutch. An endless rope on a grooved wheel works the shaft.

Claim.—The employment of mechanical appliances for removing hides from animals, substantially as and for the purpose described.

63,911.—GEORGE H. LUPTON, Cleveland, Ohio.—*Swing*.—April 16, 1867.—Elevating heads surmounted with bars slide on the ropes to keep the child from falling out.

Claim.—The cross-bars B, heads C, in connection with the seat and swing ropes, substantially as and for the purpose set forth.

63,912.—SETH MARCH, Norfolk, Va.—*Corn Weeder*.—April 16, 1867.—The landside is elongated to steady the machine, and together with a shovel-shaped mold board is attached to a cast-iron frame.

Claim.—The frame A, share B and detachable heel C, when these parts are constructed, arranged and combined, as herein specified.

63,913.—JOSEPH C. MARES and LEWIS G. ECKELS, Washington, D. C.—*Cleansing Water Pipes*.—April 16, 1867.—The pipe from the main has a stop cock beyond which it is forked; the branch leading to the house has a strainer, and the other branch curving up, has a cock and ends in a coupling for hose attachment.

Claim.—First, the arrangement of the pipes B F C, stop cocks D G and strainer L, constructed and operating substantially as described.

Second, the combined arrangement of the box A, pipes B C, cock G, rod H and lid, operating as described.

63,914.—JABEZ F. MASON, Newark, N. J., and JOB JOHNSON, Brooklyn, N. Y.—*Door Spring*.—April 16, 1867.—The reversible toothed bracket receives a cylindrical ratchet that holds a spring, and can be slipped endwise to connect or otherwise. By reversing the bracket the door can be kept either open or shut.

Claim.—First, the bracket *g*, formed with teeth, in combination with the cylindrical ratchet *h* and spring *d*, substantially as and for the purposes set forth.

Second, the nut *a*, in combination with the cylinder *h*, spring *d* and bracket *g*, substantially as and for the purposes set forth.

63,915.—WILLIAM A. MCINTIRE, Springfield, Mass.—*Machine for Making Cartridge Shells*.—April 16, 1867.—The blank is placed in a cavity of an intermittingly rotating disk, from which it is forced by turn into a reciprocating slide and rotating tubular spindle, where it is trimmed by an advancing knife. It is conducted by the punches, disk and slide to the heading die beneath, and then discharged.

Claim.—First, the combination of the plunger and die for drawing the shell, the slide or equivalent for delivery of the same, and the trimming device for the purpose specified.

Second, in combination with the above, the rotating disk U and heading device, arranged substantially as described.

63,916.—JOHN W. MCINTIRE, Memphis, Tenn.—*Cotton Press*.—April 16, 1867.—The follower is depressed by a transverse bar to which the windlass cords are attached; the heads on which these cords are coiled have clutch connections to their shaft, which are thrown out by a lever to allow the ascent of the follower through influence of its weighted balance ropes. The windlass shaft is rotated by pawl levers. The hinged doors are retained by bars operated by a lever to catch their lower edges.

Claim.—First, the arrangement of the upper box, provided with slotted sides C C, with the follower and bar S, side doors D D, provided with flanges *f f* and end doors D' D, the several parts being constructed and used substantially as and for the purpose specified.

Second, the arrangement of the shaft G with its attachments with the cords *t t*, follower K, bar S, and cords *q q* with weights P P attached, for the purpose of operating the follower in both directions, substantially as specified.

63,917.—JOHN S. McMILLIN, Pittsburg, Pa.—*Application of Steam Power to the Capstans of Ves-*

sels.—April 16, 1867.—The freight-hoisting engine is connected by gearing to the capstan.

Claim.—Rotating a capstan placed on deck of a boat by means of an auxiliary engine, when said engine and capstan are placed forward of the steam boilers of said boat, substantially as hereinbefore described and for the purposes set forth.

63,918.—M. MELLEN, Richland Station, N. Y.—*Stump Extractor.*—April 16, 1867; antedated April 11, 1867.—The lifting chain passes over a pulley suspended from a bridge frame erected above the stump, and planted in self-adjusting feet. The hoisting apparatus is mounted on a truck, and has hand cranks and multiplying gearing to draw upon the lifting chain.

Claim.—First, the combination of the support D and pin *a* with the frame A of the machine, and the adjustable feet *b*, attached to the lower extremities of the support, substantially in the manner and for the purpose herein specified.

Second, the combination of the main shaft F and clutch K with the loose collar *h* and hook *i*, operating substantially as and for the purpose herein shown and described.

Third, the application to the stump extractor of two or more drums L and M, substantially as and for the purpose herein specified.

Fourth, the adjustable slotted bearings of the axles H I and K, for the purpose of throwing any portion of the machine in or out of gear, substantially in the manner herein shown and described.

63,919.—CHARLES T. MELVIN, Providence, R. I.—*Razor Strap.*—April 16, 1867.—The flexible strap is wound up by a spring operating on the shaft to which the strap is affixed. A brush on the under side of the lid cleans the strap.

Claim.—A flexible razor strap, capable of being drawn into its receiver by means of a spring.

Also, a brush and a swivel joint in connection with a flexible razor strap, all substantially as set forth and for the purpose specified.

63,920.—JEROME B. MELVIN, Lowell, Mass., assignor to himself and EDWARD B. HOWE, same place.—*Fertilizing Bung for Casks, &c.*—April 16, 1867.—The cavity in the bung communicates with the atmosphere and with the interior of the barrel by separate passages. The valve in the cavity rises freely to admit air, but resists the passage of gases from the barrel.

Claim.—The combination of the vent passage *e*, the cavity I, the valve B, its seat *o o*, the pressure chamber H, and pressure passage *f*, with the bung or vent plug A A, the whole arranged substantially as herein set forth and shown for the purpose specified.

63,921.—JOHN MITCHELL, West Farms, N. Y.—*Matting for Floor Covering.*—April 16, 1867.—The warp is of jute and wool twisted together, and the filling is of Manila thread.

Claim.—An improved matting, formed by the combination of woolen, jute, and Manila or Russian grass with each other, whether woven plain or twilled, substantially as herein described, as a new article of manufacture.

63,922.—D. K. MILLER, Bernville, Pa.—*Alarm Lock for Tills.*—April 16, 1867.—The lock bolts are raised by others beneath to free them from the lock catch. The slides beneath the draw operate two sets of bell crank levers to raise or lower the under series of bolts, which are singly reversible to connect to either series at will, so that the lock can be arranged to require specific movement or rest of any one or all the slides to free the drawer. The outward movement of the drawer, when locked, sounds the alarm, and its inward movement resets the alarm.

Claim.—First, the two series of bolts H K, fitted in boxes C J, attached respectively to the till and to the under side of the counter or desk, and arranged in connection with a frame I, to operate substantially in the manner as and for the purpose set forth.

Second, the two series of levers D D', connected by rods *b* and arranged with springs E, rods F, and slides G, or equivalent means to operate in connection with the bolts H K, substantially as and for the purpose specified.

Third, the bell hammer or rod M, provided with the springs *k k'*, and operated through the medium of the shaft *m*, provided with the arms *l o*, the projection *p* at the under side of the counter or desk, the arm N, fitting in the notch in the rod, and the pin *r*, extending from the side of frame I, all arranged so that the bell hammer or rod will be set each time the till is shoved inward, and the hammer or rod liberated and the alarm sounded each time the till is slightly drawn outward in an unlocked state, substantially as set forth.

63,923.—JOSEPH A. MILLER, New York, N. Y.—*Steam Generator.*—April 16, 1867.—The annular water chamber beneath the grate is connected with the water chamber above the fire space by two concentric series of vertical pipes, the inner series discharging centrally beneath a deflecting plate. The upper water chamber is traversed by vertical flues near its outside. The top of the fire chamber is conical.

Claim.—The combination of the water base B², grate A², steam generating tubes C² and jacket G² to the fire-box roof E², cylinder or upper chamber G², return water pipes D², and smoke tubes I², the whole being arranged relatively to each other, substantially as specified.

63,924.—JOHN L. MITCHELL, Buffalo, N. Y.—*Hotel Register.*—April 16, 1867, antedated December 5, 1866.—The book is interleaved with blotting paper upon which advertisements are printed.

Claim.—A hotel register book with interleaves of bibulous paper with advertisements displayed thereon, substantially as specified.

63,925.—S. A. MITCHELL, Alstead Centre, N. H.—*Apparatus for Feeding Liquid to Evaporating Pans or Boilers.*—April 16, 1867.—The floats in the pans regulate the flow from the tank by an oscillating spout having a valve which is brought in contact with the spigot mouth. The immersed buoy equalizes the flow under different pressure of the liquid.

Claim.—First, the invention of a self-adjusting feeder to any number of boilers required from one faucet or feed pipe by means of a buoy or buoys E acting on the flow of liquid by means of a stopper Q, or any similar device.

Second, the immersed buoy N, connecting rod M, the beam K, standard L, the pivot *m* in standard L, the connecting rod J, the eyebolt *n* in cistern A, operating on conductor D, as herein set forth.

Third, the small buoy H, acting by means of the beam *b* upon the valve U for the purpose of controlling the flow of fluid in the aperture V, as herein described.

Fourth, the combination of the buoys E H and N, conductors D and O, the standards F and L, sockets G *c* and *d*, the beams K and *b*, the connecting rods J and M, the pivots P *m* *a* and *c*, the brace C, stopper Q, valves U and *f*, the eye bolt *n*, and the perforated guard *g*, arranged and operated as herein set forth, or in a manner practically the same for the purpose specified.

63,926.—GEO. R. MOORE, Lyons, Iowa.—*Coal Stove.*—April 16, 1867.—The fire chamber is enclosed in an outer casing and is surmounted by an adjustable cover which acts as a damper, and is raised or lowered to regulate the speed of combustion.

Claim.—The hinged cover C, so arranged and operating as to smother the fire and check combustion when turned down to a horizontal position, and to form a diving flue between the combustion chamber and the smoke pipe when turned to a vertical position, substantially as described.

63,927.—JOHN MORGAN, JR., Wheeling, W. Va.—*Bolt and Rivet Machine.*—April 16, 1867.—The heated end of the bar is thrust between the side dies to the head die, which are all in their backward position. The rotation of the cam shaft forces forward the side dies with cutter plates and afterward the heading die whose sides are first driven down to enclose the head and the central rod subsequently. The side guides are operated by inclined plates which reciprocate in a transverse direction in slots of the die rods.

Claim.—First, the combination of the die stocks Y,

lever rods O, stirrups and cams, substantially as arranged and set forth.

Second, the arrangement of the header V, plunger U, cams F and E, loose stirrups and thumb-screws A B.

63,928.—H. L. MORSE, New Bedford, Mass., assignor to S. A. MORSE, same place.—*Turning Lathe.*—April 16, 1867.—The head and tail stocks are supported on a plate running the whole length of the lathe and oscillating on its center by a crank screw at the head. A scale at the foot shows the inclination from the shears which support the slide rest. At starting, the tool is set to a gauge arm on the tail stock, which indicates the initial position of the tool face.

Claim.—First, the method of adjusting the movable plate C, consisting of a combination with each other of the circular projections *d d*, grooves *e e*, screws D, and nut *f*, substantially as herein shown and described.

Second, the arrangement of the scale or index to the rear end of the lathe bed, in combination with the adjustable plate C, substantially as shown and described for the purposes herein set forth.

Third, the gauge G, constructed of a right-angular bar pivoted to the foot stock F, in combination with the adjustable plate C, and adapted for the purpose described when the tool is set to the point of its shorter arm, as herein specified.

63,929.—S. A. MORSE, New Bedford, Mass.—*Clamp.*—April 16, 1867.—The sliding plate is adjustable by a screw on the stock and carries the lever with the presser foot. The lever is operated by a cam under its free end.

Claim.—The stock A provided with an upright ledge or bearing surface *a*, in combination with the sliding plate B provided with the lever C having the self-adjusting plate D attached and operated by the cam E, or its equivalent, substantially as and for the purpose herein set forth.

63,930.—EDWARD WILLIAM, and OLIVER K. NASON, Ormeville, Me.—*Draft Attachment for Vehicles.*—April 16, 1867; antedated April 11, 1867.—A cushioned wooden collar buckles at top and bottom and is snapped to rods which run through guides below the thills and are bolted to the single tree.

Claim.—The arrangement of the straps E, snap hooks F, rods C, in combination with the whiffletree B and collar D, and operating in the manner and for the purpose herein specified.

63,931.—GEO. W. OVIATT, Potter Center, N. Y.—*Wagon Box.*—April 16, 1867.—The side pieces are hinged to the bottom and are secured above by spring catches attached to the end boards.

Claim.—First, securing the sides of a wagon box to the bottom by means of the bolts H and I, substantially as specified.

Second, securing the end boards of a wagon box in their places by the use of the spring catch D and catches E and E, as herein specified.

63,932.—CALVIN H. PAINE, Providence, R. I., assignor to himself and WM. D. HILTON, same place.

Gate.—April 16, 1867.—The gate is formed of slats acting upon the principle of the "lazy tongs." Its lower rear corner is pivoted to the post and its upper rear corner to a vertically sliding bar which is extended beneath the ground and connects with a system of levers by which a vehicle approaching from either direction opens the gate and passing through closes it, by T-projections of the levers rising above the surface of the ground.

Claim.—The combination of the gate, or lazy tongs, and mechanism for opening and closing it by means of a carriage, substantially as described.

Also, the combination as well as the arrangement of the two sets of levers D D and F F, the connection piece *h*, and the series of T pieces *l*, the whole being for operating, as specified, the gate constructed on the principle and applied to a post B, substantially as described.

63,933.—W. W. PALMER, Hudson, Mich.—*Hame Fastener.*—April 16, 1867.—The bars have hoops to engage the hame loops. One bar has shoulders to

catch the keepers attached to the other bar when pressed by the spring at its back.

Claim.—The metallic bar B, with its keepers C C, and curved spring D, when used in combination with the bar A, in the manner and for the purpose specified.

63,934.—CHAUNCEY C. PARKER, Brooklyn, N. Y.—*Curtain Fixture.*—April 16, 1867.—The cord is fastened to the pulley whose arm enters the coils of a helical spring in the slotted case.

Claim.—The pulley slide formed with two arms at right angles to each other, one arm *e* receiving the pulley, and the other arm *f* extending within the coils of a helical spring *c* within the slotted case *a*, so that said arm *f* becomes a guide to sustain the pulley but allow its free motion, as set forth.

63,935.—JAMES A. PARTRIDGE, Lowell, Mass., assignor to himself and E. D. WRIGHT, same place.—*Wrench.*—April 16, 1867.—The half nut with which the adjusting screw engages is on a spring lever and may be raised from the screw to allow rapid adjustment of the jaw. The jaw and lever are shouldered to give firm bearing in use.

Claim.—First, the liberating lever A, applied to the movable jaw of a slide wrench, when said lever has a segmental nut formed in the end *b* thereof, to engage with the screw G and a spring *g* at or near the end *d*, to throw the nut into contact with the screw, and all arranged to operate substantially as and for the purpose set forth.

Second, the shoulders *e¹ e²*, constructed and arranged to operate substantially as and for the purpose set forth.

63,936.—S. H. PERKINS and THOMAS S. GILBERT, New Haven, Conn.—*Machine for Making Hoop Skirts.*—April 16, 1867.—The cylinder has a circumference equal to the largest hoop, and its grooves receive the covered wire. A clamp holds the wires to the adjustable gauge on the face of the cylinder, above which is the inking roll. A cutter across the periphery of the cylinder, corresponding with a cutter on a shaft above, severs the wire at the required length.

Claim.—Automatically measuring, marking, and cutting wire for skirt hoops, substantially as herein set forth.

63,937.—ALONZO PERRY and MOSES C. HAWKINS, Edenboro, Pa.—*Pump.*—April 16, 1867.—The wings of the piston oscillate in sectional chambers of the cylinder, and have valves opening in one direction. The cylinder and air drum have inward-opening valves for the passage of water.

Claim.—The construction and arrangement of the double-armed reciprocating piston C, having valves F, its hub E, working air-tight between the angles of the perforated partition plates J, thereby forming the chambers F² in the cylinder A, valves I in the chambers G H, discharge ports M in the sections of the chamber F, uniting and forming the tube N upon the upper half of the cylinder A, as herein shown and described.

63,938.—L. POLLOCK, Fishkill Landing, N. Y.—*Sash and Blind Fastener.*—April 16, 1867.—The thread of the bolt passes through the sashes at their lap and screws into the shutter. A sliding catch on the inside engages a square on the shank to keep it from being unscrewed.

Claim.—The combination of the screw bolt E, provided with the square part *e²*, and the sliding bolt H, constructed and operating substantially as described and for the purpose set forth.

63,939.—ELISHA O. POTTER, North Providence, R. I.—*Apparatus for Guiding Cloth.*—April 16, 1867.—The cloth roller has end movement by a rack on its journal box, being scored to receive a projecting rib of the said box. The rack is engaged by a spur wheel upon a shaft, receiving motion by one of two pawls on an oscillating frame. The frame is adjusted by the selvage of the cloth through a bell-crank lever with which it comes in contact to throw the proper pawl in gear to move the cloth roller, to correct any deviation from a straight line in the travel of the cloth.

Claim.—First, in an apparatus for guiding cloth,

the combination of the rack and pinion mechanism for moving the cloth roller, and the pawl and ratchet mechanism for adjusting the frame, and the bell-crank lever for throwing the pawl in gear, and the frame for adjusting the pawl, and the selvage of the cloth through a bell-crank lever with which it comes in contact to throw the proper pawl in gear to move the cloth roller, to correct any deviation from a straight line in the travel of the cloth, substantially as described.

paper, or other like material, during its delivery to other machinery, the combination of a beam capable of an endwise movement with the selvage edge of the material as it is being unrolled, in the manner substantially as described, for the purposes specified.

Second, the combination, in an apparatus for the above-declared purpose, of the following instrumentalities: A beam capable of an endwise movement, a rack pinion *d c*, and a double pawl and ratchet gear *E' g g*, or the equivalents thereof, substantially as described.

Third, the combination, in an apparatus for the above-declared purpose, of the following instrumentalities: A mechanism for imparting an endwise movement to the cloth beam, as above described, a disk plate *H*, and vibrating bent lever *I*, or the equivalents, for putting into action or suspending the operation of the mechanism of the shifting the position of the beam, substantially as described.

63,940.—NARCISSE REEVES, Du Quoin, Ill.—*Car Coupling*.—April 16, 1867.—The link is attached to a sliding block in one draw-head whose rear end passes through a weighted arm. The coupling pin traverses both link and block. The other draw-head has a sliding block pressed forward by a weighted lever and having a forward projection to support the coupling pin until the block is driven back by the entering link.

Claim.—The combination of the sliding block *H* and weighted arm *J* with the link *D* and bumper *G*, substantially as herein shown and described and for the purpose set forth.

63,941.—ALMON C. ROBINSON, Louisiana, Mo.—*Corn-husking Shield*.—April 16, 1867.—The metallic guard is shaped to fit either thumb, round which it is sprung to keep it in position. A projecting claw tears the husk.

Claim.—A corn-husking metal shield to wear upon the thumb of either hand, constructed and operating substantially as herein shown and described.

63,942.—ROBERT ROBINSON, Brooklyn, N. Y.—*Bottle Stopper*.—April 16, 1867.—The stopper, with a band around the waist, is pushed into the neck, and the expansion of the contents of the bottle forces the bulb of the stopper against the band, and closes the exit.

Claim.—Closing the neck of the bottle by means of the stopper *A*, constructed as described, having its ends *a¹ a²* of greater diameter than its center, and by placing the elastic band *B* over the upper end *a¹*, and after being inserted in the neck of the bottle, pressing said elastic band down upon the part *a²*, of increasing diameter, as herein shown and described.

63,943.—JOHN ROEBUCK, New York, N. Y.—*Match Safe*.—April 16, 1867.—The bottom, back, and lid are stamped with a grooved connection depending with the use of wire, the lid falling freely. Above is a receptacle for waste matches.

Claim.—The match safe *A*, consisting of the bottom piece *b*, back piece *c*, sides *a a*, falling lid *d* hinged in the groove *f*, and waste match receiver *e*, constructed and arranged as herein shown and described.

63,944.—CLEMENS B. ROSE, Sunderland, Mass.—*Bit Stock*.—April 16, 1867.—The sliding jaws embrace the bit shank as they are forced together by the engagement of the screw collar with their outer edges. The shaft and the inside of the tubular part of the head are grooved to form a chamber for a ring of Babbitt metal which is cast within.

Claim.—First, the bit stock provided with the socket *D*, the sliding jaws *b*, having the inclined heads *d*, and projecting or raised screw threads *e* and ring *B*, all constructed and arranged to operate as herein shown and described.

Second, connecting the head *K* to the shaft by means of the grooves *i i* and *L* and the collar *O*, melted in around them, substantially as set forth.

63,945.—JOHN J. SANDGREN, Lyons, Iowa.—*Lever Shears*.—April 16, 1867.—The lever is connected by a series of links and an intervening lever to the movable jaw of the shear, and by a wide sweep operates the same through a short stroke with cumulative force.

Claim.—The peculiar arrangement and combination of the levers *E* and *F* with the cam *J* and straps *K G* and *H*, all for the purposes set forth.

63,946.—H. W. SANFORD, Thomaston, Conn., assignor to himself and HORACE SMITH.—*Skate*.—April 16, 1867.—The nose of the runner has a sector bevel gear, which connects a shaft and pinion with racks on the jaws to clamp the shoe sole, as the runner is brought from a dependent to an effective position, where it is secured by a spring catch in the heel post.

Claim.—The vibratory or lever runner *B*, in combination with the sliding clamping jaws *t t'* and *w w'* and the skate stock, the whole constructed in the manner and operating as hereinbefore described, for the purpose set forth.

63,947.—AMOS W. and JAMES SANGSTER, Buffalo, N. Y.—*Beer Cooler*.—April 16, 1867.—The beer passes over a series of conical vessels through which the cooling liquid flows. The vessels have interior disks for the better distribution of the liquid.

Claim.—First, the cone-shaped coolers connected together as described; also in connection therewith of one or more partitions as shown at *G*, or the equivalents thereof, for the purposes described and set forth.

Second, in combination with the cone or cones we claim the tubes *D D³ D¹* and *D²*, substantially as herein described.

Third, the employment of a corrugated surface on the upper part of the cone as shown in Fig. 3, for the purpose of more equally distributing the liquid to the cooler as it flows over said surface.

Fourth, the plate *E*, as and for the purposes described.

63,948.—CHAS. H. SAWYER, Hollis, Me.—*Bench Plane*.—April 16, 1867.—The face is pivoted to the ends of the stock and is expanded or contracted by a vertical screw operated by a crank above.

Claim.—The arrangement of the screw *B* in combination with the joints or pivots by which the sheet *m* is connected at its ends to the ends of the handle or stock *A*, as and for the purposes herein described.

63,949.—AUGUSTUS SCHELLER, New York, N. Y.—*Process of Whitening Horn*.—April 16, 1867.—The horn is immersed in a solution of 1 lb. crystallized white acetate of lead and 3 lbs. water, kept at a moderate heat until the surface of the horn is uniformly black. It is then cleaned in water, and immersed in dilute muriatic acid until white, then repeatedly rinsed in cold water and allowed to dry in a warm room.

Claim.—The within described process of whitening horn or other similar substances by treating with acetate of lead or any other soluble salt or oxide of lead and with muriatic acid, substantially in the manner set forth.

63,950.—FRED'K J. SEYMOUR, Wolcottville, Conn.—*Twine Holder*.—April 16, 1867.—The twine passes through slots by friction bars, which prevent the premature or unnecessary unwinding of the ball.

Claim.—A twine holder formed of a metallic case fitted so as to be suspended, and provided with a brake to prevent the cord or twine running out by its own weight as specified.

63,951.—JOHN SHINN, Philadelphia, Pa., assignor to himself and GEORGE S. RHODES.—*Press Boards for Oil Presses*.—April 16, 1867.—The boards have grooved faces, which in use are covered with wire gauze.

Claim.—A press board or plate formed with grooves running parallel or otherwise, in combination with a wire screen as described, for the purpose set forth.

63,952.—HENRY B. SMAWLEY, Greensburg, Ind.—*Draining and Ditching Plow*.—April 16, 1867.—The cutters of the mold-boards are placed at right angles to conform to the shape of the drain. The soil slides up an incline and is guided laterally by plates and discharged over the side of the plow.

Claim.—The arrangement of the share *B* provided with two connected but distinct points, one in advance of the other, with the cutters *C D*, as constructed and connected to the beam, and the inclined

plane K provided with a back bone or brace on its under side, the several parts being used together, substantially as and for the purpose specified.

63,953.—GASTON D. SMITH, Washington, D. C.—*Coal Scuttle*.—April 16, 1867.—The radially perforated false bottom is worked by a handle behind to screen out ashes. The ash box fastens to the bottom by a bayonet catch.

Claim.—The perforated malleable cast-iron bottom plates *a* and collar *x* of a cold hod provided with an ash box B attached to it by a bayonet joint, when the same is constructed and arranged as and for the purpose set forth.

63,954.—GEO. SMITH, Providence, R. I.—*Draft Plate*.—April 16, 1867.—The rectangular plate has upwardly projecting lugs entering mortises in the under side of the thill and is retained by the belly band which is attached to the plate and passes over the thill; the tug engages the sliding spring plate.

Claim.—First, the construction of the open or skeleton plate A with a horizontal thill supporting shelf B formed on its lower edge, and two or more tenons or lugs *a* for receiving openings in the bottom of a thill, substantially as described.

Second, the longitudinally sliding head D, fixed guide rod *f*, and central spring *g*, applied to the right angular draft plate A B, substantially as described.

Third, the two slots *d'* and *e'* when arranged on each side of the sliding head D of the draft plate A B, as described and for the purposes set forth.

Fourth, the combination of the slotted bars *d* and *e*, upright bars *c* and *c'*, and shaft B, constructed of one piece of metal and adapted to serve the improved purposes described.

63,955.—HIRAM MOORE SMITH, Richmond, Va.—*Hoisting Machine*.—April 16, 1867.—The drum has two spur wheels varying in size, which are optionally engaged with one of two similar wheels, on a sleeve on the operating shaft, a spline admitting longitudinal movement to bring either of the wheels in operation. This movement of the sleeve is caused by a rope which passes down to the operator from a weighted pulley whose shaft has a crank connected to said sleeve.

Claim.—When applied to a hoisting machine, the double wheel on the cylinder A, the two pinions combined and working on the rope wheel shaft the crank and loaded wheel for moving and holding them securely in gear, the whole constructed and operating as above described and set forth.

63,956.—SIDNEY SMITH, Worcester, Mass.—*Fire Chamber for Furnaces*.—April 16, 1867.—Improvement on his patent of July 31, 1866. The fire pot is formed of perforated staves rabbeted together and surrounded by perforated casings. These casings are held by ridges on the top and bottom plates, which have holding rods and are separate from the outer case of the stove and rest on rollers. The front plate of the stove is removable to allow the fire chamber to be drawn out. The fire pot bottom is a hinged trap supported by a bent arm on a rock shaft furnished with a winch, ratchet wheel, and pawl to operate or retain it.

Claim.—The cast iron perforated, flanged, and rabbeted staves B, for the purpose of forming a fire chamber, substantially in the manner set forth.

A fire-chamber constructed substantially in the manner described, so as to be removable entire from the frame or casing supporting it, for the purpose set forth.

In combination with the trap G, the arm H, and ratchet shaft I, substantially as and for the purposes set forth.

In combination with the fire chamber claimed in the second claim, the rollers K, substantially as and for the purposes described.

In combination with the fire chamber claimed in the second claim the removable front J, substantially as and for the purpose set forth.

63,957.—GEORGE L. SQUIER, Buffalo, N. Y.—*Evaporator for Saccharine Juices*.—April 16, 1867.—Air from a pipe traversing the furnace is discharged beneath a horizontal plate within the pan. The rear

end of the furnace is divided longitudinally and each division has a damper.

Claim.—First, in a series of two or more evaporating pans, arranged and used for evaporating saccharine juices, making the bottoms of such pans of different thicknesses of metal, for the purposes and substantially as specified.

Second, in a series of two or more evaporating pans, arranged and used for evaporating saccharine juices, making such pans of different depths, for the purpose and substantially as set forth.

Third, an air pipe or pipes or conductors so connected and arranged with an evaporating pan or pans for treating saccharine juices that currents of hot or cold air (either or both) may be forced through or into the juices during either part of the process, for the purpose and substantially as set forth.

Fourth, regulating and controlling the temperature of saccharine juices by means of hot or cold air forced therein in the process of evaporation, substantially as set forth.

Fifth, placing or arranging an air pipe within the furnace, so that the same fire used for heating the evaporating pans may also be used for heating the air.

Sixth, the plate K, placed in the evaporating pan for the purpose of spreading the air and for drawing the steam to the center, substantially as described.

Seventh, dividing the furnace in the rear into two flues, with a damper at each flue, in connection with evaporating pans, constructed and arranged as herein described.

63,958.—EDGAR M. STEVENS, Chelsea, Mass., assignor by mesne assignments to A. B. ELY, Newton, Mass.—*Rubber Heel Stiffener*.—April 16, 1867.—The rubber stiffener has slits in its rear to enable it to assume the shape of the heel.

Claim.—A molded heel stiffening of rubber or similar elastic material, having a slit or slits cut in the rear portion of the lower and under rim, as and for the purposes set forth.

63,959.—W. X. STEVENS, Worcester, Mass., and W. E. PUFFER, Lexington, Mass.—*Damper for Stove Pipes*.—April 16, 1867.—The doubly-curved plate attached to the bar moves longitudinally, in connection with the semicircular frames, and regulates the draft aperture.

Claim.—First, keeping two or more parts of a stovepipe damper in the desired relation to each other by means of the turning bar used as a pin, in the manner and for the purposes set forth.

Second, the combination and arrangement of frame A, gate B, and bar C, as specified, and for the purposes set forth.

63,960.—WILLIAM T. SWEET, Fayette, N. Y.—*Device for Washing Carriage Wheels*.—April 16, 1867.—The wheels are received into the semi-cylindrical tub, the axes rest in bearings, and the wheels rotate against mops or brushes arranged inside the tub.

Claim.—A receptacle A, provided with sockets *c* and brushes *i*, operating substantially as and for the purpose herein set forth.

Also, the folds *g* *g*, or equivalent, in combination with the receptacle A, operating substantially as and for the purpose specified.

63,961.—JESSE TRED, Tompkins, N. Y.—*Animal Trap*.—April 16, 1867.—The spring and jaws are made of one strip of steel, and the brace, which keeps them apart, has the bait attached; a trigger releases the jaws, which grasp the animal that is pulling upon the bait.

Claim.—The combination of the spring trap A, (composed of one piece,) and having two supporting legs B B and the detachable brace or triggers C, arranged and operating in the manner shown and described, and for the purpose set forth.

63,962.—E. LAWRENCE TEVIS, Philadelphia, Pa.—*Hinge for Shutters*.—April 16, 1867.—The latch attached to one plate of the hinge engages a catch formed on the knuckle of the other plate, to hold the door in an open position.

Claim.—A self-catching hinge, provided with cam D, lug *o*, pin P, and catch *e*, the whole combined and

constructed in the manner and for the purpose above described and set forth.

63,963.—ALEXIS THIRULT, Williamsburgh, N. Y., assignor to himself and B. S. HILTON, New York, N. Y.—*Apparatus for Treating Petroleum.*—April 16, 1867; antedated April 5, 1867.—The condensing coil receives the oil from the still and passes it into one or more tanks; these are closed and have steam pipes extending down to different depths, so that by letting steam into the oil an agitation is produced to separate the light from the heavy parts.

Claim.—First, the arrangement of one or more steam jets *a*, in combination with the condensing coil *A*, constructed and operating substantially as and for the purpose set forth.

Second, the steam jets *d* or *d'*, applied in combination with tanks *C* or *C'*, and with the pipes carrying the oil into said tanks, substantially as and for the purpose described.

Third, the jets *d** or *d*** in combination with the tanks *C C'*, constructed and operating substantially as and for the purpose set forth.

Fourth, the combination of the coil *A*, tanks *C C'*, steam jets *a d d* d***, and coils *k i*, all constructed and operating substantially as and for the purpose described.

63,964.—ISAAC P. TICE, New York, N. Y.—*Spirit Meter.*—April 16, 1867; antedated April 5, 1867.—The spirit is tested by the registering hydrometer, the proof being recorded on the paper. It then flows into the measuring pans by the tilting hopper. These pans are so constructed that the valves close when the pans are exactly full, and they are then tilted by filling the space above the diaphragms. The floats operate the lever to release the hooks. The floats operate the induction valve so as to stop the flow of spirit to the meter in case the discharge pipe is closed.

Claim.—First, the diaphragm measuring can or cans constructed so as to form a chamber above and below, and provided with valves to admit and discharge the liquid into and from the lower chamber of each can by the movement or action of the latter, substantially as specified.

Second, in combination with the measuring or weighing cans, the valves controlling the entry and discharge of the liquid thereto or from, constructed so as to spring or yield on the cans reaching the end of their strokes to give time and space for the locking of the raised can, essentially as herein set forth.

Third, the combination of the diaphragm, measuring or weighing cans, tilting hopper *G*, and floats *K K'*, with locking and unlocking devices under control of the floats, substantially as specified.

Fourth, the combination with a liquid meter of a device for closing the induction or passage of liquid through the meter so operated or set in motion automatically by the liquid in the induction passage as to prevent tampering with the meter, essentially as herein set forth.

Fifth, the combination with a vessel within the meter of a detector, arranged within said vessel and operated by the liquid rising therein to record any attempt at tampering with the meter, substantially as specified.

Sixth, the combination, in a spirit meter, of a hydrometric and thermometric register with a counter or indicator of quantities for operation together by the weight or action of the liquid, or other motor, in passing through the meter, essentially as specified.

63,965.—THOMAS L. UPTON, Farmington, W. Va.—*Medical Vegetable Liniment.*—April 16, 1867.—Composed of linseed oil, 1 qt.; oil of spike, 1 qt.; spirits of turpentine, 1 qt., alcohol, 1 qt.; gum myrrh, $\frac{1}{2}$ lb.; gum camphor, 1 oz.; capsicum, 1 oz.

Claim.—The liniment, consisting of the ingredients named in about the proportions specified, and compounded substantially as and for the purpose set forth.

63,966.—THOMAS L. UPTON, Farmington, W. Va.—*Medical Vegetable Salve.*—April 16, 1867.—Composed of the root of scrophularia marylandica, 2 lbs.; top of erigeron philadelphicus, 2 lbs.; bark of ulmus fulva, 2 lbs.; of rosina alba, 3 lbs.; gum camphor, $\frac{1}{2}$ lb.; pinus balsamea, 1 qt.; castile soap, 1 lb.; com-

mon rosin, 2 lbs.; beeswax, 3 lbs; mutton tallow, 5 lbs.

Claim.—The salve, consisting of the ingredients named in about the proportions specified, and compounded substantially as and for the purpose set forth.

63,967.—PETER VON LACKUM, St. Charles, Minn.—*Device for Sacking Grain.*—April 16, 1867.—The grain is raised by an endless apron and buckets, and is discharged through an adjustable tube, to which bag hooks are attached.

Claim.—First, the elevator *A B E*, provided with the adjustable tube *a*, having hooks for attaching the bag or sack, arranged to operate substantially as shown and described.

Second, the combination of the adjustable tube *a*, cords *b*, lever *d* and ratchet *f*, when arranged for joint operation, as set forth.

63,968.—PETER VOORHIS, New York, N. Y.—*Obstructing Ice in Rivers and Harbors.*—April 16, 1867.—The iron-clad obstructors are made of cross timbers, and are anchored as a guard from floating ice for harbors, ferries, &c.

Claim.—The combination of floating iron-clad obstructors with anchors, arranged to operate substantially in the manner and for the purposes herein before described.

63,969.—THOMAS A. WARREN, Gettysburg, Pa.—*Churn.*—April 16, 1867.—The dashers of the axial and sleeve shafts respectively have a reverse motion in a horizontal fluid box, and are steadied by a balance wheel.

Claim.—The arrangement of the horizontal churn box, provided with a curved corrugated or irregular bottom, with the shaft *C* and frame *D*, provided with arms *d*, revolving in different directions, and with the wheel *K*, the whole being constructed and used in the manner and for the purpose specified.

63,970.—GARDNER WATELS, Cincinnati, Ohio.—*Apparatus for Purifying Mash for the Manufacture of Vinegar.*—April 16, 1867.—The mash is passed through the vertical column, containing perforated plates. A current of steam enters below. A pipe connects the column with a condenser.

Claim.—The apparatus made and operating substantially as set forth.

63,971.—PHILIP WECK, Brooklyn, N. Y.—*Seaming Tool.*—April 16, 1867.—The frame which fits and revolves around the top of the can has adjustable grooved rollers, which compress the cover round the rim of the car.

Claim.—A tool consisting of a frame *B*, provided with a series of rollers, whether more or less in number, when one or more of such rollers are arranged, so as to be slid or moved in or out upon the said frame, substantially as and for the purpose described.

63,972.—MILO D. WILDER, Laporte, Ind.—*Cattle Pump.*—April 16, 1867.—The hub of the operative parts forms a sleeve upon the upper portion of the pump barrel. The lever by which the gearing and pump are operated is a pipe, which leads the water to the trough at the end of the lever, which is rotated by animal power.

Claim.—The tubular driving lever *C*, in combination with a pump and a trough, which pump is operated by gearing, substantially in the manner herein shown and described.

63,973.—E. S. WILKINS and JOHN STRAW, Stowe, Vt.—*Mop Squeezer.*—April 16, 1867; antedated March 14, 1867.—The frame is clamped to the pail by an adjustable hoop. The side boards in conjunction with press boards are operated by the treadle to squeeze the mop. A tapering lever, having a coiled wire spring, presses against the roller, and throws open the press boards.

Claim.—The treadle *R*, mop squeezer *G* and *H*, and spring lever *M* and pail *B*, when arranged, combined, and operated as herein described and for the purposes set forth.

63,974.—HORACE S. WOLF, Rolling Prairie, Ind.—*Gate.*—April 16, 1867.—The lever is pivoted on top

of the back post with a fulcrum near the middle, and is adjusted by an upright lever in front, held in position by a swing pin entering notches in the frame.

Claim.—The application of the lever herein described, by means of which to elevate the entire gate, and that too with the least possible labor.

63,975.—GEO. W. WOOD, Richmond, Ind.—*Inking Apparatus.*—April 16, 1867.—The fountains having various colored ink are supported on bent arms and ink is taken from their rollers by "composition" rollers on vibrating arms similarly bent. These latter rollers carry the ink to belts which pass around adjustable rollers and under distributing rollers to a common roller, beneath which they communicate ink to the type rollers. The whole system of rollers and belts is actuated by a rack on the reciprocating bed. The journals at one end of the distributing rollers are alternately right and left screw threaded, so that the reciprocation of the bed causes a like end motion to said rollers.

Claim.—First, the use in an inking apparatus of one or more inking belts for conveying the ink whether applied automatically from a fountain or by hand.

Second, the combination of a fountain from which the ink is transferred to the inking belts and the distributing rollers.

Third, the combination of one or more inking belts, and the composition rollers from which the ink is transferred to the type.

Fourth, the combination of the driving roller I, the inking belts and distributing rollers turning upon their axis, and having a longitudinal reciprocating motion.

Fifth, the arrangement of the distributing rollers and inking belts, so that the former shall have a revolution upon their axes, and at the same time an alternately reciprocating motion in opposite directions longitudinally in contact with the face of the belt.

Sixth, the combination of the adjustable fountains, the soft rollers attached to an oscillating frame, and adjustable rollers around which the inking belts are carried.

63,976.—JOHN WOOD, Brooklyn, N. Y.—*Steam Engine Governor.*—April 16, 1867.—Water is forced beneath a piston which is depressed by a spring; the piston rod is connected to a lever which operates the governor valve. The receiving pipe and discharge pipe of the cylinder enter the same tank and the outflow is regulated by a valve. Increased speed of the engine raises the piston and partially closes the governor valve. A further acceleration in speed opens the valve of an additional discharge pipe to relieve the pressure and prevent fracture of the parts.

Claim.—The piston *i*, spring *n*, and connections *k l* to the throttle valve, in combination with the pump *a* and valve *q*, operated by a connection *s*, to the piston *i*, as and for the purposes specified.

63,977.—SYLVESTER C. WRIGHT, Fitchburg, Mass.—*Friction Clutch.*—The smaller gear and conical clutch plate are connected to the tubular shaft, upon which the larger gear revolves loosely until by the revolution of the nut the clutch plate is drawn into the recessed face of the larger gear wheel and clutched thereto. The auxiliary nut screws on the axial shaft and the main nut upon the sleeve, the two being co-active.

Claim.—For effecting the movements of the clutch plate *D*, the combination of the auxiliary male screw *h*, and its bar or nut *E* with the nut *G*, and its male screw *f*, having their threads pitched in opposite directions to those of the screw *h*, and nut *E*, the whole being applied substantially as explained to the parts or shaft *C* and *H*, projecting from the gears *A B*, and the clutch *D*, as set forth.

Also, the arrangement of the auxiliary nut *E*, and its screw *h*, at either end of the shaft *H*, as hereinbefore set forth, when combined with plate *D*, tube *c*, and nut *G*.

Also, the combination as well as the arrangement of the oil passages *k l*, with the bearing *F*, the shaft *C*, and the clutch plate *D*, applied to the shaft by means substantially as specified.

63,978.—C. E. BILLINGS, Hartford, Conn.—*Die for Forming Shuttle Frames.*—April 16, 1867.—The cavity in the lower die forms the outside of the frame

and the projection on the upper die forms the top and cavity of the frame as the die drops or is pressed upon the bar of heated metal. A second set of dies without a cavity for the neck smooths the cold blank and finishes the shuttle frame.

Claim.—First, the dies *C* and *D*, with cavity *a* and projection *b*, for the purpose of forming the shuttle frame, arranged substantially in the manner described.

Second, the dies *E* and *F*, the cavity *c*, and projection *d*, for the purpose of finishing the shuttle frame, arranged substantially in the manner described.

63,979.—PHILLIP HINKLE, San Francisco, Cal., assignor to himself and CHARLES S. CAPP, same place.—*Machine for Grinding and Amalgamating Ores.*—April 16, 1867.—The pan has vertical, interior walls made up of renewable sections against which operate the millers which are pivoted to vertical posts on the rotary disk, and when revolved are driven by centrifugal force against the walls of the pan. The pulp escaping upwardly is conducted again by the dish-shaped cover to the center, to be again subjected to trituration, passing on its way the current-breaking ring and annular groove containing mercury.

Claim.—First, the employment of the renewable side dies *G G*, to form a perpendicular grinding surface on the sides of the tub or pan, substantially in the manner and for the purpose described.

Second, the employment of the perpendicular muller hangers *E E*, loosely hung on the pins *C C*, carrying the renewable mullers or grinding plates *F F*, of the shape shown in the drawings, thrown and passed laterally by centrifugal force against the perpendicular grinding surface *G G*, when the arms *B B* are revolved, with the supporting lip *I*, and bearing surface *D*, upon the arms *B B*, by which arrangement the pressure is lightest at the feeding point and heaviest at the heel of the muller, and also the provision for loading the muller hanger to counterbalance the loss of weight by wear of the face of the muller, *F*, substantially in the manner and for the purpose described.

Third, the shape and arrangement of the cover of the pan *U*, so as to form a flattened funnel-shaped dish, with annular grooves *S*, for mercury, and raised current-breaking ring *W*, on its upper surface, the collars or projecting flange *V* with the apertures *R R*, under it, by which the escape of the pulp is permitted, and its current directed so that it is returned to the center, and a continual circulation maintained.

63,980.—WM. H. ANDREWS, New Haven, Conn.—*Attaching Knobs to Door Latches.*—April 23, 1867.—The rose is retracted to the knob, and when the screw is inserted into the sleeve and spindle, is slipped back, covering the screw, and is secured to the door.

Claim.—First, the combination of the plate *b* with the spindle *C* and knob *B*, constructed and arranged in the manner and for the purpose substantially as set forth.

Second, the rose *E*, constructed in the manner described, in combination with the plate *b*, and the knob and spindle arranged so as to insert and cover the screw or pin *a*, substantially as and for the purpose set forth.

63,981.—GIDEON AUGHINBAUGH, Portland, Oregon.—*Gold Separator.*—April 23, 1867; antedated April 19, 1867.—The shaker is supported upon bars in the frame, is operated by cams, and contains a series of sieves provided with ripples; to the upper one is attached a hopper.

Claim.—The principle of constructing series of sieves provided with bars or ripples and placing the sieves in an inclined shaker for the purpose of separating gold from earth, and the principle of operating said shaker upon pivots, and the direct application of eccentrics to the shaker.

63,982.—JOHN A. BACHMAN, Lambertville, N. J.—*Machine for Grinding the Surface of Marble or Stone.*—April 23, 1867.—The tray has vertical slots to allow the passage of water and sand, and a socket to receive a spindle to which the handle is attached, and supports the water vessel.

Claim.—A metal plate with rim and openings, combined with a water vessel and handle, in the manner and for the purpose substantially as herein described and set forth.

63,983.—HIRAM BARKER, Aurora, Ind.—*Broom Head.*—April 23, 1867.—One end of each binding wire is attached to the cylinder and the other passes through slots in the sleeve to the handle within. On turning the latter the wires tighten on the corn, and the position is maintained by nails.

Claim.—The cylinder B and binding wires or cords E, arranged substantially as described, in combination with the broom handle A and plug C, with their adjuncts, the holes *b* and *a*, substantially as and for the purpose set forth.

63,984.—E. M. BATES, East Rochester, Ohio, assignor to himself, J. H. and G. W. SANOR, Hanover, Ohio.—*Valve Gear.*—April 23, 1867.—The two ends of the valve rod, attached to the valve and eccentric respectively, are connected to a cross-head on the free end of an oscillating frame, which is adjusted by a screw in a direction perpendicular to the valve rod, thereby adjusting the cut-off.

Claim.—First, the screw F, shaft D, cross-head C, and stay J, as arranged in combination with the frame A, for the purpose and in the manner set forth.

Second, the frame K, cross-heads L and C, when arranged and operated conjointly by the eccentric rod O, valve rod M, and adjusting screw F, for the purpose and in the manner as substantially described.

63,985.—L. M. BATES, Newark, Ohio.—*Spring for Bed Bottoms and other Purposes.*—April 23, 1867.—The upper head of the rubber spring is suspended from strips attached to the frame; the slats are suspended from the lower head.

Claim.—The tensile spring A, composed of elastic gum and furnished with two heads, as and for the purpose described.

63,986.—GEO. H. BECHTEL, Philadelphia, Pa.—*Ice Pitcher.*—April 23, 1867.—The inner shell is made in one piece to avoid the danger from opening joints, and the upper part of the pitcher enlarges for greater ease and safety in filling.

Claim.—In double or ice pitcher, the making of the inner shell or jacket in one piece, and without a joint, so as to prevent its liability to leak, substantially as described.

Also, in combination with double-jacketed or ice pitcher, the making of the inner area thereof greater above its central portion than below that point, when this is attained by curved or arched top, bottom, and sides, and without angular joints, as and for the purpose described.

63,987.—THOMAS H. BERRY, Lynn, Mass.—*Preparing Coffee for Transportation.*—April 23, 1867.—A solution of French isinglass, 1 oz., and water, 4 oz. to each pound of coffee is used. The mass is thoroughly mixed and molded to form.

Claim.—The above-described composition of matter, substantially as and for the purpose set forth.

63,988.—ALBERT BINGHAM, Newtonville, Mass.—*Window Latch.*—April 23, 1867.—The beveled catch on the upper sash projects through a slotted plate on the lower sash, and is secured by the spring lever attached to the latter.

Claim.—The combination of the lever D, the slotted plate C, the springs S, and beveled catch E, the whole forming an automatic window latch, applied and operating as above set forth.

63,989.—A. H. BRAINERD, Rome, N. Y.—*Churn.*—April 23, 1867.—The dashers consist of perforated hinged plates which are journaled in the sides of the tub, and also to a central vertically moving portion which is reciprocated in guides. Slides cover the opening through which the dasher rods pass.

Claim.—First, the hinged dasher or dashers L, M, connected to the gate K and to the side of the churn respectively, and operating as described.

Second, the arrangement of the series of compartments A B C and the hinged dashers, operating simultaneously by the three-throw crank, substantially as described.

Third, the hollow and slotted slide covering the orifice through which the churn dasher reciprocates.

63,990.—RUFUS BRUNSON, Chicago, Ill.—*Brick Press.*—April 23, 1867.—The follower is operated by

the motion of the lever, which has a segmental volute rack, engaging racks on two of the toggle plates and connected to the central pivot of the opposite plates through a slot in the former.

Claim.—The construction and combination of the side plates B, jointed plates C, with the rack V, and follower G, as operated by the lever T, ratchet S, and rod R, and forming a diamond-shaped press, as herein described and for the purposes set forth.

63,991.—JAMES B. CARY, Millersburg, Iowa, assignor to CARY and YOUNG.—*Tinners' Fire Pot.*—April 23, 1867.—The perforated tubes are connected to a plate secured by staples and pins in the side opening of the fire pot.

Claim.—The soldering iron tubes *ff* as secured to case *a* with catch *o*, as set forth in the specifications.

63,992.—JOHN C. CHAPMAN, Cambridgeport, Mass.—*Boring Tool.*—April 23, 1867.—The tapering plug has sliding cutters fed forward on an inclined plane by a suitable feed motion to bore a tapering hole.

Claim.—The combination of the tapering plug A, arbor B, and sliding cutter or cutters *a*, with the nut D, all arranged and operating substantially as herein set forth.

63,993.—HEZEKIAH M. CLARK, West Meriden, Conn., assignor to himself and E. A. KELSEY, same place.—*Bed Bottom.*—April 23, 1867.—The transverse slats rest on half elliptic slotted springs attached to the side bars.

Claim.—The combination of the frame E, half elliptic slotted springs B, attached to ends of transverse slats A, as and for the purpose specified.

63,994.—CARLETON CLIFFORD, Adams, N. Y., assignor to himself, A. W. LAKE, and T. P. SAUNDERS, same place.—*Brewing Ale.*—April 23, 1867.—The ale after coming from the coolers is put into casks with discharge tubes at top which empty into troughs, the ale settling in which passes back through return pipes. Water is supplied below the troughs to regulate the temperature, and passing down pipes flows through central chambers in the barrels and escapes by the waste pipe at the end.

Claim.—First, the close cask or tank A provided with the discharge tube C, or its equivalent, and employed to contain ale or other liquor while undergoing fermentation, substantially as and for the purpose specified.

Second, the combination with the above of the elevated receiving trough or box B, and return tube D, arranged substantially as and for the purpose specified.

Third, the water chamber *c* in combination with the receiving trough B, substantially as described.

Fourth, the combination of the cask A, tubes C D, trough B, box B', pipe or tube E, and water cylinder F, all arranged substantially as and for the purpose specified.

63,995.—LUCIAN B. CRAM, Weathersfield, Vt.—*Liniment.*—April 23, 1867.—Composed of oil origanum, spirits of ammonia, and spirits of turpentine, each 1 part, alcohol 3 parts.

Claim.—The combination of the four above named simple ingredients in the proportions of each, or substantially in the proportions of each above stated, for the uses and purposes above mentioned, as a new and valuable preparation for the treatment and cure of diseases and injuries, as above set forth.

63,996.—ROBERT CREUZBAUR, New York, N. Y.—*Connecting Links and Hooks.*—April 23, 1867.—The pivoted hook plates have concentric and counterpart tongues and grooves which engage and prevent spreading of the same.

Claim.—First, providing links and hooks with strengthening shoulders, substantially as described.

Second, providing for locking as well as strengthening connecting links, substantially as described.

63,997.—JOHN A. DANN, New Haven, Conn., assignor to himself and WILLIAM F. DANN, same place.—*Wood Bending Machine.*—April 23, 1867.—The metal straps are bent with the stuff to prevent

splintering, and are removed with the "former" and stuff to preserve the latter in form until seasoned.

Claim.—First, the arrangement of one or more cranks *D* in combination with their respective hooks *T* and links *f*, operating in connection with a former *I*, so as to force the wood down upon the former, substantially in the manner herein set forth.

Second, a mechanism substantially as described, which operating in combination with a former, forces the wood down upon and automatically secures it to the said former, substantially in the manner herein set forth.

Third, the adjustable cams or levers *S*, operating substantially in the manner and for the purpose set forth.

63,998.—JOHN DANNER and SAMUEL DANNER, Canton, Ohio.—*Bed Bottom.*—April 23, 1867.—The slats have metallic plates attached beneath near the ends, which slide in branching plates secured to transverse bars near each end of the bedstead. The slides admit flexion, and shoulders on the upper plates prevent displacement. Cords are stretched over the slats between the horns of the lower plates.

Claim.—In combination with the slats of a bed or lounge bottom and the bearers that support it, the casting *a b* made and operating substantially in the manner and for the purpose described.

63,999.—JOSEPH DAVIS, Jr., Templeton, Mass.—*Lamp.*—April 23, 1867; antedated October 23, 1866.—The upper lip of the conical, expansive, adjustable tube within the lamp is compressed to allow the insertion of the fibrous material through the annular space between it and the neck, and by a tapered plug is afterward expanded till it enters the recess in the cap, by which it is retained. There are vents for the fluid through the lower lip of the tube.

Claim.—The application of an expansive tube or case and a mass of cotton or fibrous stuffing to a lamp reservoir, substantially in manner as described, such tube in course of its application and after the insertion of the cotton or filling being expanded as explained.

Also, the lamp as constructed, with the tube-receiving recess, as explained.

Also, the improved lamp as constructed with the expandible tube and the receiving recess therefor, and as having a mass of cotton or fibrous material arranged in its reservoir and about such tube, as set forth.

64,000.—GEO. W. EARL and JAMES H. HAWLEY, Kalamazoo, Mich.—*Apparatus for Registering Games of Billiards.*—April 23, 1867.—The long actuating hand indicates the points made, and the other hands the number of games in regular progression, and in sets of twelve respectively. Each revolution of the actuating hand causes one blow upon the bell.

Claim.—First, combining the hand *A*, the arbor *B*, the cam *C* and the draft ratchet *D* with each other, and with the indicating face of the machine, in such a manner that while the points of a game from one to one hundred can be indicated by said hand, and a reversed movement be imparted thereto at any portion of its revolution short of an entire game, yet the moment that it passes said point a stop is interposed to prevent any backward movement of said hand, substantially as herein set forth.

Second, the combination of the hand *A*, the arbor *B*, the cam *C*, the draft ratchet *D*, the ratchet wheel *E*, the tubular arbor *i*, and the indicating hand *j*, with each other in such a manner that the said hand *j* will indicate upon the face of the machine the number of games and half games played from a half game to twelve games, substantially as herein set forth.

Third, the combination of the hand *A*, the arbor *B*, the cam *C*, the draft ratchet *D*, the ratchet wheel *E*, the tubular arbor *i*, the pinion *k*, the toothed wheel *l*, the pinion *m*, the toothed wheel *n*, and the tubular arbor *o*, with each other and with the hand *p*, in such a manner that the said hand *p* will indicate upon the face of the machine the number of games played from twelve to one hundred and forty-four, substantially as herein set forth.

64,001.—WM. H. ECKERT, Syracuse, N. Y.—*Plane Iron.*—April 23, 1867.—The cap has a short

slot wider than that of the cutting iron, and receives a nut into which the coupling screw is received.

Claim.—The nut *n*, in combination with the planing iron *A*, the screw *s*, and the cap *C*, made and operated substantially as and for the purposes described.

Also, the slot *h*, in the cap *C*, when made to fit upon the nut *n* and applied to planing irons, substantially as described.

64,002.—M. ELDRIDGE and F. A. REED, Alexandria, Va.—*Grain Elevator and Dumping Apparatus.*—April 23, 1867.—The elevating rope is attached to a bail whose ends engage two other bails, to whose ends the platform is hung. The corners of one side of the platform have sockets which traverse two vertical slide rods, having adjustable stops by which the platform is tilted.

Claim.—First, the platform *D*, in combination with the swivels *m*, which furnish pivots for the platform, whereby it assumes alternate inclined and horizontal positions, substantially as described.

Second, the guide bars *n*, in combination with the spring *o'* and stops *O*, as and for the purpose set forth.

Third, the hoisting and dumping apparatus constructed as explained.

64,003.—WM. H. ELLIOTT, New York, N. Y., assignor to JOHN KINGDON, Washington, D. C.—*Hay Loader.*—April 23, 1867.—The arm of the crane is swung round toward the hay and the fork inserted therein, swinging it from the ground; the spiral spring then acts on the pulleys to which it is attached, winds up the cord, and the pawl falling catches the pulley and retains the hay at the requisite height for pitching on to the load.

Claim.—First, the employment of an adjustable cord *l* between the arm of the crane and the fork *p*, substantially as herein shown.

Second, the employment of pulleys *f* and *i*, in combination with spring *k* and cord *l* for the purpose of taking up the latter after it has been drawn out, substantially as specified.

Third, connecting together pawl *h* and bolt *e* so that any motion given to the former will move the latter, substantially as and for the purpose specified.

Fourth, so combining pawl *h* and bolt *e* with cord *l* that the latter shall operate the two former, substantially as set forth.

Fifth, pivoting pawl *h* to movable arm *g*, so that these devices may have a little motion around the center of the pulleys, substantially as herein shown.

64,004.—GEORGE F. ELLS, Troy, N. Y.—*Hand Card.*—April 23, 1867.—Explained by the claim and illustration.

Claim.—A hand card having a wooden stock so formed with a rib or ribs *b* as to thereby cover or protect the edge or edges *e* of the leather or other sheet-like material *D*, which holds the teeth of the card, substantially as herein described.

64,005.—RICHARD H. EMERSON, Fond du Lac, Wis.—*Windlass.*—April 23, 1867.—The rope passes around the loose drum of the power shaft and the tight drum of the other shaft, being crossed between. The grooved guide pulleys are supported on a spring bar, and are depressed by levers to check the rope. The power is communicated through gear wheels of the two shafts.

Claim.—A windlass having shaft *a*, wheel *b*, drum pulley *c*, wheel *d*, drum pulley *f*, pulleys *g g'*, elastic *m'* spring bar *i*, levers *h h'*, arranged, combined, constructed and operating substantially as described.

64,006.—LUTHER H. FARNSWORTH, Hudson, Mass.—*Tool Handle.*—April 23, 1867.—The furcated pronged stock has a metallic collar fitting round the extremities of the prongs and against the shoulders thereof. The space between the prongs is filled with a heart piece of timber.

Claim.—The combination and arrangement of the metallic shouldered prongs and the head constituting the stock *A* with the metallic collar *C* and the heart piece *B*, the whole being made substantially as specified.

Also, the stock *A* made with the head, the series of prongs, and the shoulders thereof, as described.

64,007.—LORENZO FULTON, Edinburg, Ind.—*Low Water Indicator.*—April 23, 1867.—The lower end of a steam pipe opens into the boiler at the low water line, and this pipe at a distance from the boiler has an enveloping chamber containing liquid which will be evaporated by the admission of steam into the pipe, which steam passes through a pipe beneath the trigger valve and raising the same releases the safety valve and sounds an alarm.

Claim.—First, the arrangement of the pipe D, in connection with the chamber C, substantially as shown and described for the purpose of conveying a signal to a point at any desired distance, as set forth.

Second, the combination of the pipes B C and D with the disk E and trigger J, substantially as and for the purpose set forth.

Third, the equalizing pipe M, in combination with the boiler A and pipe B, substantially as and for the purposes described.

64,008.—FREDERICK BAUMGARTNER, Brooklyn, N. Y.—*Shifting Rail for Carriage Seats.*—April 23, 1867.—The shifting rail is attached to the stationary rail by hooks and clamps, so that when removed there may be no projections to tear the clothes, &c.

Claim.—Securing the shifting rail D to the stationary rail B of the carriage seat A by means of hooks F G and screw buttons or clamps H, substantially in the manner herein shown and described and for the purpose set forth.

64,009.—DEXTER GRAY, Upper Sandusky, Ohio.—*Sheep Rack and Shelter.*—April 23, 1867.—The grain boxes and feed troughs are mounted on runners, the frame rising to the required height to hold up the cross timbers that sustain the shelter roof. Portable hay racks are suspended from the frame. Transferable doors are suspended on pins for protection from storms.

Claim.—First, a portable stock shelter and feeding arrangement, combining the arrangement of runner's a, troughs K, grain boxes I, hay racks E, movable doors g, plates c and cross timbers d, substantially as described and for the purposes set forth.

Second, in combination with a portable stock shelter, the double troughs K K, with or without their separate chambers for each animal, in combination with a grain box, containing the bottom o, slide P, cut-off bottom r' and lever q, and partition m, all constructed and operated substantially as described and for the purposes set forth.

Third, in combination with a portable stock shelter, the movable and transferable doors g, for the purposes named.

Fourth, in combination with a portable stock shelter, the movable racks E, for the purpose set forth.

Fifth, in portable stock shelters the combination and arrangement of troughs K K K and their grain boxes I I I, with the racks E E, as and for the purposes set forth.

Sixth, in combination with a portable stock shelter, elevating the hay racks and center feed troughs, so as to secure all the ground room for the purposes set forth.

Seventh, a grain feeding box for stock, combining the sides, bottom o, slide P, cut-off bottom r, lever q and openings n, in each, for the purpose of feeding grain in measured quantities, as set forth.

64,010.—R. S. GRUMMON, Newark, N. J.—*Top Prop for Carriages.*—April 23, 1867.—The outer end of the socket forms a shoulder against which the joint bars are drawn by the head of the screw bolt. The thimble fits over the socket, and is pressed against the leather covering to exclude moisture.

Claim.—The solid-headed screw C, when used in combination with the socket B and thimble D, constructed and operated substantially as described for the purpose specified.

64,011.—THOMAS HAIGH, Liverpool, England, and ROBERT ADAM ROBERTSON, Philadelphia, Pa., assignors to E. F. PRENTISS, WM. D. PHILBRICK, and WILLIAM J. PARSONS.—*Apparatus for Boiling, Cooling, and Fermenting Malt Liqueurs.*—April 23, 1867; antedated April 9, 1867.—The mash tun is connected with the wort boiler and the water heating cistern. The wort is discharged downward into the hop back,

and from thence into the fermenting vessel, passing through the cooling pipes, which are slightly inclined from the vertical, and are surrounded by a current of water. The flow of water for cooling the wort is regulated by the expansion of air in the hollow floating head of the fermenting vessel.

Claim.—First, dividing the supply cistern into several compartments, and arranging a zigzag air passage above the water communicating with the ash pit of a steam boiler, or other furnace for generating a draft of air over the surface of the water in the supply cistern, substantially and in the manner hereinbefore described and set forth, or any mere modification of the same.

Second, the peculiar mode of constructing the double bottom of the wort-boiling pan, as hereinbefore described and set forth, or any mere modification of the same.

Third, forming the refrigerator columns with small chambers at the top and bottom of the small vertical pipes, as hereinbefore described and set forth, or any mere modification of the same.

Fourth, the peculiar form and arrangement of the floating cover for the fermenting tuns, as hereinbefore described and set forth, or any mere modification of the same.

Fifth, the peculiar construction and arrangement of the various parts of the self-acting temperature-regulating apparatus, and the mode of counteracting the fluctuations in the pressure of the external atmosphere, as hereinbefore described, or any mere modification of the same.

Sixth, and lastly, the general arrangement, combination, construction, and use of the apparatus hereinbefore described and set forth, or any mere modification of the same, for the purpose of boiling, cooling, and fermenting malt liquors, or other useful purposes.

64,012.—DAVID W. HENDRICKSON, New York, N. Y.—*Blast Furnace.*—April 23, 1867.—The annular boiler is placed on top of and forms part of the furnace. Tuyere pipes enter the steam space in the boiler, and blast pipes from the furnace pass through the water, and have exit into the flue. Other pipes, having stop cocks, throw upward jets of steam into the flue. The inner side of the boiler forms a frustum top to the furnace immediately beneath the flue.

Claim.—The arrangement of the boiler A, hot-air tubes d d and hot-blast pipes B¹ B² B³ B⁴ and stop cocks c c, all substantially as described and shown in the accompanying drawings.

64,013.—LUCIAN HILL, North Brookfield, Mass.—*Fan.*—April 23, 1867.—The circular fan is pivoted in the center between the branches of the handle, which is turned one quarter round when the fan is to be closed, its hinged creases permitting it to fold and an elastic loop holding it shut.

Claim.—First, a folding fan pivoted in the center and operating as described.

Second, the combination of the fan part A with the branches B B of the handle C, substantially as set forth.

Third, the combination with the fan part A and handle C of the loop or clasp D, substantially as and for the purposes set forth.

Fourth, making the handle C from two pieces B B, united at both ends as described, and cut or curved out to receive the fan part A, as shown and described.

64,014.—GARDINER L. HOLT, Springfield, Mass., assignor to himself and James M. THOMPSON, same place.—*Oiler.*—April 23, 1867.—A ballast ring is placed in the bottom of the oiler and wires are stretched diametrically across this ring to limit the play of the spring bottom.

Claim.—The combination of the ring B and one or more bars a b, arranged and constructed substantially as set forth.

64,015.—GEORGE HOUGHTON, Hudson, Mass.—*Shoe.*—April 23, 1867.—A metallic strip overlaps the seam and is secured to the leather on each side.

Claim.—The staying or fastening of sewed seams in the upper leathers of boots and shoes and other articles by means of a strip of thin metal extending on each side of the seam, whether the same is folded or extends over the edge and grasps both sides of the leather or other material or not.

64,016.—SILAS LAND, Philadelphia, Pa.—*Self-acting Eyelet Batten*.—April 23, 1867.—The battens have slotted eyelets for the screws whereby the boards of signs, &c., are attached.

Claim.—The combination of the slotted eyelets C with battens B, arranged and operating in relation to signs or other boards, substantially in the manner described and for the purposes specified.

64,017.—JOSEPH MANLEY, Hopc, Me.—*Stanchion for Cattle*.—April 23, 1867.—The pivoted blocks of the stanchion permit the animal to turn to a given extent. One standard is permanently secured into the pivoted upper block; the other entering through a groove in the end, passes a hinged stop block, which dropping, keeps it in position.

Claim.—All the parts of Fig. 1, except the top and bottom pieces A and B of the common tie-up—that is, all the parts C M I D E F G, which are connected together, and the said grooves, and said cut or mortise H, and the thickened part of said top piece B, (to admit of said groove,) and which make up the double swinging stanchion, which swings both ways, which allows the animal fastened to turn the head either way, as before mentioned, when standing or lying down, and to lie on either side with comfort.

64,018.—MATHEW F. MAURY, Liverpool, England.—*Fastening of Wire or wire Rope Together*.—April 23, 1867.—The ends are secured together by a weaving knot.

Claim.—The tie herein described and shown upon the drawings, when the same is used to connect the ends of wire or wire rope that is employed in baling cotton or other like material, substantially in the manner set forth.

64,019.—GEORGE MCCOY, New York, N. Y.—*Manufacture of Aerated Waters*.—April 23, 1867.—The hooped vessel has metallic head plates joined by stay rods, and the gas being introduced, the water is projected therein in small jets that it may more intimately intermingle therewith.

Claim.—First, a vessel for the manufacture of soda water or other aerated liquids, or for holding the same after being manufactured, having its sides made of wood secured by iron bands or hoops, and its two ends provided with metallic head plates joined together by stay rods or braces, and the whole constructed substantially as described.

Second, in the manufacture of soda water and other aerated liquids, discharging the water or other liquid into the vessel containing the gas or gases with which it is to be charged in the form of small jets or spray, or any other equivalent form, substantially as and for the purpose described.

64,020.—JOHN McMAHEL, Hamilton, Ohio.—*Toy*.—April 23, 1867.—The ball after projection from the cup is reinstated by a cord connecting it to a spiral spring in the handle.

Claim.—The cup A and ball E, in combination with spiral recoiling wire or spring D, for guiding the ball to the cup, in the manner and for the purpose substantially as described.

64,021.—TRUMAN MERRIAM and A. G. ALLEN, Waterloo, Wis.—*Steam Generator*.—April 23, 1867; antedated April 19, 1867.—A series of cylinders in tiers one above the other are connected by pipes formed in their end plates; the upper tier has pipes connected with a force pump, by which water or oil is introduced into the steam. The furnace walls have water pipes cast within them for the water supply. The upper portion of the furnace walls are latticed or closely perforated for attachment of fire clay with which the inside is coated.

Claim.—First, the combination of the cylinders E F G, arranged in successive tiers above the furnace and connected by pipes formed in their end plates with a corresponding set of similar cylinders into which the steam is passed from the first set, and in which it is tempered by the introduction of water or oil, substantially in the manner and for the purpose set forth.

Second, the perforated or latticed metallic walls of the furnace when constructed and arranged substantially as set forth.

Third, the arrangement of the tank C, induction

pipe H, pump I, education pipes K, and the furnace walls, substantially as set forth.

64,022.—JOSEPH MERWIN, New York, N. Y.—*Button-hole for Paper Collars*.—April 23, 1867; antedated April 8, 1867.—Circular apertures terminate each end of the button-hole forming beds for the shank of the button.

Claim.—The construction in collars of a button-hole formed by holes of circular shape or thereabouts, at opposite ends of a connecting cut or slit, the edges of which constitute flaps or wings, substantially as specified.

64,023.—JOHN MILROY, Edinburgh, Scotland.—*Eccavator*.—April 23, 1867.—The frame is supported when lowering, by chains connected by a monkey hook to the main chains, and when this hook is disengaged the points of the spades are drawn up to the frame to form a close bottom; the frame is then raised by chains, each of which is connected to a spade near the point of the latter. This is intended specially for excavating in closed shafts, or coffer dams.

Claim.—First, the framework 2, to the outer edges of which are hinged directly a series of spades I, in combination with the within-described system of chains A and B, the whole being arranged and operating substantially as and for the purpose herein set forth.

Second, the combination of the above with the hook 7, constructed and operating in combination with the chains attached to the frame and to the spades, as described.

64,024.—F. B. MORSE, New Haven, Conn.—*Joint for Carriage-top Braces*.—April 23, 1867.—The conical hinge joint on the stump alleviates the strain on the screw bolt.

Claim.—The herein-described stump joint as an improved article of manufacture, consisting in the combination of the two parts A and B, when constructed and arranged together by a conical joint, substantially in the manner and for the purpose described.

64,025.—GEORGE T. PARRY, Philadelphia, Pa.—*Steam Generator Water Gauge*.—April 23, 1867.—The glass front is secured between a semicircular back and flat strips in front, and the gauge connects with the boiler by pipes, entering below the low-water line and in the steam space.

Claim.—The construction and arrangement of the plates B C and D, whereby the water is shown in a thin sheet, substantially as set forth.

64,026.—GEORGE T. PARRY, Philadelphia, Pa.—*Boiler Feeder*.—April 23, 1867.—A pipe ascends from the water level in the boiler and has an inverted U-form; it discharges by an annular mouth into the extension of the feeder. Immediately beneath is the mouth of a pipe passing through a check valve in the bottom of the boiler. The fall of water exposes the former pipe to steam, which injects the water into the boiler through the latter.

Claim.—First, in combination with the generator A and feeder B, the pipe C, with its orifice C', and the pipe D, when arranged to operate substantially as described.

Second, in combination with the generator A and feeder B, the pipes D and C F, and float G, and valve, arranged to operate substantially as described.

64,027.—DAN PEASE, Floyd, N. Y.—*Smut Mill*.—April 23, 1867.—Improvement on his patent, September 22, 1863. The grain from the smut cylinder passes through a tortuous passage to expose it to the action of the current of air to remove impurities and worthless grain.

Claim.—The spreader shown separately in figure 3 and as connected with the smut mill shown in figures 2 and 3, and fully described in the specification, the whole being constructed, adapted, and arranged substantially in the manner herein set forth.

64,028.—WATSON PECK, York, Ill.—*Cooling Milk*.—April 23, 1867.—The milk passes from the strainer through a coiled pipe within a tank of cold water.

Claim.—The combination and application, as herein described.

64,029.—GUSTAVUS PERKINS, Burlington, Vt.—*Machine for Rolling Dough, Crushing Sugar, &c.*—April 23, 1867.—The rollers are attached to the pivoted frame with adjustable gauges for rolling dough to any required thickness. Meat-mangling and cutting rollers are also attachable.

Claim.—The combination of the metallic rollers *h* Q or R, the gauges *m*, the arms *i*, as applied to the above purpose.

Also, the construction of the entire machine, all as herein substantially described and for the purpose set forth.

64,030.—S. M. PERKINS, Morrison, Ill.—*Whiffle-tree Hook.*—April 23, 1867. Improvement on his patent, November 29, 1859.—The rubber washer fits in the chambered cap, which has a projection fitting into a notch in the shoulder of the projecting stem to keep the said cap from turning.

Claim.—The chambered cap B and washer C, the said several parts being respectively constructed and the whole combined and arranged for use substantially in the manner and for the purpose set forth.

64,031.—JACOB S. PETERSON, Springdale, Ohio.—*Weather Strip.*—April 23, 1867.—The cam on the door when pressed against the roller in the jam depresses the rod and its attendant flap against the rabbet of the carpet sill, excluding draft and rain. When reopened the spiral spring on the rod raises the flap and projects the cam.

Claim.—The strip or flap E, adapted to close against the rebate of the carpet sill by the impact of the cam K and roller D, and to be retracted by means of a spring M, substantially as set forth.

64,032.—THOMAS W. PRATHER, Iowa City, Iowa.—*Removing Buildings.*—April 23, 1867.—The winch is connected by a train of gearing to a roller journaled in the depending arms of the plate rest. This roller journal projects to receive an outrigger pulley.

Claim.—The combination of the truck wheels, crank, cog wheels, shaft, platform and screw, substantially as and for the purpose set forth.

64,033.—ALEXANDER N. REDMAN, Charlestown, Mass.—*File Cutting Machine.*—April 23, 1867.—The feed of the file blank holder is operated by a large gear wheel in combination with a small gear wheel attached to a feed screw; the large wheel receives an intermittent motion from the sliding bar and pawl, and is operated by a cam on the main shaft. The cutter holder has an inward movement at its greatest depression to throw out the surface cut and raise the tooth.

Claim.—First, the combination of the guide frame E, the pinion C, and rotating rack gear B, as described.

Second, the sliding block or bar H, provided with the pawl *i*, the adjustable projection *h*, and retracting spring I, in connection with the rotating rack gear B, substantially as and for the purpose specified.

Third, the combination of the yoke P, adjustable block N, or its equivalent, and the cutter O, operating as described substantially as and for the purpose set forth.

Fourth, the combination of the springs S S', arranged as described with the cutter head M, as and for the purpose specified.

64,034.—JOHN H. REINHART, McKay, Ohio.—*Farm Gate.*—April 23, 1867.—The vertical and horizontal parts of the gate are bolted together, and the free end supported by a roller. The securing pin has a vertical series of holes in the gate to answer in time of snow.

Claim.—The arrangement, construction, and combination of the wheel D, movable bolt J, and projections E E, so that the gate operates in the slots G and H of the post F, as herein described and for the purposes set forth.

64,035.—SAMUEL G. REYNOLDS, Bristol, R. I.—*Machine for Making Nails.*—April 23, 1867; antedated April 8, 1867.—Improvement on his patent of January 20, 1852, No. 8,677. Explained by the claims and illustration.

Claim.—Making the heads of nails, bolts, rivets, &c., by a number of consecutive upsets of a long piece of metal, by liberating or uncovering from the inclosure

of the die more and more of the metal as the header advances to upset the same, by means of successively receding sections, of which the die is in part composed, or their equivalents, substantially as described.

Also, the sliding block substantially as described, in combination with the compound gripping or molding die, the springs *g*¹ *g*², and heading lever, or their equivalents, as described, for the purpose of operating the movable sections of said die, substantially in the manner and with the effect herein set forth and described.

64,036.—J. W. RICE, Springfield, Mass.—*Car Brake.*—April 23, 1867.—The usual shaft of the hand brake has a sleeve connected by a coiled spring to a surrounding drum, which is geared to a spur wheel on another hand shaft, by whose rotation power is stored in the spring. The drum and sleeve have jointed pawls held by dogs having operating cords in reach of the engineer, and the sleeve and drum have pawl connection together. When the engineer releases the pawl of the drum it acts on the sleeve to rotate the supplementary brake shaft with which it is connected and put on the brake, and when the sleeve pawl is released the mechanism runs down and the brake is freed.

Claim.—First, in a brake for cars the combination of the drum I, having the spring L, ratchet K and J, and the sleeve F, having the spring L attached to it, and the ratchet G, with the sleeve B, having the pawl *f*, the whole arranged substantially in the manner and for the purpose set forth herein.

Second, in combination with the above arrangement, the pawls *g* and *h*, and the dogs O and P, to operate the pawls, the same constructed and operating substantially as described.

Third, in combination with the drum I, the device for turning the same, consisting of the shaft *h*, cog M and crank *z*, substantially as shown and described.

Fourth, in combination with the sleeve B, provided with the cog wheel C, the wheel D, and shaft forming a windlass for the brake chain.

Fifth, the equalizers for brake herein shown, in which the chain passes around two or more pulleys 1, 2, 3, 4, arranged in a frame S, having slots 7, in it, into which works a pin 8, substantially as shown and described.

64,037.—GEORGE ROWE, Worcester, Mass.—*Machine for Making Wooden Pins.*—April 23, 1867.—The removable hollow punches of various sizes fit a hollow stem which allows the pins to escape axially; the stem is attachable to a mortising machine.

Claim.—In combination with the removable punch or cutter E, of the hollow stem or handle A, slotted as described, so as to facilitate the withdrawal of the pins, and the removal of the punch, and otherwise constructed and arranged for operation as herein set forth.

64,038.—MARSHALL RUMRELL and ROBERT H. RUMRELL, Brooklyn, N. Y.—*Machine for Making Book Covers.*—April 23, 1867.—The stiffening pieces are placed in the receptacles of the base plate, and the cloth, paste-side up, over the recess of the sliding plate; the latter is then slid out of the way and the presser plate depressed to contact with the stiffening pieces, which adhere to it owing to the deposit of mucilage from the cups above. The presser is then raised, the sliding plate with its cloth slid under, and the presser brought down which depresses the cloth knives and attaches the stiffening pieces and cloth together. The outer slides are then moved in, to fold in the edges of the cloth, and again moved out to allow the descent of the presser upon the infolded edges of the cloth.

Claim.—First, the means herein described for taking up-stiffening papers one by one, and securing the same to the inside of book covers, substantially as and for the purpose herein set forth.

Second, the means herein described for cutting the cover at all the necessary points at once, substantially and for the purpose herein set forth.

Third, the means herein described of folding over the edges of the cover and securing the same firmly to the stiffening paper, substantially as and for the purpose herein set forth.

61,039.—THOMAS RYDER, Providence, R. I.—*Chimney Holder for Lamp Burners.*—April 23, 1867.—The spring wire-clasps embrace the chimney above the budge.

Claim.—The combined spring and clasp, in combination with the lamp burner, for the purpose all substantially as specified.

61,040.—JAMES SHEWARD and GEO. A. STANBURY, Dunkirk, N. Y.—*Car Brake.*—April 23, 1867.—The axle has a worm gear which engages a cog wheel with a friction surface on its upper side, which is brought in contact with the friction surface on a disk. This contact is caused by the depression of the disk shaft by the inclines on the hub of a lever oscillated by a cord reaching to the engineer. The shaft has a radial lever whose outer end is connected to the brakes.

Claim.—The application of the worm or endless screw, to the axle of any vehicle where the axle revolves in combination with a cog wheel to produce a slow motion under a high speed, and face plate forced upon the face of the cog wheel as described herein, for the purpose set forth.

61,041.—BALLARD C. SMITH, Ashland, Ind.—*Side Board for Threshing Machine.*—April 23, 1867.—The sections of the conveyor frame are hinged together at bottom, and have a retaining spring catch which is released by a cord. The side wind boards are hinged together and attached to one section, and are folded together for packing, as are also the main sections.

Claim.—First, the jointed side board, constructed of light sheet metal or other material hinged at E E with permanent end D and movable end C, by means of which all effects of winds are avoided on the stacker, substantially as and for the purposes set forth.

Second, the spring F and catch G, for the purposes of keeping the sections A and B in line, and for displacing the said sections when operated by cords H, substantially as and for the purpose set forth and shown, when stacker is attached to machine in the usual manner by rod M.

61,042.—GEORGE W. SMITH, Strasburg, Ohio.—*Weather Strip.*—April 23, 1867.—The door has a plate hinged to its inner side, which shuts down over the crack beneath it, and is held there by a spring to prevent entrance of wind and rain.

Claim.—The hinged strip *a*, in combination with spring *g* and metal strip *c*, constructed as described, and the whole arranged as and for the purpose set forth.

61,043.—J. Y. SMITH, Pittsburg, Pa.—*Steam Engine Piston.*—April 23, 1867.—The recess in the center of the piston has apertures leading through the sides to the space underneath the beveled packing rings, which are expanded by the steam.

Claim.—First, the central groove *a*, provided with the apertures *n*, for admitting the steam or other material to the under side of the rings, substantially as shown and described.

Second, the combination of the ring *c* and *e* with the flanges A' and plate B, or their equivalents, when arranged and operating as and for the purpose set forth.

61,044.—MORTIMER L. SMITH, Detroit, Mich., assignor to himself and J. W. HOUGHTLIN, same place.—*Seat and Back.*—April 23, 1867.—The back is attached to the seat by a pivot and folds up to make it portable.

Claim.—The combination of the strips C C, back E E B, seat A G G, and frame H D, all arranged as and for the purpose described.

61,045.—ROBERT E. SMITH, Provincetown, Mass.—*Gun Harpoon.*—April 23, 1867.—The harpoon has a hinged barb, and a slotted shank in which is a sliding link to which the line is fastened. The rear end of the slot has an elastic guard to receive the shock of the ring as the harpoon is fired.

Claim.—The head A B, grooved to receive the pivoted barb C, and cast in one piece with the slotted shank D, the latter being provided with the elastic guard *g* and the wire link E, all constructed and ope-

rating substantially as described, and for the purpose set forth.

61,046.—JOHN F. STEWART, Plano, Ill.—*Knot Indicator for Knitting Machine.*—April 23, 1867.—The unknotted yarn passes freely through the spring guide, but a knot draws the latter away from the bell and strikes it when released, as the knot frees itself from the narrow part of the guide.

Claim.—The arm C, with the knot grasper B, hammer D, and the spring E, in combination with the bell A, constructed and operating as herein described.

61,047.—P. J. STOUFFER, Uniontown, Pa., assignor to himself and HENRY WHITE.—*Composition for Preserving Eggs.*—April 23, 1867.—Composed of chloride of sodium, 8 lbs.; hydraulic lime, 5 lbs.; charcoal, $\frac{1}{2}$ lb.; nitrate of potash, $\frac{1}{2}$ lb.; alum, $\frac{1}{2}$ lb.; sulphure of iron, 5 oz.; gum arabic, 6 oz.; and water, 22 galls.

Claim.—The composition for preserving eggs, substantially as set forth.

61,048.—GEO. SUGG and W. METZ, Chicago, Ill.—*Bedstead Fastening.*—April 23, 1867.—The slotted plate is mortised into the post, and has inclined planes in its rear which engage lateral projections on the rail piece, and draw the latter firmly to the post as the rail descends.

Claim.—As a new article of manufacture, the bed fastening, consisting of the plate A, constructed as herein described, and used in combination with the plate E, provided with the arms O with the enlarged heads I, as herein set forth.

61,049.—JAMES WALBER, Washington, D. C.—*Machine for Felting Hat Bodies.*—April 23, 1867.—The surfaces of the rollers have slower movement from the front to the rear end to condense the material. They are driven by an endless chain and gearing. The boxes of the driving shaft have sliding movement to take up any looseness in the chain. The journals of the steam-heated lower rollers are extended to allow a reciprocating end movement, the steam entering their axles.

Claim.—First, the combination and arrangement in a machine for felting hat bodies of two or more pairs of rollers, having a rotary movement, when each successive pair revolves with a diminished speed, all substantially in the manner and for the purpose as herein set forth.

Second, the combination as above of two or more pairs of rollers whose diameters so vary that the circumference of each successive pair shall revolve with diminished speed, substantially in the manner and for the purposes herein set forth.

Third, the combination in a felting machine of a series of pairs of rollers, each pair of which has a lesser velocity than the preceding pair, with a series of pairs of rollers having a uniform velocity, as and for the purpose herein described.

Fourth, the combination in a felting machine of a series of rollers supported in a fixed frame, but each having an independently lateral play in its bearings in the line of its axis, substantially as and for the purpose herein described.

Fifth, imparting a lateral reciprocating movement to the rollers of a machine for felting hat bodies by means of cams on the ends of said rollers, or their journals, bearing against suitable cam surfaces when each of said rollers has free play independently of the others in the line of its axis, all substantially in the manner and for the purpose herein set forth.

Sixth, the use of a series of hollow rollers in a felting machine with suitable steam pipes for introducing steam into the same when said rollers revolve successively with a diminished speed, substantially in the manner and for the purpose herein set forth.

Seventh, the combination of a reversing roller, placed centrally in front of the last pair of rollers in a felting machine, with an auxiliary roller placed over the same, to bear thereon and operate conjointly therewith, substantially in the manner and for the purpose herein set forth.

Eighth, the combination of a single endless chain and toothed wheels, with two series of rollers in a felting machine, substantially as and for the purpose herein described.

Ninth, the combination of suitable springs with the sliding journal boxes of the driving shaft, and with an endless chain working thereon, all substantially as and for the purpose herein set forth.

64,050.—SAMUEL JACOB WALLACE, Keokuk, Iowa.—*Hay Stacker.*—April 23, 1867.—The rope from the singletree passes under a sheave at the base of the frame, and under a sheave at the upper end of the inclined head beam, which forms a slide bar to a sheave block, through which the cord passes to the fork. The loaded fork is drawn to the sliding block, when its passage is checked by the eye of the pendent bar and passes upward on the slide. It is tripped by a cord reaching to the ground.

Claim.—A portable hay stacker having the several parts thereof constructed, arranged, and combined as and for the purpose set forth.

64,051.—WILLIAM WHEATON, Brooklyn, N. Y., assignor to JOHN F. LEE, jr., same place.—*Spool Holder for Sewing Machines.*—April 23, 1867.—The spool is firmly held on the stem of the cylinder. The latter is free to revolve on its spindle, a screw through the cylinder running in a groove. The spring is not adjustable, but the plate which supports it is adjustable by means of a nut, so as to cause the spring to embrace the flange on the cylinder more or less tightly.

Claim.—The cylinder A A', spring s, or its equivalent, screw c, horizontal plates d and e, combined and operated in the manner and for the purpose set forth and shown in the accompanying drawings.

64,052.—JEROME WHEELOCK, Worcester, Mass.—*Steam Engine Piston.*—April 23, 1867.—The hollow piston has an annular groove to receive packing rings; its plates are mutually supported by stay bolts. The central hole is oblong to permit the axial adjustment of the rod, and the end of the latter is split to relieve the pressure of expansion within the nut.

Claim.—First, the combination of stay bolts E E E E with a piston head, substantially in the manner herein described.

Second, a piston constructed with an oblong hole or aperture through its center to receive the piston rod, substantially as and for the purpose described.

Third, the slot in the piston rod B when used for the purpose of relieving the nut, in the manner substantially shown and described.

64,053.—JOHN WILLIAM WHITFIELD, New York, N. Y.—*Needle Wrapper.*—April 23, 1867.—The thread is looped to the wrapper and the needles inserted in regular gradation.

Claim.—A needle wrapper composed of a sheet of fabric combined with a series of thread loops to hold the needles to the fabric, substantially as set forth.

64,054.—JOHN WHITLOCK, Birmingham, Conn.—*Self-Oiling Journal Box.*—April 23, 1867.—The disk gathers oil from the cup and spreads it by means of the passages over the journal along which it passes toward the ends of the boxing, and is led back to the reservoir.

Claim.—In combination with a shaft or journal having a wheel, disk, or ring attached to that portion that revolves in the journal box, and with distributors for carrying the oil over the shaft or journal, the vertical end passages and horizontal passages leading from said ends back to the recess or reservoir, for the purpose of making a self-oiling device, substantially as described.

64,055.—ALBERT H. ACKEN, Griggstown, N. J.—*Rotary Harrow.*—April 23, 1867.—The outer points of the harrow have jointed teeth, which by resistance at one part of their revolution cause rotation when the harrow is drawn forward. The top plate at the junction of the central bolt is sprung up to insure a steadier draft.

Claim.—The frame A' when constructed as described, in combination with the jointed teeth B', center pin C', and draft rod D, all arranged and operated as specified.

64,056.—J. B. ALEXANDER, Washington, D. C.—*Lamp Burner.*—April 23, 1867.—The corrugated

sides of the wick plates are engaged by the two friction collars which are journaled to the sides of the wick tube. The plates are fastened together and the wick raised between them by a pin. The reservoir is filled by a funnel with a long stem which is introduced into the wick tube.

Claim.—The wick holder, composed of the corrugated plates O and P with their turned edges and indentations K K K K K K K K, and the slot G, substantially as and for the purpose set forth.

Also, in combination with the above described wick holder, the device for raising and lowering the wick, substantially as and for the purpose set forth.

Also, the device L M for filling the lamp fountain with oil, in combination with the burner, substantially as described and for the purpose set forth.

64,057.—WILLIAM ALTICK, Darton, Ohio.—*Machine for Cultivating Cotton.*—April 23, 1867.—The clutch rod by the driver's seat brings into action the train of gearing and the wheel to which the adjustable hoes are attached, working transversely of the rows. The plows attached to the transverse metallic bar cultivate between the rows.

Claim.—First, the arrangement of the shaft C, with its clutch and bevel wheel, with the pinion T, shaft W, and wheel N, provided with its adjustable hoes, the several parts being constructed and used as and for the purpose specified.

Second, adjusting the arms O O in the wheel N, by means of their grooves and the pins b b, substantially as and for the purpose specified.

Third, the bar H, upon which the plows or cultivator teeth are secured, used in connection with the grooved plates a a, rock shaft k, with its arms and lever J, substantially as and for the purpose specified.

64,058.—ALBERT F. and JOHN H. ANDREWS, Avon, Conn.—*Mode of Treating Flax.*—April 23, 1867.—The fiber is placed in a skeleton cylinder or endless bag, and, by rotary movement, is alternately immersed and withdrawn from hot or cold water, with which the vat is alternately filled. After the water treatment the fiber is treated with a caustic solution of soda and lime and afterward washed with water.

Claim.—First, treating it by the aid of the endless double network arranged relatively to the rollers "G II" and to the tank, substantially as and for the purpose herein specified.

Second, in combination with the above, subjecting it to the action of the pressure roller J, arranged as represented.

Third, the alternate application of warm and cold water, substantially in the manner and for the purpose herein described.

Fourth, the treatment in the soluble protein solution obtained from ground beans or other equivalent, substantially as specified.

Fifth, the treatment with the chloride of sodium, or its equivalent, after the treatment with the alkali before the bleaching, substantially as herein specified.

Sixth, the employment of metallic chlorides in the bleaching bath, substantially as and for the purpose herein specified.

Seventh, blowing atmospheric air through the interstices, after the material to be bleached has been immersed in a solution containing chloride of lime, whether this solution is prepared in the ordinary manner or as above described.

Eighth, the use of alkaline solutions after bleaching, substantially as and for the purpose herein specified.

Ninth, the treatment with urine, in connection with the treatment with soap, substantially as and for the purpose herein specified.

Tenth, the treatment with cider, or equivalent vegetable acid solution, at the termination of the process.

Eleventh, the use of atmospheric air forced through the flax, in connection with an alkaline solution, saturating the flax, as a bleaching and disintegrating agent, substantially as herein specified.

64,059.—WILLIAM H. ARMSTRONG, New Brunswick, N. J.—*Range and Air Heating Furnace.*—April 23, 1867.—The grate has a water back and a horizontal flue extending backward beneath the lower oven to the upright flue, which has forward projections between the ovens and a warming shelf. Hot air spaces occupy space on each side of the ovens.

Claim.—The arrangement of the cooking range, its appurtenances A B C F G, flue H, chambers I M M, air passages E E, water back D, and auxiliary pipe O, as herein described, and for the purpose specified.

64,060.—ROBERT BAILEY, Idaho City, Idaho.—*Quartz Crusher.*—April 23, 1867.—The revolving cylindrical mortar bed is enclosed in a wooden and metallic case running on friction rollers, and is composed in part of rock and cast-iron dies fitted to form inclined planes on the inside, and in part of loose, cast-iron, cubical blocks, which are lifted by the revolution and grind by sliding and tumbling upon the quartz placed in the mill.

Claim.—First, the construction of the rotary mortar bed enclosed within the case A, made of blocks of rock b b b, forming inclined planes of irregular dimensions on their inside surfaces, combined with cast-iron dies c c c, fitted in and secured to them, arranged and applied as and for the purpose herein described.

Second, the cubical stamp d, in combination with the revolving mortar bed, constructed and operated together in the manner and for the purpose herein set forth.

64,061.—JACOB BERGEN, Canton, Ohio.—*Cultivator.*—April 23, 1867.—The oscillation of the crank axles adjusts the height of the frame. The levers operate between guides, and lugs engage with slots in the guide to maintain the adjustment.

Claim.—The arrangement of the crank axles D D with the levers H, spring a, and guides I and J, substantially as and for the purpose specified.

64,062.—ADOLPH BINNER, Muscatine, Iowa, assignor to himself and JOHN LEUZINGER, same place.—*Window Shade.*—April 23, 1867.—Round rods are used for a woven slat blind instead of flat slats; rolling more readily, there is less friction on the cord.

Claim.—A window curtain or shade composed of round sticks of wood connected together, substantially as described.

64,063.—J. W. BLISS, Hartford, Conn.—*Clothes Line.*—April 23, 1867.—Explained by the claim.

Claim.—A clothes-line of cord, leather or wire, coated with india-rubber or gutta-percha to protect the same from the weather, all as and for the purpose specified.

64,064.—SAMUEL F. BOND, Worcester, Mass.—*Self-lubricating Journal Box.*—April 23, 1867.—Explained by the claim and illustration.

Claim.—A self-lubricating journal box, constructed substantially as described, with a chamber or chambers forming oil reservoirs along either side of the journal, also provided with lower supply-apertures, and their upper inner edges made to form scrapers or cleaners for removing surplus oil and to return it to the reservoirs, essentially as herein set forth.

64,065.—JOHN K. BOSWELL, Richmond, Ind.—*Fruit Dryer.*—April 23, 1867; antedated March 16, 1867.—Improvement on his patent, September 4, 1866. The hollow triangular prism is capable of revolution to expose its sides in the required position, for radiation, or to heat articles placed upon it. The structure fills the functions of a heater, dryer, wardrobe or bleaching apparatus.

Claim.—First, the revolving triangular heater D, arranged as and for the purpose set forth.

Second, the shield b, when provided with apertures and arranged substantially in the manner and for the purposes specified.

Third, the combination of the furnace N, when provided with tube i, or its equivalent, the revolving triangular heater D, when provided with tube j, or its equivalent, and the chimney K.

Fourth, the sliding panel C, substantially in the manner and for the purpose described.

64,066.—LUCY BROAD, St. Louis, Mo.—*Child's Toy.*—April 23, 1867.—The horizontal disk has a winch at the side and gearing beneath by which the sulkies thereupon are caused to move around.

Claim.—The combination of the figures C¹ C² with the circular plate or race track C, and with the actuating machinery, as described and set forth.

Also, the bell B', in combination with the other parts, as described and set forth.

64,067.—J. J. BROWN, Madison, Wis.—*Carriage Thill Coupling.*—April 23, 1867.—The spindle on the thill iron is entered through the slot in the shackle, and the opening is closed by a key which rests against the erect arm, while the horizontal arm passes below the axle and is engaged by the axle clip.

Claim.—First, the bar A, provided with the vertical arm B for attaching the button independent of the clip or band, substantially as and for the purpose set forth.

Second, making the socket for the reception of the packing and bolt between the front side of arm B and the front covered end of A, as shown and described.

64,068.—S. H. BROWN, New York, N. Y.—*Rotary Steam Engine.*—April 23, 1867.—The abutment valve after the passage of a piston descends by the pressure of entering steam against the convex side of the semi-cylindrical stop. When reversing the engine the said stop is turned flat side up, in which position it admits the passage over it of the said valve.

Claim.—First, the abutment or valve E, constructed as described, and pivoted so as to vibrate in either direction, substantially as and for the purpose specified.

Second, the semi-cylindrical reversible stops i, in combination with the hinged abutment E, annular rims a, and piston wheels C with pistons D, all constructed and operating substantially as and for the purpose set forth.

64,069.—JOHN W. BURNS, Henry, Ill.—*Brick Machine.*—April 23, 1867.—The plungers are operated by toggle arms and a rock shaft connected by links to vertically sliding racks whose operating segment pinions have arms actuated by a horizontal bar on the main shaft. The molds are forwarded by a rack and segment gear wheel operated by a lever.

Claim.—First, operating the plungers I I through the medium of the shaft F, connected by arms and links to vertical racks G, pinions on segments H, provided with arms e, and the arm E on shaft C, all being arranged substantially as herein shown and described.

Second, the arrangement of the mud mill A, plungers I I, and molds J, substantially as herein set forth.

Third, the feeding of the empty molds to receive the clay and the discharging of the filled molds from the press by means of the racks N and pinions O, substantially as shown and described.

64,070.—THOMAS H. BURRIDGE, St. Louis, Mo., assignor to himself and G. C. FABIAN, same place.—*Steam Safety Valve.*—April 23, 1867.—By the shifting of the point of contact of the levers the pressure of the weight increases as the levers are raised so as to insure the closing of the valve immediately when the pressure of the steam is reduced.

Claim.—The levers E F, constructed and arranged in relation to each other and valve, substantially as and for the purpose set forth.

64,071.—D. C. CANNELL, La Fayette, Ind.—*Draw Bar for Locomotives.*—April 23, 1867.—The link is sustained by the sides of the recesses, but has a certain amount of play therein to adapt it to different heights of cars or to vertical oscillation in use.

Claim.—A draw bar A, provided at one end with V-shaped recesses b, one at each side with a link B fitted in it and working within the recesses, substantially in the manner and for the purpose set forth.

64,072.—CHARLES E. CASE, Xenia, Ohio.—*Valve for Steam Engines.*—April 23, 1867.—The valve seat rests in a loose cup and has a spiral stem fitting neatly in a socket; the stem acts as a guide and as a means of rotation by the passing steam. Cavities in the head allow the passage of steam when it is raised.

Claim.—The valve C and spiral pin H, constructed and arranged substantially upon the principle and in the manner herein set forth.

64,073.—PIERRE CHARLIER, Paris, France.—*Shoeing Horses.*—April 23, 1867.—The shoe is so let into a groove that its outer sides will be flush with the outside and bottom of the hoof respectively.

Claim.—The method herein described of attaching

the shoe to the hoof of a horse or other animal by letting said shoe into a recess cut into the edge of the hoof, substantially in the manner and for the purpose set forth.

64,074.—EDWIN CLARK, Lancaster, Pa.—*Window Sash Frame.*—April 23, 1867.—The strips enter grooves in the stiles and have projecting plates perforated to receive securing pins. The sashes are grooved for the balance cords and upwardly inclined notches receive the knots of the same. One side of the lower sash is divided vertically transversely, and the outer part has a tongue entering a groove of the other part arranged so as to support it by means of the balance cord, but so that it may be detached for removal.

Claim.—First, the inclined tongue *d* and corresponding groove *c* on the pieces *b* and *b'* respectively of a window sash, substantially as and for the purposes described.

Second, the projections *d'* on the inclined tongue *d*, slots *c'*, springs *d²*, and eyes *c²*, on the pieces *b* and *b'* respectively of a window sash, substantially as and for the purpose described.

Third, the eyes *g'* on the strips *g* and pins *j* passing through the same and the window frame, substantially as described.

Fourth, the tongue *g²* on the strip *g*, and corresponding groove in the frame *A*, substantially as and for the purposes specified.

Fifth, the above described mode of removing and replacing window sashes from frames, substantially as and for the purposes specified.

64,075.—P. J. CLARK and JOSEPH KINTZ, Meriden, Conn., assignors to SAMUEL S. CLARK, same place.—*Lantern.*—April 23, 1867.—The guards for retention of the globe are attached to the cap above and to a ring at the middle of the bulge. One guard is hinged to the ring below; the others are clasped by catches.

Claim.—First, the guards *D*, any suitable number constructed, each of one piece of wire bent or doubled, attached to the cap *B*, and arranged so as to retain the glass globe *F*, substantially as set forth.

Second, the connecting of the lower end of one of the guards *D* to the base *A* to form a hinge or joint *c* with a catch or fastening *e* secured to the base *A* to catch over the lower end of the guard which is in line with it, substantially as shown and described.

64,076.—JOHN CLARRIDGE, Pancoastburg, Ohio.—*Corn Planter.*—April 23, 1867.—The devices are intended to enable the machine to drop accurately, cover securely, and adapt itself to the unevenness of the ground over which it passes.

Claim.—First, the steel plow *H* when constructed and attached to the shank *I*, substantially as herein described and for the purpose set forth.

Second, the combination of the slide bars *M*, the inclines *P'*, or equivalent arms or levers *D'* and valves *B'* with each other and with the plow frame *E*, substantially as described and for the purpose set forth.

Third, the combination of the circular valve *V* with the seed reservoir *T*, hopper *S*, and sliding bar *M*, substantially as herein described and for the purpose set forth.

Fourth, the combination of the upwardly projecting pins *J'* with the valves *H'* or *V'*, and with the seed reservoir *T*, substantially as herein described and for the purpose set forth.

Fifth, the combination of the vertical stirring shaft *K'* having horizontal arms with the seed reservoir *T*, hollow shank *I*, and with sliding bar *M*, substantially as described and for the purpose set forth.

Sixth, the coupling *G*, when constructed substantially as herein described and for the purpose set forth.

Seventh, the combination and arrangement of the seed reservoir *T*, hopper *S*, arms *V*, levers *W¹* *W²*, and connecting rods *A¹* *A²* with each other, with the sliding bar *M* and with the plow frame *E*, substantially as herein described and for the purpose set forth.

Eighth, the combination of the lever *O* and *P* and sliding bars *M* with each other, with the plow frames *E*, and with the frame *A* of the planter, substantially as described and for the purpose set forth.

Ninth, the combination of the cords *X'*, pulleys *B²*, shaft *V'*, ratchet wheel *Y'*, pawl *Z'*, bevel wheel *U'*, and foot wheel *S'*, with each other, with the plow

frames *E*, and with the frame *A* of the planter, substantially as herein described and for the purpose set forth.

Tenth, the combination of the lever *P'*, slide bar *N'*, and bent lever *M'*, or equivalents, with each other, with the slide bars *M* and with the frame *A* of the planter, substantially as described and for the purpose set forth.

Eleventh, the combination of the shovel plow *I*, and strengthening rods *A³*, with each other and with the flanged lever end of the hollow shank *I*, substantially as described and for the purpose set forth.

Twelfth, constructing the hollow shank *I* with a double convex head *i i'*, cast upon its upper end and a projecting flange *i²* and arms *i³* upon its lower end, substantially as described and for the purpose set forth.

Thirteenth, placing the seed reservoir *T* directly above the hoppers *S*, and cutting away the side of said hoppers, substantially as described and for the purpose set forth.

64,077.—WILLIAM CLISSOLD, Dudbridge Works, near Stroud, England.—*Feeding Mechanism for Carding Machines.*—April 23, 1867.—The fibrous substance is put in a box, from whose lower side groove it is delivered by the reciprocal, forwardly-inclined fingers at the bottom; the material then passes between reciprocating cards to the pressing and forwarding rollers.

Claim.—First, the combination with the inclined reciprocating bars *B* of the reciprocating comb bars *F*, and rods or pressers *K*, for the purpose of discharging the wool or other fibrous material from the feeding box.

Second, the combination with the reciprocating comb bars of pressing rolls *P*, for delivering the wool or other fibrous material to the preparing machine in the form of a bat or sheet.

64,078.—BENJAMIN R. COTTON, Lewiston, Me.—*Roll for Yarn Dressing Machines.*—April 23, 1867.—Old, worn, metallic rolls are coated with metal by casting, plumbing, or in an electro-metallic bath.

Claim.—A dresser roll having a metal coated surface, substantially as set forth.

64,079.—LEWIS B. COVERT, Chicago, Ill.—*Paper File.*—April 23, 1867.—The slides receive the heads of the perforating clasps, to which the papers are attached. When the required number of papers are filed the split ends of the clasps are turned over, making a book.

Claim.—The file or binder, formed of the cover *a* and slides *b*, in combination with the perforated clasps *c*, as and for the purpose specified.

64,080.—JOHN CROCO, Holmesville, Ohio.—*Potato Drill.*—April 23, 1867.—The endless band running on the grooved pulley attached to the wheel actuates the perforated seed disks, which furnish the seed to the tube below at adjusted intervals; the seed is passed from the hopper spout to the seed disk by the operator; a pendent shovel covers the seed.

Claim.—First, the disks *F F'*, constructed and arranged in combination with the guide or tension pulley *J* and pulley *H*, for the purpose and in the manner set forth.

Second, the disk *F F'*, hopper *L*, in combination with the tube *E* and shovel *K*, as and for the purpose described.

64,081.—JOHN L. DIBBLE, New York, N. Y.—*Exercising Club.*—April 23, 1867.—The metallic cylindrical shells contain weights adjustable by rotation of the central screw rod.

Claim.—The metallic cylindrical shell *A A* and the central rod *D D D*, as arranged and combined with the blocks *B B* and *C C*, and adjustable weights *F F*, the whole forming an exercising club, substantially as herein described and set forth.

64,082.—ALEXANDER DICK, Buffalo, N. Y.—*Carriage for Children.*—April 23, 1867.—The wire carriage body is attached to the axles by curved wire springs, and the spokes of the wheels are twofold, radiating from the inner and outer periphery of the hub to the perimeter of the wheel.

Claim.—First, a carriage body formed and constructed of wire, substantially as described.

Second, in combination with a carriage a seat made adjustable, substantially as described.

Third, the arrangement in a carriage of the springs W W and D D, substantially as described.

64,083.—L. M. DOUDNA, Elmira, N. Y.—*Horse Hay Fork.*—April 23, 1867.—The claw tines are pivoted to the inner tube, and are so connected to the sleeve that when the said tube is released from the trip catch, the tines will expand and discharge the load.

Claim.—The tube A and sleeve E, in combination with the spring F, tines or teeth C, lever G and link H, all arranged to operate in the manner substantially as and for the purpose specified.

64,084.—THOMAS H. DUNHAM, Boston, Mass.—*Carpet Wadding.*—April 23, 1867.—Improvement on his patent May 1, 1866, No. 54,312. The fiber is enclosed between two sheets of paper web in its moist state, the selvages of which extend outside the fiber, and are pressed together, making a close sack around the said fiber.

Claim.—A wadding or fabric, having an adherent border or selvage formed of the sheets of paper that project beyond the edges of the batting, and attached to each other, as herein specified, without the use of gum or other adhesive substance, substantially as described.

64,085.—JOHN ENRIGHT, Louisville, Ky.—*Game Register.*—April 23, 1867.—The hand lever by which the works are operated has a finger indicating the number of points in its segmental guide, and its adjustable pawl engages the revolving wheel by either a right or left-hand sweep. The wheel shaft has a tooth, which moves a segmental rack and its indicating finger one point to each revolution of the larger finger.

Claim.—The construction and arrangement of the arm G, working loosely on shaft d', having tooth K upon its inner end, and provided with the double pawl H, spring P, indicating finger T, its lower end working through the slotted segment R, attached to the frame A, toothed wheel D, toothed sector J, bearing the indicating finger L, springs O O I and indicating fingers F, substantially as herein shown and described.

64,086.—OLIVER ETNIER, Mount Union, Pa.—*Cultivator.*—April 23, 1867.—The rudder blade is attached to the rear end of the center beam, and is adjusted by a lever held in position by a rack above. The handles are attached to the cross beams, and united by a cross-bar behind.

Claim.—The combination of the guide blade or rubber B, placed on the rear of the projecting center beam B, and the handles C C attached to the cross beams a, b, arranged and operating substantially as and for the purpose herein described.

64,087.—JAMES W. EVANS, New York, N. Y.—*Car Spring.*—April 23, 1867.—The ends of the spring are placed in spiral recesses in both bottom and top of the cast-iron box, dispensing with grinding them flat.

Claim.—The spiral surface grooves c and e, for the reception of the terminal coils of the spring, cast in the bottom of the box A and head of its cover C, or in any other cast metal bearings provided for the spring, substantially as herein specified.

64,088.—SAMUEL B. FAY, Franklin, Pa.—*Ticket Fastener.*—April 23, 1867.—The legs of the wire loop are twisted to cross each other and form a spring to clasp the ticket against the edge of an object.

Claim.—The loop wires D, twisted and crossing each other for the purpose described, as a new article of manufacture.

64,089.—EDWARD B. FISH, Glen's Falls, N. Y.—*Nicking Screw Heads.*—April 23, 1867.—The ordinary slit or nick has a cavity in the center to receive a corresponding extension on the driver, thus overcoming the danger of the driver slipping out of the nick and marring the furniture.

Claim.—A nicked screw provided with a cavity b in its head, substantially as specified.

64,090.—ADDISON C. FLETCHER, New York, N. Y.—*Air Heating Apparatus for Steam Boiler Furnaces, &c.*—April 23, 1867; antedated April 18, 1867.—The chimney is surrounded by an annular air chamber, closed below and having openings to admit the air at top. The opposite sides of this chamber are connected through nearly their whole height by a flattened diametric pipe. At the bottom of the chamber there are two branch pipes which carry the heated air to a fan blower, from which it passes to the furnace.

Claim.—The air passage or passages E, extending transversely across and through the smoke pipe, chimney flue or exhaust pipe for the whole or nearly the whole length of, and in combination with, the jacket D, surrounding the said pipe, chimney or flue, substantially as and for the purpose herein specified.

64,091.—D. L. FURNIER, Rostraver, Pa.—*Riddle for Sand Washers.*—April 23, 1867.—The screen revolves on its axle, being operated by a hand crank and wings on the axle; running water passes through the trough to separate the particles of sand and prevent clogging of the meshes.

Claim.—A hollow screen or riddle, revolving on an axis, with one portion always immersed in a vessel through which a stream of water constantly flows, when said riddle receives the earthy sand into its interior at one end and discharges the coarser particles over a tail chute at the other end, as set forth and described.

Also, in combination with a hollow revolving riddle, constructed substantially as described, and revolving in a water trough B, the chute M, and stirrers N N, for the purposes set forth.

Also, in combination with a hollow revolving riddle, constructed substantially as described, the web P and tail spout L, for the purposes set forth.

Also, in combination with a hollow revolving riddle, constructed substantially as described, the wings O O, upon its outer side, to agitate and remove the sand from the trough, as set forth.

Also, the combination with the hollow revolving riddle and bed frame A, provided with the trough B and waste chute C, constructed and arranged as set forth and described.

64,092.—WM. FUZZARD, Chelsea, Mass.—*Carpet Lining.*—April 23, 1867.—The corrugations confer elasticity.

Claim.—As a new article of manufacture, a carpet lining constructed of stiff paper, pasteboard, or a sized textile or other suitable fabric, bent, corrugated, or folded, to effect the result, substantially as herein set forth.

64,093.—JOEL GARFIELD, Groton, Mass.—*Hay and Cotton Press.*—April 23, 1867.—The follower is progressively forced down by toggle levers with co-operative ratchet and pawl attachments. The follower is swung up with the hinged frame to open the press.

Claim.—In combination with the follower, the grooves or ways at the ends of the press and their sliding pins, the vertical ratchets and their double set or sets of pawls and toggle levers, when so arranged that an intermittent progressive movement is imparted to the follower by their co-operative movements, substantially as set forth.

Also, in combination with the follower, the hinged frame d, by which the follower may be swung up to leave the press open, substantially as set forth.

64,094.—GEORGE W. GRADER and MATTHIAS H. BALDWIN, Memphis, Tenn.—*Street Pavement.*—April 23, 1867.—The iron frame for the reception of the wooden blocks is made in sections, and the lower flange of each alternate corner is cut away angularly to receive the alternately salient corners of the adjoining sections.

Claim.—Interlocking the sections of the frame A by means of the protecting flanges c on every alternate corner of each section, fitting into a recess b under the corner of the opposite section, thereby preventing the pavement from settling or getting out of line, as herein shown and described.

64,095.—C. S. S. GRIFFING, Geneva, Ohio.—*Combined Fence and Gate.*—April 23, 1867.—Improvement on his patent May 24, 1864. The panels are supported by the angular frames, which are stayed laterally by braces. The bars projecting beyond the cleats slide into and are secured by the angular frame. The top of the gate is secured by notches embracing the cross-ties on the posts.

Claim.—The panel G, arranged as described, and in relation to the panels A and braces B, when combined so as to form a gate and panel, jointly, in the manner and relatively as specified.

64,096.—JACOB B. HAINES, Millersville, Pa.—*Fruit Gatherer.*—April 23, 1867.—The curved fingers are attached to a shaft with which the actuating wire communicates; the apple is thrown into the hood, the coil around the shaft reinstating the fingers in position. Elastic bands around the sleeve break the fall of the fruit, and an extension sleeve is attached by buttons.

Claim.—The arrangement of the fingers A, lever arms E, in combination with the coiled springs D, all surrounding a rigid shaft B, centrally affixed to the top of the pipe K, and also connected with the horizontal and vertical bows I K, the latter connected by cross curves L M N, operating jointly in the manner and for the purpose specified.

Also, in combination with the specific framework, the use of a sleeve or bag N, elastic bands O, buttons P, actuating wire F, cord H, and handle S, all arranged and operating in the manner and for the purpose set forth.

64,097.—MANLEY HALL, Livonia, Mich.—*Potato Digger.*—April 23, 1867.—The scoop is pivoted to the lower angle of the stays, and is vertically vibrated by ropes running over pulleys and connecting with the shaft, ratchet and pawl lever above. An elevator with cross-ties and rigid teeth receives the potatoes from the scoop and passing over a series of parallel bars drops them on the suspended sieve, which is operated by a train of gearing in connection with the driving wheel. The potatoes on leaving the sieve fall into conductors which deposit them in baskets.

Claim.—First, the scoop E, grating *f*, and bars M, as arranged in combination with the elevator, as constructed, of the belts L and cross-ties L', armed with the teeth *a*, and the rake Q, for the purpose and in the manner substantially as set forth.

Second, the sieve N, conductors P P', when arranged and operated conjointly in combination with the elevator and rake Q, and scoop E, as and for the purpose substantially as herein described.

64,098.—THOMAS HALL, Boston, Mass.—*Voltaic Bracelet.*—April 23, 1867.—Curved lips and slots connect the voltaic plates, which with a buckle and strap constitute a voltaic band.

Claim.—The series of plates, of different metals, attached to each other by double hooks, formed upon one side of each plate, and entering corresponding slots cut at the opposite edge of each plate, the hooks being passed through the leather or cloth strap, and clinched upon the side opposite to the plates, substantially as herein described.

64,099.—CYRUS H. HARDY, Charlestown, Mass., assignor to himself and GEORGE JAQUES, Boston, Mass.—*Apparatus for the Manufacture of Soap.*—April 23, 1867.—The different ingredients or separate charges are discharged from the upper tier of kettles into the lower kettle by pipes; the latter kettle has curved disks rotating in contrary directions at its bottom to stir the soap.

Claim.—Placing the several soap-forming ingredients in separate and independent receptacles B E F with or without steam jackets, and provided with pipes *e f g* for conducting the ingredients to the receptacle G, in which they are heated, the supply of the ingredients thereto being regulated by suitable valves or stop cocks *h i j*, substantially as and for the purposes specified.

Claim.—In connection with the above the employment of agitators I J, operating substantially as set forth.

64,100.—SAMUEL and DANIEL A. HARRIS, Shippenburg, Pa.—*Horse Hay Fork.*—April 23, 1867.—

The back end of the tine is connected by a rod to the end of the trip lever which forms one portion of a toggle. The weight of the load keeps the tine extended until tripped by the trigger cord.

Claim.—Pivoting the lever E to the forked arm F of the bar A, and to the lever D as herein described, in such a manner that the weight upon the finger C will cause the upper end of the lever E to be drawn toward said bar A, thereby securing and retaining the finger C in a horizontal position, as herein shown and described.

64,101.—STEWART HARTSHORN, New York, N. Y.—*Window Shade Roller.*—April 23, 1867.—The weighted blind and spring counterbalance each other, so that a slight pressure of the hand will operate the blind.

Claim.—The construction and arrangement of the short fixed shaft E above the shade roller A, surrounded by the spiral spring D, one end of which is secured thereto at *b*, the other end attached to the loose hub F of the gear wheel C, meshing into the gear wheel B upon the end of the shade roller, substantially as herein shown and described for the purpose specified.

64,102.—ELIZABETH HAWKS, Troy, N. Y.—*Auxiliary Air Chamber for Stoves.*—April 23, 1867.—The oblong rectangular cover is open toward the fire and at the bottom, and has a slot in front for admission of a raker. It is used for heating the air previous to its entering the fire chamber.

Claim.—The shield A with the open horizontal slot B near its top, constructed and used as and for the purpose set forth.

64,103.—JOHN HEGEMAN, Viseher's Ferry, N. Y.—*Pontoon Boat.*—April 23, 1867.—The bottom, sides, and inclined ends of the boat are connected by hinges and engaged by hooks when in the position for use or transportation.

Claim.—The combination of the hinged parts consisting of the bottom A B, the end sections C, central sections F, and side end sections H, when the sides and end sections are so constructed as to fold over on the bottom of the boat, in the manner described.

64,104.—THOMAS N. HENDERSON, Jackson, Mich., assignor to HENDERSON and COOLEY.—*Horse Hay Rake.*—April 23, 1867.—The drop is adjustable on its cross bar and is operated by a lever attached to the same.

Claim.—The combination of the adjustable drop C, rolling cross bar K and operating lever E, with each other and with the handles G' and teeth I of the rake, substantially as herein shown and described and for the purpose set forth.

64,105.—BENJAMIN HILBERT, Cincinnati, Ohio.—*Lubricator for Machinery.*—April 23, 1867.—Explained by the claims and illustration.

Claim.—First, the transparent reservoir consisting of a glass globe A in which the decrease of the lubricating material may be observed without detaching it from the bearing, and allowing of its insertion in an inclined position.

Second, a conducting pipe E with its end resting upon the journal or other moving metal, so that the surface of said metal closes the orifice when at rest, and when in motion acts mechanically to draw out a sufficient quantity of oil, as herein set forth.

Third, a lubricating apparatus constructed in two portions, one permanently attached to the box or in other desired position, while the reservoir and conducting pipe are simply inserted in this outer pipe so as to be removable at pleasure.

Fourth, the arrangement of screw-threaded outer pipe G and pinching nut I to enable the adjustment of the tubes, as shown and set forth.

64,106.—J. DEAN HUFFMAN, Springfield, Ohio.—*Stump Extractor.*—April 23, 1867.—The cylindrical fulcrum has eccentrically journaled wheels which are raised from the ground when the action commences, but are brought down to sustain the stump and enable its removal after it is drawn from the ground.

Claim.—First, the lever A of a stump puller in com-

bination with the cylindrical fulcrum B, supporting the wheels C, eccentrically attached thereto, substantially in the manner and for the purpose set forth.

Second, in combination with the slotted lever A, eccentrically attached, the fixed cylindrical fulcrum B, adjustable extension hook D, and stirrup E, when constructed and arranged substantially as set forth.

Third, the arrangement of the slotted lever A with the plate A² and bite A³, adjustable extension hook D, and chain F, and eccentrically attached fixed cylindrical fulcrum B, substantially as set forth.

Fourth, in combination with the lever A, eccentrically attached fixed cylindrical fulcrum B, and stirrup E, the hooked clevis x, substantially as and for the purpose set forth.

64,107.—WM. HUMPHREYS, JR., Cold Spring, N. Y.—*Machine for Blocking and Stretching Hat Bodies.*—April 23, 1867.—The body of the hat is held by an inside cap piece next to the brim and a corresponding cylindrical piece over the outside; a series of levers working on half journals are connected to the inner piece, and spring fingers hold the edge of the brim while stretching; a series of adjustable pieces connected to the outer annulus, coming between the levers, give an extra stretch to the brim, to enable it to retain its shape when unblocked; the body and crown are stretched by the series of levers attached to the inner annulus acting in connection with the circular wedge piece. Arrangements are cited for the vertical adjustment of the outer annulus and its connected portions, and for holding it in position.

Claim.—First, a series of stretchers O, in combination with the levers F, for the purpose of overstretching the brim, substantially as described.

Second, making the said stretchers adjustable vertically so as to regulate the extent of stretching, substantially as described.

Third, the combination of a series of levers F, hinged to the base plate D, springs i, and levers or clamps G, rods H, and plate I, constructed and operating substantially as described.

Fourth, the sleeve J, which carries, by means of its connections, the wedge M, for operating the levers N, made adjustable in a vertical direction, substantially as set forth.

Fifth, a series of levers N, hinged to the stationary base plate D, in combination with the circular wedge M, adjustable sleeve J, and its connections, arranged and operating substantially as described.

Sixth, the combination of rods Z Z', catches j, springs k, pins r, slotted levers Y, and shaft W, arranged to operate the cylindrical cap piece E, substantially as described.

Seventh, in combination therewith with the lever a, rods d and e, wheel U, and its pin m, for governing the operation of the same, substantially as described.

Eighth, the arrangement of the hand lever e, with the projection t, and stop o, on the rod Z', in combination with the tappet arrangement of the pin n, on wheel U, and the projection g, on rod f, constructed and operating substantially as set forth.

Ninth, the base plate D, to which are hinged the levers F, in combination with the cylindrical cap piece E, carrying the brim stretchers O, the whole arranged and operating substantially as and for the purpose set forth.

Tenth, the lever F, having its journal arranged to operate with base plate D, substantially as described and for the purpose set forth.

64,108.—A. B. HURD, Watkins, N. Y.—*Gate.*—April 23, 1867.—The friction rollers run on the sustaining bar which is pivoted to and swings on the cross cleat of the main post.

Claim.—First, the bar B, pivoted on the cleat n, and having its rear end engaging with the hook b, as a support for the gate A, substantially as shown and described.

Second, mounting the gate A, on friction rollers arranged to run on the bar B, and having both gate and bar swing around, as set forth.

Third, the staples d, with the friction rollers mounted thereon, and said staples arranged to embrace the bar, as shown and described.

64,109.—ANTHONY ISKE, Lancaster, Pa.—*Sash Rope Plate.*—April 23, 1867.—An opening is made in the sash behind the plate to receive the knot of the

rope which is passed through the plate and then slipped upward in the slot.

Claim.—The specific arrangement of the plate A, with its circular opening B, slot C, groove D, and beveled convexity E, on the back, all arranged in the manner and for the purpose specified.

64,110.—PETER H. JACKSON, New York, N. Y.—*Boat Detaching Tackle.*—April 23, 1867.—The davit, links enter vertical sockets and are engaged by the ends of the right and left screw bolts, which are simultaneously retracted by rotation of the central nut.

Claim.—The cylinder g, feather i, lever k, and fork h, in combination with the bolts e e, having right and left-handed threads, said bolts taking eyes or rings on the ropes or chains passing to the davits, as set forth and for the purpose specified.

64,111.—JACOB L. KINTNER, Harrison, Ind.—*Hay Elevator.*—April 23, 1867.—The inclined toothed bars are operated by cranks, so that while one is at the highest point with the load, the other is loading and ready to ascend.

Claim.—The guide bars F F, having their lower ends connected to a curved plate, in combination with the rake G and bars A A, all constructed and operating in the manner and for the purpose set forth.

64,112.—D. P. LACEY, Oxfordville, Wis.—*Shower Bath.*—April 23, 1867.—By drawing the cord attached to the pivoted lever the valve is raised, disclosing a perforated section in the bottom.

Claim.—First, constructing and operating the valve substantially as and for the purpose set forth.

Second, the valve arrangement constructed as specified, in combination with a vessel for containing water, substantially as set forth.

64,113.—GORGES LIONEL LECLANCHÉ, Paris, France.—*Galvanic Battery.*—April 23, 1867.—The porous vase has a graphite plate to form the positive pole, and is filled up with a mixture of powdered graphite and peroxide of manganese. The enclosing jar has a plate of zinc and is filled with sand or sawdust moistened with a concentrated solution of chlorohydrate of ammonia. The cork has a central glass tube, and over this is a disk of rubber whose edges are secured to the wax, its middle slit forming a gas escape valve. The accumulator is composed of two jars containing each a plate of graphite, or other non-oxidizable substance, buried in powdered graphite moistened with a solution of potash.

Claim.—In combination the graphite plate or plates, the flask, and the porous vase, the flask and vase being charged and the whole apparatus being arranged to operate substantially as set forth.

Also, the employment in electrical piles of peroxide of manganese moistened with a liquid containing a salt in solution which has no chemical action on the peroxide of manganese, the salt used being capable by its electrolytical decomposition of rendering soluble the oxides of manganese arising from the reduction operated by the hydrogen.

64,114.—EDWARD S. LENOX and EDWARD SPAULDING.—New York, N. Y.—*Potato Digger.*—April 23, 1867.—The pivoted scoop has flaring wings to widen the track, and cutters and mold boards to displace the side earth laterally; the riddle following is driven by gearing from one of the supporting wheels. The scoop is supported in front by pivoted bars connected to the beam, with notched vertical bars and an adjustable lever. A caster wheel supports the front of the beam.

Claim.—First, the potato digger, consisting of the frame A, secured to the axle B, caster wheel D, suspended scoop E, with wings G G, curved bars h, riddle F, vibrated by suitable gearing N, cutter H, mold board I, toothed vertical bar i, chain k, and lever l, constructed and operating substantially as herein shown and described.

Second, the scoop E, when provided with a concave cutting edge to prevent the bursting of the hill, in combination with the wings G, as set forth.

Third, the vibrating riddle F, consisting of bent sheet metal bars, which are so arranged that the ends of the center bars drag on the ground, and those of other bars are elevated above the ground, substantially as and for the purpose herein shown and de-

scribed, in combination with the mold boards H and I, substantially as herein set forth.

Fourth, the mold boards H and I, when arranged as herein described, in combination with the wings G and scoop E, all made and operating substantially as and for the purpose herein shown and described.

Fifth, extending the sides or wings G, beyond the bottom of the scoop E, substantially as and for the purpose herein shown and described.

64,115.—M. LE PAGE and F. RAYMOND, Woodhaven, N. Y.—*Seat for Lounge Chair*.—April 23, 1867.—The rectangular frame has a rabbet, in which the arched springs are clamped by the strip, being further secured below by screws. An elastic longitudinal brace crosses each strip, and is riveted at its point of intersection with each.

Claim.—The strip C, curved on its profile in the arc of an ellipse, in combination with the rabbet a, curved in the arc of a circle, for clamping the ends of the spring B, substantially as and operating in the manner set forth.

64,116.—ELLIOT LEWIS, Lockport, N. Y.—*Sad Iron*.—April 23, 1867.—The feet of the removable handle slide forward beneath cross-bars in the slotted base, and are secured in position by a spring bolt in front.

Claim.—The detachable handle E, provided with feet g and slide bolt h, in combination with the way b, cross wires c c, and bolt socket d, arranged and operating substantially as set forth.

64,117.—WILLIAM E. LINCOLN, Providence, R. I., assignor to MILTON BRADLEY & Co., Springfield, Mass.—*Toy*.—April 23, 1867.—The cylinder has vertical sight apertures, and rotates horizontally. A series of figures are placed around within the cylinder, and by individually representing positions in a progressive series, convey the impression of action to the eye of the observer, as they are successively presented at a rate beyond the capacity of the organ to detect an interval in the succession.

Claim.—First, the device herein described, consisting of the revolving cylinder A, with any number of slits a b c d e, and having figures upon its inside surface, and arranged and constructed substantially as set forth.

Second, the plate F having any desired figures upon it, arranged in the manner and for the purpose described.

Third, the plate B upon the bottom of the cylinder having any desired figure or figures upon it, formed substantially in the manner and for the purpose set forth.

64,118.—WM. H. LIVINGSTON, Johnstown, N. Y.—*Hand Saw*.—April 23, 1867.—The rod is strengthened by a plate below, is bent and passes at a right angle through the handle, where it connects with the metallic tightening buckle, which engages both handle and saw.

Claim.—First, connecting the metallic back of a frame saw to the handle by passing the frame into a hole in the handle, substantially as specified.

Second, attaching the metallic tightening buckle d to the lower edge of the wooden handle a, in the manner set forth.

Third, a metallic tightening buckle, formed with a slot for the reception of the end of the saw, a hole for the screw rod i, and a nut to screw upon the rod e, as set forth.

Fourth, the stiffener plate c' and the rod e, forming the frame of the saw, as and for the purposes set forth.

64,119.—MICHAEL F. LOWTH and THOMAS J. HOWE, Owatonna, Minn.—*Cultivator*.—April 23, 1867.—The pivoted shovel beams are attached to an adjustable transverse bar connecting with grooved quadrants on the ends of a journaled shaft vibrated by a segmental lever.

Claim.—The combination with the quadrant J of the adjustable segment M, for the purpose of changing the position of the lever N, substantially as and for the object specified.

Second, the combination of the quadrants J J', segments M, shaft K and lever N, with the chains or flexible connections I, connecting bar H and shovel

beams D, all arranged and operating in the manner and for the purpose specified.

64,120.—JOHN LUNGER, Waldo, Ohio.—*Wagon Seat Supporter*.—April 23, 1867.—The standards straddle the side boards, and the outer leg slides within staples outside. The springs are bolted to the bow on the upper ends of the standards.

Claim.—The standard B, constructed substantially in the manner set forth, and used as and for the purpose specified.

64,121.—JOHN LYLE, Newark, N. J.—*Combination Tool*.—April 23, 1867.—The outer jaw in combination with two movable jaws constitute a punch on one side and pliers on the other.

Claim.—First, the U-shaped jaw A, in combination with two movable jaws B C and handles D E, constructed and operating substantially as and for the purpose described.

Second, the stop f, in combination with the U-shaped jaw A and movable jaws B C, constructed and operating substantially as and for the purpose set forth.

64,122.—ANDREW J. MAPES, Independence, Mo.—*Washing Machine*.—April 23, 1867.—The floating rubber board lies in the bottom of the box and has rollers in the middle actuated by the slats of the main wheel, which is geared to a smaller wheel above when churning. The wringer bag is attached to a bolt at one side of the machine, and passing over the small wheel to a crank at the other side, the moisture is ejected by twisting.

Claim.—First, the buoyant or floating rubber board B, constructed substantially as herein shown and described and for the purpose set forth.

Second, the combination of the large wheel C and small wheel E with each other and with the rubber board B, box A, and frame D of the machine, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the long levers I, pitmans J, pulleys K and L, and bands M, with each other and with the wheels C and E and frame D of the machine, substantially as herein shown and described, and for the purpose set forth.

64,123.—THOS. J. MCGARRY, Cleveland, Ohio.—*Vessel for Storing and Transporting Oil*.—April 23, 1867.—The barrel-shaped tank has double walls, having a space between them filled with water, and is supported upon journals having bearings in the standards attached to the ear truck. The oil is discharged through an outlet in the bottom of the tank, which is closed by a valve attached to a rod.

Claim.—First, the tank A with shell and lining B, having a water chamber at the sides and ends, in combination with inlets and outlets, arranged as and for the purpose substantially as set forth.

Second, hanging the tank upon journals or bearings as and for the purpose set forth.

Third, the saddles N provided with spring bearings in combination with the tank, substantially as and for the purpose set forth.

64,124.—JAMES McLAUGHLIN, Duncannon, Pa.—*Railway Switch*.—April 23, 1867.—The shifting rails are not pivoted but allow movement by their flexibility. The meeting ends slide in a depression of the chair, and are attached together by a bolt traversing their longitudinal horizontal slots. These rails are kept asunder by brace rods.

Claim.—The movable elastic frog continuous with and forming part of the adjoining rails C C, their conveying slotted ends joined together in the slotted chair G by means of the bolt F, their elastic or disengaged portion connected together by means of the cross-rod d in combination with the main rails A A, branch rails B B, and operated by means of the crank e and sliding bar I, substantially as herein shown and described and for the purpose specified.

64,125.—SAMUEL MELSON, Erie, Pa.—*Paint Oil*.—April 23, 1867.—Composed of boiled linseed oil 22 galls.; benzine 16 galls.; rosin 56 lbs., and Japan drier 3 galls. White coppers or magnesia may be substituted for the Japan drier.

Claim.—The paint oil composed of linseed oil, ben-

zine, rosin, and the paint-dryer, in the proportions substantially as set forth, and prepared as described.

64,126.—BENJAMIN F. MILLER, New York, N. Y.—*Pavement.*—April 23, 1867.—The series of blocks lay at an angle of about 45° and distribute the weight and strain over a larger surface.

Claim.—A pavement formed of blocks laid at an inclination, so that one block lies partially upon the side of the next, substantially as set forth.

64,127.—CHARLES MILLER, St. Louis, Mo.—*Loom.*—April 23, 1867.—Antedated April 10, 1867.—The lay frame is actuated by a single crank on the end of a shaft running half way across the loom. The picker staffs are operated by stops upon a bar reciprocated endways by a cam wheel, each of the staffs coming in contact with its proper stop by the said movement of the bar. A vertically sliding post gives journal-bearing to a lantern frame, one of whose disks has a ratchet wheel on which a fixed pawl acts to rotate it by the vertical reciprocation of the frame. This reciprocation is effected by the oscillation of the lay frame. Bridge plates sliding on the rods are so adjusted as to come in contact when at their highest point with one of a series of studs, each connected to a set of harness to operate the same by the vertical movement of the frame.

Claim.—First, the combination of the short shaft B', the crank b, and rod b', when the whole are arranged in connection with the lay frame, in the manner and for the purpose described.

Second, the combination and arrangement of the shifting bar D and its stops d and the picking sticks C'.

Third, the ratchet E and its star-shaped groove e, for the purpose of giving the required motion to the shifting bar.

Fourth, the combination of the ratchet E and the lever E', substantially as described and for the purpose set forth.

Fifth, the combination and arrangement of the twill governor, composed of the devices F² F³ F⁴ F⁵ F⁶ f¹ f² f³ f⁴ f⁵ f⁶ and f', substantially as described and set forth.

64,128.—JOSEPH A. MILLER, New York, N. Y.—*Chimney or Ventilator.*—April 23, 1867.—The smoke stack has annular variously inclined planes, divided into radiating compartments, which catch the wind and increase the draft.

Claim.—The smoke stack A provided with annular inclined planes B C, having different inclinations, leaving a space divided into compartments by the radiating partitions D, constructed and operating as and for the purpose specified.

64,129.—A. J. MILLS and E. M. HEWETT, Scott, N. Y.—*Clothes Dryer.*—April 23, 1867.—The two series of slats are pivoted between metal plates which are bolted to a wall.

Claim.—The within-described dryer composed of the plate A' with its flanges and the pivoted slats B B, the same being used substantially as and for the purpose specified.

64,130.—GEO. M. MORRIS, Cohoes, N. Y.—*Oiling Device for Journal Box.*—April 23, 1867.—The revolving disk, which dips into the oil receptacle, is journaled in a removable plate and carries up oil to the shaft.

Claim.—First, forming inclined shoulders D and the oil chamber or reservoir C of the journal box, substantially as herein shown and described and for the purpose set forth.

Second, the inclined removable slotted plate E in combination with the inclined shoulders D of the journal box, and with the oiling disk F, substantially as herein shown and described and for the purpose set forth.

64,131.—FELIX MURRAY, Pittsburg, Pa.—*Apparatus for Rolling Clevises and Plow Shares.*—April 23, 1867.—The faces of the rolls are so recessed as to form blanks for the articles named.

Claim.—The rolling or forming of clevises and shares for plows by means of the rollers B B' provided respectively with the grooves a b c and d, and arranged with a stripping or guide roller D, to ope-

rate substantially in the manner as and for the purpose set forth.

64,132.—GEORGE H. MYERS, Philadelphia, Pa.—*Steam Engine Slide Valve.*—April 23, 1867.—The valve has a cavity at top containing packing of alternate rubber and prepared paper, having springs beneath forcing an upper plate against the valve cap, which is slotted to permit the traverse of a pin of the valve rod. This pin transfixes the slide plate and packing, and enters the valve to actuate the same.

Claim.—First, the cavity a in the top of the valve, in combination with springs d, packing piece b, and a top plate c, constructing and operating substantially as and for the purpose described.

Second, the slide c, working on the outside of the steam chest and provided with a pin f, to catch in a socket in the valve, in combination with the top plate c and packing piece b, constructed and operating substantially as and for the purpose set forth.

64,133.—J. H. NONAMAKER, Middletown, Pa.—*Farm Gate.*—April 23, 1867.—The rear of the gate has rollers whose grooves receive the edges of the fence boards, and the free end of the gate has a ground roller and enters a vertical groove of the gate post.

Claim.—The combination and arrangement of the grooved pulleys D and F with the rear end of the gate A, and with the rails E and G of the panel of the fence adjacent to the rear end of said gate, substantially as herein shown and described.

64,134.—R. J. NUNN, Savannah, Ga.—*Land Conveyance.*—April 23, 1867.—The curve-ended frame is supported on a series of grooved friction rollers running on an endless flexible band operated by a driving wheel, friction being enforced by two adjustable rollers above.

Claim.—The grooved rollers B and ribbed band C, in combination with the curved end frame A bearing the working parts, which communicate motion to the band, constructed and applied as described, for the purpose specified.

64,135.—ALFRED PARAF, Mulhouse, France.—*Copper-coated Iron Rolls for Printing and Finishing.*—April 23, 1867.—The turned and polished cast-iron roll is placed in an electro bath containing a copper solution and a copper plate. The solution consists of sulphite of soda, cyanide of potassium, acetate of copper, ammonia and water, and after certain described treatment the roll is treated with acid, washed and placed in a second electro bath of sulphate of copper, sulphate of soda, and sulphuric acid. The object is the deposition of a heavy coat of copper capable of being turned and polished.

Claim.—A new manufacture, marking, printing or finishing rollers of cast iron, and coating the same with copper, substantially in the manner and by the means herein specified.

64,136.—EPHRAIM PARKER, Marlow, N. H.—*Stove-pipe Damper.*—April 23, 1867.—The caloric current is driven circuitously by two adjustable disks operated and secured by a thumb screw with a spiral friction spring attached.

Claim.—A damper made of two parallel plates or disks whose edges are cut away at opposite sides, and to one of which is pivoted, hinged or adjusted near the side thus cut away a valve or slide, the whole device constructed so as to operate substantially as described.

64,137.—BENONI F. PARTRIDGE, Syracuse, N. Y.—*Quilting Frame.*—April 23, 1867.—The bars are secured to the rollers by set screws, and to the extension bars by guide straps. The extension bars act as legs, and are slotted and adjustable to suit the contraction of the quilt.

Claim.—The combination and arrangement of the axis, the rollers, the extension bars, the legs, the set screws, the guides, the stay rods, the slot in the extension bars, all constructed and operating substantially as and for the purpose shown and described.

64,138.—H. E. PASSMORE and G. A. HECKERT, York, Pa.—*Railroad Switch.*—April 23, 1867.—The switch rails are attached by their rear ends, so that

they will spring in position to form unbroken connection of the main track, but have sufficient pliability to shift by the passage of a train from the side track.

Claim.—First, the pointed spring rails C C, moving on the slide plates E E and lug plates F F, in combination with rails X X.

Second, the double-notched guard rails D D, in connection with the pointed spring rails C C, to guard the wheels from striking the points of the said spring rails X X.

Third, the single-lipped switch rod G, which allows the pointed spring rails C C to move back, in combination with spring rails, &c.

Fourth, the combination of the pointed spring rails C C, moving on the slide plates E E, the lug plates F F, and the single-lipped switch rod G, in connection with the guard rails D D, in the manner and for the purpose herein substantially set forth.

64,139.—NARCISSE PIGEON, Montreal, Canada.—*Manufacture of Starch Sugar.*—April 23, 1867.—The lead-line boiler has a supply at top, as also a pressure gauge, thermometer, and safety valve. Steam is admitted near the bottom by a lead pipe, which traverses the interior. To 40 lbs. of boiling water add gradually, maintaining the boiling heat, 1,000 lbs. of starch, acidulated with one per cent. of sulphuric acid diluted with water at 130° Fah. The contents are then raised to 300° Fah., then settled with 30 lbs. whitening and 40 lbs. bone dust. Evaporate to 21° Baumé and stand for the precipitation of sulphate of lime. The acid in the sirup is neutralized by hydrate of soda, and the saccharine solution condensed by further evaporation.

Claim.—First, the within-described process of manufacturing a crystallizable sirup from fecula, free from dextrine, or nearly so, substantially as herein set forth.

Second, the within-described process of manufacturing a hard crystallized sugar from starch sirup prepared from fecula, as above described, substantially as herein set forth.

64,140.—GEORGE M. D. POMEROY, Attica, Ind.—*Gate Latch.*—April 23, 1867.—When the bolt attached to the gate strikes the catch on the back of the latch, the latter rises in its slotted frame and falls again by its gravity.

Claim.—A gate latch consisting of the parts B C and D, constructed and arranged for use as described, acting in combination with the pin A, substantially in the manner and for the purpose set forth.

64,141.—WILLIAM PORTER, Sr., and WILLIAM PORTER, Jr., New York, N. Y.—*Lantern.*—April 23, 1867.—To attach the top and base together, two of the vertical guard wires pass through a horizontal flange of the base. One of them is secured by a lateral extension, and the other by a hook, which enters the eye at its end.

Claim.—The lower guard ring c, when made of sheet metal, as described, so as to permit of a prolongation of the guard wires, substantially as herein shown and set forth.

64,142.—W. S. POTWIN, Chicago, Ill., assignor to FRANK STURGES & Co., same place.—*Bottom for Culinary Steamers.*—April 23, 1867.—The bottom of the steamer has circular beads above for the contents to rest on, and a perforated groove below to drain off the moisture.

Claim.—The bottom of the steamer provided with the deep groove B, near its outer edge, projecting downward and surrounding the raised center, which is provided with the raised concentric ribs A, whereby perforated concentric channels are formed by the steam condensed within the steamer from the articles being steamed, as herein shown and described.

64,143.—JOHN B. RAINES, Fremont, Iowa.—*Corn Planter.*—April 23, 1867.—The cut-off and plate are beveled to prevent breaking the corn, and the dies are exchangeable to suit different sized grains.

Claim.—The cut-off represented in the drawings by the letters A A A and the dies represented by the letter J, and the bottom of the box in which the corn is placed, represented by the letters A A.

64,144.—JOHN H. RHODES, Brooklyn, N. Y.—*Valve Gear for Water Meter and other Purposes.*—April 23, 1867.—The devices mentioned in the claim are to avoid friction, and consequent injury in respect to the pin and other parts by giving the pin some play, and allowing the rapid flexion of the joint, after reaching the culminating point by the oval form of the lever end, against which the roller impinges.

Claim.—In a valve gear, substantially of the character described, the combination with rod H and its roller d of the lever E, linked as described to said rod by a pin f, arranged to pass through an oblong or oval slot in the lever, and the latter constructed at its outlet end i for gear with the roller d, substantially as specified.

64,145.—CELIUS E. RICHARDS, North Attleboro, Mass.—*Hat.*—April 23, 1867.—The paper twine is sewed together, assuming a shape to suit the taste.

Claim.—A hat fabricated of paper, thread, or twine, substantially as described, as a new manufacture.

64,146.—CHARLES RICHARDSON, Richmond, Va.—*Game for Pastime.*—April 23, 1867.—The board has a series of wells, deflectors, and pins, and the game is played by striking the balls with mallets against the deflectors, the balls on the rebound knocking down the pins without entering the wells.

Claim.—The arrangement of certain devices as hereinbefore described and shown by the accompanying drawings for forming an instructive and amusing game or pastime for the house or field.

64,147.—GEORGE RICHARDSON, Lowell, Mass.—*Let-off for Looms.*—April 23, 1867.—The yarn beam has a spur wheel engaging a pinion on the shaft of a friction pulley. The friction block is upon a lever having an adjustable spiral spring to regulate the tension. An arm upon the brake lever projects upward, and engages an arm of a rock bar, whose radial lip the yarn passes, and serves by its tension to regulate the pressure of the friction block.

Claim.—First, the combination and arrangement of the whip roll d, with its finger e, the lever f, tension spring h, friction pad m and friction pulley g, of any form or shape, substantially as and for the purpose herein set forth.

Second, the cam or pawl q, in combination with the adjustable stand p r and friction brake f, as and for the purpose herein described.

Third, allowing the let-off at the time of the extension of the sheds of the warp by its action on the whip roll, and completely stopping the let-off at the time of beating up the wool by means independent of the whip roll, substantially as herein specified.

64,148.—FRANCIS XAVIER RIZY, Monroe, Mich.—*Musical Rack or Desk.*—April 23, 1867.—The rack is adjustable in an inclined or horizontal direction by transverse bars, pivoted at their connections, and has a thumb screw to fasten it in position, and a foot ledge to support the music.

Claim.—The cross-bars G, in combination with the clamping bars e, the inclined plane h, thumb screw f, slots p, spurs o, enlargements n, and also in combination with the other common devices, such as the foot board d, rack c and instrument a.

64,149.—C. H. L. ROBERTS, Morrison, Ill.—*Churn.*—April 23, 1867.—The horizontal armed dasher is worked by the crank, which also works a shaft with spiral perforated flanges, turning in a trough; the latter receives the cream, and a small quantity of salt from funnels above, and passes the same to the chamber below.

Claim.—First, the arrangement of the shaft G, with its plates b b, and placed within the trough E, in the manner and for the purposes specified.

Second, the box A, with lid d¹, having funnels S t and covered opening x, dasher shaft D, in combination with the trough E, all arranged and operating in the manner substantially as and for the purpose set forth.

64,150.—ELIAS ROTH and GEORGE SHANE, New Oxford, Pa.—*Gate.*—April 23, 1867.—The upper hinge pintle is connected by a toggle joint to the post, and levers extending from the toggle plates have cords connected to posts up and down the road, by which

the gate is drawn up and bent over to release its fastening, and cause it to swing open.

Claim.—First, the combination and arrangement of the bent levers H and I, and short bars K and L, with the gate B, ropes O and N, post A, substantially as herein shown and described, and for the purpose set forth.

Second, placing a roller D under the front cross bar b^2 of the gate B, substantially as herein shown and described, and for the purpose set forth.

Third, the catch G E, constructed and arranged substantially as herein described and for the purpose set forth.

Fourth, forming the horizontal bars b^2 of the gate B, so that they may be oval in their cross section, and placing them with their longest diameter horizontal, substantially as herein shown and described, and for the purpose set forth.

64,151.—W. RUSSELL and B. CARPENTER, Northfield, Ohio, and JOSEPH DRAKE, Boston, Ohio.—*Compound for Curing Foot Rot in Sheep.*—April 23, 1867.—The gland in the heel is dissected out, and the wound treated with a compound of sulphuric acid, $\frac{1}{2}$ oz.; pine tar, $\frac{1}{2}$ oz.; common salt, $\frac{1}{2}$ oz.; and turpentine, $\frac{1}{2}$ oz.

Claim.—The herein described compound, applied as and for the purpose described.

64,152.—E. SEXTON, Munson, Mass.—*Gang Plow.*—April 23, 1867.—The plow beams have flattened bars at each end passing up through sleeves attached to the transversely adjustable longitudinal bars of the frame, and the plows are vertically adjusted by pins passing through these bars. Other bars from the plow beams pass up to levers above the frame by which the plow may be raised from the ground.

Claim.—First, the adjustable bars B, provided with the tubular guides or supports F for supporting the plows, substantially as shown.

Second, in combination with the laterally adjustable bars B, the spring rods l and levers L and m , arranged to operate as set forth.

64,153.—CHARLES SEYMOUR, La Porte, Ind.—*Gate Fastening.*—April 23, 1867.—The sliding catch piece is raised by the side levers. It is held down on the pin by the disk at top, which has a socket to allow its passage in one position.

Claim.—The bed plate C, cap A, sliding bar B, thumb series D D, and circular sock E, constructed, arranged and operating substantially as herein set forth.

64,154.—BENJAMIN F. SHAW, South Danvers, Mass.—*Machine Knitted Hosiery.*—April 23, 1867.—The continuous knitted tube has projections which are bent around to form the heel and toe.

Claim.—As a new article of manufacture, a machine-made stocking, hose, or sock, knit or formed in the manner set forth.

64,155.—GERARD SICKELS, Boston, Mass.—*Shoe Fastening.*—April 23, 1867.—The plate through or around which the lacing passes is rotated to take up the slack of the lacing and is then secured by the sliding catch.

Claim.—A shoe fastening device constructed to operate substantially as set forth.

64,156.—WARREN A. SIMONDS, Boston, Mass.—*Apparatus for Carburetted Gas.*—April 23, 1867.—The vessel is divided by horizontal diaphragms into a vertical series of chambers, each of which has a vertical diametric partition running across. U-pipes connect with the upper and under chambers respectively so as to form overflows and air passages from chamber to chamber. The apparatus is filled from the top.

Claim.—First, the arrangement within the vaporizing vessel of complete disks f and partial partitions g , when combined with tubes h , connecting the respective cells of each chamber alternately with a cell of the chamber above and with a cell of the chamber below, substantially as and for the purpose described.

Second, connecting the cells on different sides of the same disk by independent U-tubes exterior to the cylinder, adjusted, arranged, applied, and operating substantially as described.

64,157.—PHILIP SINZ, Baltimore, Md.—*Mounting Glaziers' Diamonds.*—April 23, 1867.—The diamond block and the breaker are folded against the side of the handle. A spring holds them in either position.

Claim.—The within described glaziers' diamond, the same having the breaker B joined or pivoted to the handle A, and the diamond block swiveled to the breaker, substantially as and for the purpose set forth.

64,158.—CHARLES T. SMITH, Utica, N. Y.—*Metallic Bobbin.*—April 23, 1867.—Improvement on his patent October 16, 1866. The wooden heads are engaged between a shoulder of the metal and the expanded end of the same.

Claim.—The securing of the wooden heads or flanges b on the non-corrosive metal tubes a of bobbins by drawing up a shoulder c on the tubes for the upper surfaces of the heads or flanges b to abut against, and turning up the ends of the tubes a within a concave d , substantially as shown and described.

64,159.—HENRY SMITH, JR., Summit, N. Y.—*Coffin.*—April 23, 1867.—The frame which is prepared for the reception of the glass is flush with the cover of the coffin.

Claim.—The combination of the frame C prepared for the reception of a glass plate with the cover B of the coffin in such a manner that the upper side of said frame may be flush with the upper surface of the said cover, substantially as and for the purpose herein set forth.

64,160.—JOHN A. SMITH, Salem, Mass., assignor to himself and A. S. HODGES, Southboro, Mass.—*Sash Fastener.*—April 23, 1867.—The cam is pivoted in the shell which is attached to the stile and acts against the metal facing of a wooden friction block to sustain or fasten the window.

Claim.—First, the combination with the shell D, cast as described, of the cam lever E and metal faced block f , substantially as and for the purposes set forth.

Second, the combination with the shell D of the pivot a cast upon the inside of the block of shell D, for the purpose stated.

64,161.—S. B. SMITH and E. LINDSLEY, Cleveland, Ohio.—*Pantaloons Guard.*—April 23, 1867.—The metallic band fits the bottom of the trousers leg and is secured by buttons stitched to the trousers, the tongues of the buttons entering slots of the band.

Claim.—The metallic guard A constructed substantially as described, in combination with the hooked buttons C, in the manner and for the purpose set forth.

64,162.—SEABURY SOWLE, New Albany, Ind.—*Skid.*—April 23, 1867.—The curved parallel track has hooks at one end for engagement to an upper hatchway and is constructed of several series of overlying strips.

Claim.—The skid herein described, when composed and constructed as described, with its curved center, and connected by the hooks in the manner and for the purposes set forth.

64,163.—A. B. SPROUT, Hughesville, Pa.—*Horse Hay Fork.*—April 23, 1867.—The two bars are pivoted together like shears. The lower ends of the bars are conform and have cutting edges and shoulders. When closed the fork will cut its way down into the hay, and when opened the shoulders are exposed to hold the hay while the load is lifted.

Claim.—The conform points f and g provided with cutting edges and shoulders or hooks 6 and 7, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

64,164.—OLE O. STORLE, North Cape, Wis., assignor to himself and PERCY B. SMITH, Milwaukee, Wis.—*Horse Hay Fork.*—April 23, 1867.—The connecting rods connect the tines below with the sleeve above, which, slipping on the central shafts, adjusts the tines for entering or retaining the hay. A pivoted lock hook fits into notches in the shaft and is attachable to the cross-bar above to maintain the tines in either position.

Claim.—A horse hay fork when made with prongs A, connecting rods B, sleeve C, shaft D, and lock E, in combination substantially as and for the purpose described.

64,165.—J. E. TATE, Columbia, Tenn.—*Cultivator*.—April 23, 1867.—The forward teeth and the scrapers are adjustable to leave a wider or narrower row. The clevis hook is on one side to enable the horse to walk beside the row. The coverer is a transverse bar of wood concave beneath.

Claim.—First, the adjustable scrapers F constructed as herein shown and described, in combination with the bars G and frame A of the cultivator, substantially as and for the purpose set forth.

Second, the cotton coverer L, constructed as herein shown and described, in combination with the bars F and frame A of the cultivator, substantially as and for the purpose set forth.

64,166.—JAMES EDWARD THORPE, Erie, Pa., assignor to himself and W. J. F. LIDDELL, same place.—*Steam Pump*.—April 23, 1867.—The valve is operated by tappets on its rod engaged by an arm from the piston rod. The action is direct, the steam piston rod carrying the pump piston. The sleeve on this rod has two downwardly-projecting plates, which engage a crank on the fly-wheel shaft. A disk on this shaft has a wrist pin working in a vertical slot of a slide plate connected to the piston rod of the supply cylinder, which communicates with the pumping cylinder and regulates its connection with the water ports.

Claim.—The supply cylinder D, constructed and operating substantially as described, in combination with the pumping engine and the oscillating valve F and chamber E.

Also, the arrangement, substantially as described, for moving the steam valve and the piston of the supply chamber.

64,167.—WILLIAM H. T. TOMLIN, Mullica Hill, N. J.—*Horse Hay Fork*.—April 23, 1867.—The adjusting rope runs over a pulley in the standard, and is attached to the toggle joint lever, which works in the slotted standard and actuates the pivoted forks. The fork is elevated by block and tackle attached to the clevis on the end of the standard.

Claim.—A hay elevator consisting of the two forks C, hinged to the cross-bars c and connected by the toggle joint lever f g, having the loop or guide o working in the vertical groove t of the slotted standard A, substantially as shown and described.

64,168.—ISRAEL D. VANDECAR, Chicago, Ill.—*Excavator*.—April 23, 1867.—The four shovels are arranged in pairs, open and closing toward and from each other, having shanks which enter recesses in the lower end of the vertical post, and are vibrated by levers operated by chains.

Claim.—First, the combination and arrangement of the shovels B, provided with the shanks B', the levers C, arms a, and the post A, when arranged and operating substantially as described.

Second, in combination with the shovels B, provided with the shanks B', the levers C, arms a, and post or center piece A, the connecting chains D, hoisting rope E', and dumping ropes E, when all arranged and operating substantially as and for the purposes set forth.

64,169.—ISRAEL D. VANDECAR, Chicago, Ill.—*Dredging Machine*.—April 23, 1867.—The scoops are firmly attached to the end of the handles, which are pivoted like shears, and operated by drawing upon the central rod to close them, or by the divaricated chain to open them.

Claim.—First, the combination and arrangement of the scoops C D, handles or levers E F, connecting chains B, rod R, hoisting rope H, and plate A, when constructed and operating substantially as and for the purposes specified.

Second, in combination with said scoops, handles or levers, connecting chains, rod, hoisting rope, and plate, the ropes or chains G, when operating substantially as and for the purposes set forth.

Third, the combination and arrangement of the plate A, rod R, provided with the shoulder r, the catch plates a, bent lever d f, and cord g, when constructed and operated substantially as herein specified.

64,170.—B. VAN GAASBEEK, Mount Vernon, N. Y.—*Ironing Table*.—April 23, 1867.—The hinged side pieces when opened disclose the ironing boards, which

open out on pivoted joints; hinged legs adjusted by a spring support the other ends.

Claim.—The combination of the chamber d of the table, the pivoted ironing board, and the folding leg f, substantially as and for the purpose herein set forth.

64,171.—W. F. VEBER, Perrysburg, Ohio.—*Fence Gate*.—April 23, 1867.—When the button is lifted, the notch on the top bar is lifted from the bolt and the gate is slipped on the roller attached to the forward post, till it is disengaged from the other post and it is swung round.

Claim.—The gate A, as constructed in combination with the joints or pivoted post G, as and for the purpose set forth.

64,172.—JOSEPH S. WATERMAN, Roxbury, Mass.—*Corse Preserving Case*.—April 23, 1867.—The ice chamber is above the chamber enclosing the body, and there is free circulation between the two. The sides of the ice chamber are flexible so that as the ice melts, the top of the chamber settles.

Claim.—Providing the ice chamber B with a yielding top or cover, for the purpose set forth.

Also, forming a passage from the corpse chamber to an ice chamber placed above it, substantially as and for the purpose specified.

64,173.—N. WATERMAN, Toledo, Ohio.—*Folding Chair*.—April 23, 1867.—The legs are pivoted together at their point of junction and in front to the seat, which is hooked to a roller in the back. By detaching the hook it can be folded for removal.

Claim.—The combination of the seat G and legs B D, whereby the back legs D fold on the front legs B and the seat G, passing through between the side pieces C, above the round I, fold on the hind legs D of the chair, substantially as described, for the purpose specified.

64,174.—DAVID C. WATSON, Manchester, N. H.—*Check Rein Holder*.—April 23, 1867.—A spring sleeve rising upon a vertical stem in the saddle acts as a mousing to the rein hook to prevent the accidental disengagement of the rein.

Claim.—The mode herein described to secure check reins in the hook, as shown, by stem C, pin D, tube B, tube A, and spring E, which may be made of wire or rubber.

64,175.—DEXTER P. WEBSTER and HERMON W. LADD, Philadelphia, Pa.—*Spring Bed Bottom*.—April 23, 1867.—The detachable bottom is suspended by hooks attached to the frame; metallic sockets secured to the side bars retain the dovetailed cross-slats, to which transverse longitudinal strips are attached.

Claim.—First, the detachable frame herein described, the same consisting of the side pieces B, with dovetail brackets C, and the cross-pieces D, with dovetail ends, constructed and operating substantially as and for the purpose specified.

Second, the plates C, constructed as described, in combination with the cross-pieces D, substantially as and for the purpose specified.

Third, the removable sectional tubular cushions G, applied to the coils of the springs, substantially as described, for the purpose specified.

Fourth, the pendant hooks a, constructed as described, in connection with the bedstead frame A, supporting the slat-bearing frame, substantially as described, for the purpose specified.

64,176.—MORRIS WELLS, Williamsburg, N. Y.—*Machine for Shaping Metals*.—April 23, 1867.—The die and its bed plate are raised against the clamp and plunger, the clamp being secured to a cross-plate which bears against adjustable springs. The die is secured to a cross-head, reciprocated by link attachment to a crank on the same shaft which carries the eccentrics giving the motion to the die.

Claim.—First, the combination of springs d with the cross-bar supporting the clamp G, substantially as and for the purpose described.

Second, the link K, fitted closely between the cross-head J, and crank L, and operating in combination with the die F, and punch I, substantially as and for the purpose set forth.

64,177.—NATHANIEL T. WHITING, Lawrence, Mass.—*Sleigh*.—April 23, 1867.—The hollow cross-bar is placed between the runner and the knees to more nearly connect the draft and load. The groove and pin in the cross-bar prevent the turning of the extension bar in backing. The draft hooks are slotted to hold the springs which secure the shaft.

Claim.—First, the combination of the hollow cross bar A, the slotted slide B, and pin E, when constructed and arranged to operate substantially as and for the purpose set forth.

Second, the combination of the slotted shaft iron F, the springs C, and slotted hooks $a^1 a^2$, when arranged to operate substantially as and for the purpose set forth.

64,178.—JOHN WICKS, Greenland, Wis.—*Ore Washer*.—April 23, 1867.—The separator is connected with a slime pit and with the pans by pipes. The larger particles of the ore are retained in the sieves and the finer pass through into the hutch, and from thence into the buddle. The sand and poor ores are washed out of the sieve into the trough by the motion given to the water in the hutch, by means of the plunger attached to the walking beam.

Claim.—First, the combination of the separator B, slime pit J, buddle H, and their connections, the sieves $c c c c$, and hutch K, all for the purposes and substantially as described.

Second, the walking beam N, connecting rod 3, in combination with the hutch K, substantially as described.

Third, the buddle H, in combination with the slime pit J, for the purposes described.

Fourth, the buddle G, in combination with the hutch K, substantially as described.

64,179.—JAMES C. WHITTINGTON, Brookline, Mass.—*Illusory Decapitation*.—The false head is substituted within the hood in the place of the real one of the person who stoops within the effigy while the decapitation is performed.

Claim.—The effigy composed of figures 1 and 2, constructed and arranged substantially as herein shown and described for the purposes specified.

64,180.—JOHN YOUNG, Amsterdam, N. Y.—*Clothes Wringer*.—April 23, 1867.—The upper gear rotates upon a stud which allows it freedom of motion to accommodate it to the rise of the upper roller; the cross-bar in the end of the roller shaft engages in the slotted boss on the pinion.

Claim.—First, the gear F, when applied to the upper shaft B of clothes wringers, in the manner herein shown and described, and operating as set forth.

Second, in combination with the gear F, the cone or center g and pin d , arranged as described, when used in connection with a gear c , as specified.

64,181.—HELEM MERRILL, Brooklyn, N. Y.—*Sprinkling Liquids in Refining Sugar*.—April 23, 1867.—A current of steam or air charged with water in the form of spray is directed against the interior surface of the layer of sugar in the centrifugal filter.

Claim.—Diffusing the water or other cleansing or bleaching agent in a finely divided state by means of a current of air or other elastic fluid, substantially as described.

64,182.—HELEM MERRILL, Brooklyn, N. Y.—*Discharger for Centrifugal Machine*.—April 23, 1867.—The sections are hung on the arms of shafts which are carried on the triangular frame, resting on bolts. These sections serve to collect the sugar from the inner side of the sieve, and may be removed together or separately and empty one attached.

Claim.—The stationary and removal scrapers and receptacles, by which a centrifugal machine may be discharged when in motion, substantially as described.

64,183.—HELEM MERRILL, Brooklyn, N. Y.—*Feeder for Centrifugal Machines*.—April 23, 1867.—The partially granulated mass is evenly spread on the sieve by a curved plate on the side of the hopper.

Claim.—A hopper constructed substantially as described for the purpose of delivering and distributing a uniform layer on the sieve of a centrifugal machine while in motion.

64,184.—MONROE STANNARD, Hartford, Conn.—*Sewing Machine*.—April 23, 1867.—Explained by the claims and illustration.

Claim.—First, operating the feed wheel of a sewing machine by means substantially such as described, so that whilst it shall always, when in action, have the ordinary intermittent motion, it may, in addition, have or not have, at the option of the operator, a positive rising or falling motion for each progressive action of the wheel, for the purpose set forth.

Second, the employment in a sewing machine of the adjustable vibrating lever N, or its mechanical equivalent, with the rock shaft P, arms $q s$, connecting bar r , cam t , or their mechanical equivalents, for holding the feed wheel, and for giving to it an alternate rising and falling movement, substantially as described.

64,185.—JOSEPH B. ALEXANDER, Washington, D. C., assignor to himself and Wm. H. FREER, same place.—*Railroad Switch*.—April 30, 1867.—The switch is moved by an oscillating plate which is acted on by a roller attached to the locomotive, or in case of street cars by a wheel flange.

Claim.—The construction and arrangement of the switch rails C G and C' G', with the arms or the wings of a plate of iron or wood turning on a central fulcrum in such a manner as to oscillate and open one track while it closes the other, as described and for the purpose set forth.

Also, the anchor-shaped cam K, with the wings L and L', and the friction roller M, as described and for the purpose set forth.

Also, in combination with the above, depressing rails E and E', so constructed and arranged as to be operated upon by the shifting roller or wheel c , attached to the locomotive engine, as described and for the purpose set forth.

64,186.—A. C. BABCOCK and JOHN DUFFY, New Haven, Conn.—*Carriage Curtain Fixture*.—April 30, 1867.—The blind is arranged to be drawn up by a spiral spring, which is retracted by drawing down the blind, and the rotation of the roller is prevented by a rubber pad upon a metallic spring, which comes in contact with the roughened plate at the roller end.

Claim.—First, the plate E, in combination with a spring F, when constructed and arranged so that the said spring bears upon the surface of the plate E, as and for the purpose specified.

Second, the spring F, attached to the stud D, so as to form the handle G, substantially as and for the purpose specified.

Third, in combination with D plate and spring F the stop d , in the manner specified.

64,187.—GEORGE H. BAILEY, Jersey City, N. J.—*Machine for Making Water, Gas, and Other Pipes*.—April 30, 1867.—The plunger works within a metallic pipe having one end closed to more forcibly compact the cement. It displaces the cement in front, causing it to adhere to the pipe. Lifting rods raise the collar when the plunger is raised.

Claim.—First, the employment, in the manufacture of pipes composed in whole or in part of cement or plastic material, of a plunger either movable or stationary, which is shaped substantially as set forth, either with or without spiral cutters, and which, by the application of power or by its own weight and momentum, displaces the cement in front of it, causing the latter to adhere to the pipe, and rendering it solid and compact, substantially as described.

Second, the combination with the plunger D of the top and bottom collars C C', with vent holes for the admission and escape of air, substantially as described.

Third, the application of lifting rods $g g$ to the collar C for lifting this collar when the plunger is raised, substantially as described.

Fourth, a plunger working within a metallic pipe or mold, having one or both ends closed, so as to more perfectly and forcibly compact the cement or plastic material within it, substantially as described.

64,188.—ARTHUR BARBAEIN, New Orleans, La.—*Lighting Gas*.—April 30, 1867.—A small cylinder containing spongy platinum is attached to a gas burner, which throws a stream of gas thereon to ignite the same. A mixture of pure and carburetted hydrogen is first passed through the pipe, and after ignition the flow of the former is stopped.

Claim.—First, the direct use and application of spongy or finely divided platinum (without extra pipe for conveying the hydrogen gas upon the same) to an ordinary gas burner in any manner that shall cause the platinum to be directly in the path of hydrogen or hydro-carbon gas, when issuing through such ordinary burner, whether these gases be separate from each other or mixed together, whether the burners have additional jets or not, and whether the platinum be used and applied permanently or temporarily to said burners, for the purpose set forth.

Second, the lighting of hydrogen or hydro-carbon gas, whether separate or mixed, by means of spongy or finely divided platinum placed on a gas burner as herein specified, whether the said platinum be temporarily or permanently attached to the burner, or whether it be temporarily applied in any other way to hydrogen or hydro-carbon gases, either separate or in a mixed state, when issuing from a burner.

Third, the use of the same pipes and branches as herein described, for the purpose of conveying the gases, whether they are mixed or separate, to the burners, for the purpose set forth.

Fourth, conveying the gases, in a separate or mixed state, or one before the other, through the same pipe and branches as described, for the purpose set forth.

64,189.—HENRY D. BIRD, Petersburg, Va.—*Compound for Cleansing the Human Body from Offensive Odors.*—April 30, 1867.—A deodorizer for the human skin. Composed of chloride of lime, 75; chloride of ammonia, 20; bichromate of potash, 5 parts; to be mixed in saturated solution and perfume added.

Claim.—A compound for cleaning the surface of the human body, substantially as herein set forth.

64,190.—DANIEL BORDNER, Canton, Ohio.—*Gate.*—April 30, 1867.—The gate is opened by the weight of the carriage, actuated by levers and shafts, the sliding rod to which the extension bar of the gate is connected by a chain.

Claim.—The peculiar arrangement of the levers K and L in shaft S, acting on the bar N, through the iron M, the said bar N having the cord I attached to it and to the end W of the upper bar A of the gate, the several parts operating in the manner and for the purpose specified.

64,191.—HENRY L. BUDD, New York, N. Y.—*Gate Bar.*—April 30, 1867.—The interlocked cross-bars rest on a transverse longitudinal bar, which being partially sheltered from the heat is less liable to warp.

Claim.—A furnace grate bar formed of a series of sections *b* attached to the longitudinal bar *a*, said sections interlocking, and constructed substantially as specified.

64,192.—JAMES BUDD, Pittsford, N. Y., assignor to BUDD and BRIGGS.—*Well Pipe.*—April 30, 1867.—The double-flanged point is attached to the pipe by a perforated coupling joint, and has a perforated chamber within. Flanged collars surround the pipe at intervals to stay the passage of quicksand. The tubing is driven into the ground by a steel rod, which passes through the pipe to the point below.

Claim.—The combination and arrangement of tubes *f o*, the flanged collar *n* and flanged point *a*, the whole substantially as and for the purpose set forth.

64,193.—JAMES BUDD, Pittsford, N. Y., assignor to BUDD and BRIGGS.—*Gate.*—April 30, 1867.—The double suspension gate running on sheaves is operated by toggle levers from a horizontal shaft; the latter is supported by the frame, and by the arms of detached posts, and is oscillated by levers and cords.

Claim.—The combination of the double action lever *a*, with the levers *b* and double action levers *d d*, horizontal bar *c*, strips *e e e e* and *f f*, guiding boards *i* and *h*, also posts *u m*, with arms *r r*, the whole operating substantially in the manner described and for the purpose set forth.

64,194.—THOMAS B. BURTIS, Chicago, Ill.—*Gas Condenser, Scrubber, and Washer.*—April 30, 1867.—The gas passes through a series of long, narrow boxes, with corrugated sides, and the washing fluid is introduced therein in jets. The surfaces of the boxes are cooled by water, which circulates in spaces between

them. The gas to be cleansed enters through the outer pipe, and escapes through the inner one.

Claim.—First, the lengthy and narrow boxes D, the water vessels D² above the same, and the water spaces E between the same, substantially as and for the purposes set forth.

Second, the method of applying the water to condense, scrub, and wash the gas, substantially as set forth.

Third, the combination of the vessels D², the overflow pipes *k*, water pipe *K*, service pipes *l* and water chambers M, as and for the purposes set forth.

Fourth, the application of the jet chamber M, as and for the purposes set forth.

Fifth, the application of obstruction pieces extending from top to bottom of the boxes D, substantially as and for the purposes set forth.

Sixth, the arrangement and combination of the pipes F and G, *f* and *g*, with their stop cocks, valves, and the boxes *d d*² and *d*², as and for the purposes set forth.

64,195.—WILLIAM B. BURNETT, New York, N. Y.—*Brush Block.*—April 30, 1867.—The head block is beveled that the bristles may brace against each other, and a strip of wood of transverse grain is inserted in a slot through the middle to prevent warping.

Claim.—A whitewash brush block, which is constructed with a strip of wood, which is harder than the wood of which the block is made, inserted into a kerf in its lower edge, so that the grain of the strip shall run at right angles to the grain of the block, as herein described and shown, thereby producing a new and improved article of manufacture.

64,196.—WALDRON J. CHEYNEY, Wallingford, Pa.—*Manufacture of Porcelain.*—April 30, 1867; antedated March 29, 1867.—Explained by the claims.

Claim.—First, the use of the minerals known as cryolite and chiolite, or their equivalents, in combination with silica, for the purpose of producing a vitreous porcelain, substantially as described.

Second, the fusing of either of the before-named minerals or fluellite or their equivalents with silica, in combination with soda, potash, lime, or other alkali or oxide, substantially as described.

Third, a new article of manufacture made by fusing silica with the above-named minerals or their equivalents, which I call "hot-cast porcelain."

64,197.—SPENCER M. CLARK, Washington, D. C., assignor to JOHN Q. LARMAN.—*Machine for Punching Paper.*—April 30, 1867.—The punch is secured in and surrounded by a clamp, which slides in the sleeve, being actuated by a lever hung in brackets on the gooseneck, and worked by a treadle on its lower end. The punches and clamps are withdrawn automatically by the springs, when the holes have been cut.

Claim.—First, the combination with the punches and surrounding clamps and the springs of the screw bolts and rods for adjusting the tension of said springs, and for effecting the combined movement of the clamp and punches, substantially in the manner herein specified.

Second, the combination with the clamp and connecting screw rods or bolts of the sliding cross head, punches, and surrounding springs, under the arrangement and for operation as herein set forth and described.

64,198.—Z. ERASTUS COFFIN, Boston, Mass.—*Stop Cock.*—April 30, 1867.—The valve is operated by two screw rods having bevel gear wheels connected together, so as to insure equal movement of both sides.

Claim.—The taper valve operated by connected screws and moving on continuous guides, arranged within the shell or body or a stop cock, substantially as described.

64,199.—Z. ERASTUS COFFIN, Boston, Mass.—*Valve for Stop Cock.*—April 30, 1867.—The two faces of the valve are pivoted together to allow accommodation to their faces. The stem has a slight vertical movement separately from the valve, so as to cause additional pressure against the inclines on their inner sides, after having come to their seats; this arrange-

ment operates to lessen the friction on retraction of the valve.

Claim.—First, the valve made in two parts, each bearing a face, and so jointed with reference to each other and to the mover as to render them self-adjusting to the angles of the seat, substantially as described.

Second, giving the mover a movement independent of the movement of the valve, so as to relieve the pressure by means substantially as described.

64,200.—A. COREY and J. M. HARPER, Philadelphia, Pa.—*Type Setting Machine.*—April 30, 1867.—The machine sets the type in rows and collects the rows together. On depressing the appropriate key the type is pushed horizontally from its reservoir on to a table on which it is lightly pressed during its movement. When free it is turned against an arresting and guiding plate along which it is pushed beneath a pile of types previously operated on. The row having reached a length equal to the width of the page, is pushed against similar rows previously composed.

Claim.—First, the loose wheel *d* or its equivalent, so arranged as to bear on the type as it is being pushed from beneath the reservoir.

Second, the reciprocating bar *I*, so constructed at the end and so combined with the arresting and guiding plate *J*, as to turn the type in the manner described.

Third, the combination of the said guiding plate *J*, the pushing bar and the shoulder *j* on the latter.

Fourth, the combination with the pushing bar of a plate *z* with a straight edge *x*, so arranged and operating as to adjust the row of type in line.

Fifth, the setting of a vertical row of type by introducing type after type to the said row, substantially in the manner described.

Sixth, beneath the vertical row of type a block or plate *T* or its equivalent, so rounded or otherwise formed that on pushing a type to its place beneath the row it will be the means of elevating the same, as described.

Seventh, the plate *g* arranged as shown, so that the row of set type will not be disturbed by the introduction of a new type to the row.

Eighth, the pressure plate *w*, arranged in respect to the plate *g*, for the steadying of the vertical row of the type, substantially as described.

Ninth, the combination substantially as described of the plates *N* and *g* and rods *S* and *S'*, for confining and guiding the vertical row of type.

Tenth, the bar *g* so connected to the machine and to a suitable operating device, that it can be moved at pleasure away from the front edge of the row of the type, when the same has to be inspected.

Eleventh, the combination of the plate *N*, the rods *S* and *S'*, and the mechanism herein described, or the equivalent to the same, whereby the rods are caused to recede from each other and make way for the row of type prior to the same being pushed back by the said plate *N*.

Twelfth, the box or case *M*, in combination with the detachable type receiver *5*.

Thirteenth, the mechanism described or its equivalent for causing the block *Y'* to recede prior to a new row being pushed toward a previously formed one.

Fourteenth, the combination of the pressure plate *Z* with the type-receiving case and sliding block *Y'*.

Fifteenth, the spring plate *F*, Fig. 2, arranged and operating for controlling the whole of the keys, substantially in the manner described.

64,201.—C. W. CORR, Carlisle, Ill.—*Wheelwright's Machine.*—April 30, 1867.—The machine includes devices for driving the spoke into the hub, cutting the spoke to its length and tenoning it, boring the fellos and turning them true after being put upon the spokes.

Claim.—First, the adjustable frames *O* and *B* and the shaft *M* with the hinged support *E*, when the said several parts are arranged to operate as and for the purposes set forth.

Second, the hammer *D* arranged to be operated by the spring *f* and lever *I*, together with the means of regulating the force of its blow at will, as shown and described.

Third, the combined sawing and tenoning tool, constructed substantially as described.

Fourth, the frames *J* and *K* arranged to move in

the arc of a circle, the center of which shall be coincident with the center of the shaft supporting the hub, for the purpose of adjusting the sawing and tenoning tool to work on a wheel having any number of spokes, as herein described.

Fifth, so mounting the tool *o'* that it shall have a lateral movement for saving off the end of the spoke, and also a longitudinal movement for forming the tenon on the spoke, substantially as set forth.

Sixth, the tool *P* for supporting and holding the spoke while being driven, as described.

64,202.—JOSEPH E. CRISP, Charlestown, Mass.—*Rivet Machine.*—April 30, 1867.—The wire is fed into the forming sockets of a rotating disk and automatically cut. The rivet is finished by opposite simultaneously acting dies, and is expelled from the socket by a plunger.

Claim.—First, the combination of the intermittently revolving die disk *G* with the plungers *J* and *K*, arranged and operating as described.

Second, in combination with the subject-matter of the first claim the plunger *P*.

Third, in combination with the plungers *J* and *K*, the series of cams on the face of the wheel *L* and the hammer *m*.

Fourth, in combination with the intermittent revolving die disk *G*, the plungers *J* and *K* and *P*, and the stubs on the periphery of the wheel *L*.

64,203.—JAMES HENRY CULVER, San Francisco, Cal., assignor to himself and CORNELIUS LEONARD.—*Calipers.*—April 30, 1867.—The usual inside and outside calipers have one of their legs jointed on a thumb screw.

Claim.—A pair of calipers either for inside or outside measuring, constructed with the joint *C* and shoulder *b* and *c*, substantially as and for the purpose set forth.

64,204.—JONATHAN DEARBORN, Seabrook, N. H.—*Mechanical Telegraph.*—April 30, 1867.—The bell cranks stand at angles of 120° with each other; the cranks of one shaft are connected by rods with those of the other. Endless chains with lettered links pass around the wheels, correspondence being maintained between the two; one being actuated by an operator to bring given letters in series to a fixed point, the corresponding letters are brought by synchronous action to analogous position on the other to be viewed by the observer at that point.

Claim.—The combination and arrangement of the six bell cranks and the three connecting rods with the two shafts, and also with the two telegraphic endless chains and their sprocket wheels, applied together and constructed substantially in manner and so as to operate as specified.

Also, the combination and arrangement of the two serrated racks *H* *I*, connected by a chain going around a pulley as described, with the sprocket wheel *K*, the connecting rods *o o*, and bell cranks *m n*, applied to a rotary shaft, as set forth.

64,205.—WM. A. DEITZ, Albany, N. Y.—*Shoe.*—April 30, 1867.—The flap opens rearward and forms the back part of the shoe above the stiffening.

Claim.—The method of constructing boots by making the opening for the introduction of the foot in the back, and covering the opening with a tongue on the inside, with a flap extending around the side of the boot, secured to the same in the manner and for the purposes set forth.

64,206.—D. A. DICKINSON, Baltimore, Md.—*Machine for Husking Corn.*—April 30, 1867.—The pulley faces on the shafts are eccentric, alternately in opposite directions, and between these surfaces pins assist in tearing the husks.

Claim.—The arrangement of the shafts, having pulleys placed eccentrically, and belts, substantially as and for the purpose herein recited.

Also, in combination with the pulleys, or their equivalents, the teeth *g*, for the purpose herein set forth.

64,207.—NOAH DUTTON, Janesville, Wis.—*Clog for Cows' Tails while being milked.*—April 30, 1867.—The weighted clamp is attached to the cow's tail to prevent switching; a running ring on the arms secures the attachment.

Claim.—The application of a weight, or an instrument of specific gravity, to a cow's tail while milking her, substantially as described and for the purpose specified.

Also, the wing *b*, in combination with the said instrument or weight, substantially as described and for the purpose specified.

64,208.—J. D. ELLIOT, Grafton, Mass.—*Cloth Folding Machine.*—April 30, 1867.—Improvement on his patent of July 3, 1861. One end of the table is fixed while the other end is being depressed to prevent drawing the cloth from the opposite jaw.

Claim.—Dividing the table and hinging the parts at or near the center, so as to operate substantially as and for the purpose specified.

64,209.—ALFRED B. ELY, Newton, Mass.—*Lett-off and Tension for Yarn, Thread, &c.*—April 30, 1867.—The warp passes from its roller between a rod and rubber roll, the latter adjustable by thumb screws to adjust the tension. From the tension roll the warp passes over a bar connected to levers whose oscillation or depression influences the spring brake bar of the warp roller.

Claim.—First, the bar *D*, lever *D G H* or *D I H*, and spring *J*, combined and operating substantially as described.

Second, regulating the giving-off of the yarn by means of lever *N O*, and spring *Q*, operating against the lugs of a revolving wheel, substantially in the manner described.

Third, the combination of the spring *x* with the end of the presser foot *H* on the arm *N*, to receive the blow of the lug, substantially as and for the purpose described.

Fourth, applying and regulating the tension upon the yarn by means of the adjustable elastic pressure roll, operating substantially as described.

64,210.—GEORGE W. EMERSON, Peru, Ill.—*Churn.*—April 30, 1867.—The octagonal revolving box has flutter wheel dashers within, and has a movable frame formed of strips of metal and connecting rods.

Claim.—First, the churn body, constructed as described, in combination with the shaft *T*, shown in Figs. 1 and 2, with the frame Fig. 1, and the rack *A B*, Fig. 3, substantially as specified.

Second, the flutter wheels *A' B' C'* and *D'*, Fig. 2, one or more, to be used in a churn, substantially as described.

Third, the combination of the blocks or bars *H I' J K*, Fig. 2, one or more, with the flutter wheels, one or more, to be used in a churn, substantially as described.

Fourth, the movable frame, Fig. 2, composed of the strips of metal *L M' N' O P Q R*, connecting bars or rods *H I' J K*, or equivalent, to be used in a churn, substantially as described.

64,211.—DAVID EWING, Indianapolis, Ind.—*Pessary.*—April 30, 1867.—The supporting cup is sustained by a stem having at its lower end a two-branched, out-curved standard, which rests upon the floor of the pelvis.

Claim.—First, the curving arms *c c c c*, when constructed and combined with the rim, substantially as set forth.

Second, the hollow stem *e e*, when the same is combined with the adjustable springs *g g*, in manner and form as aforesaid.

Third, the adjustable springs *g g*, when the same are constructed and adjusted substantially as set forth, and combined with the said hollow stem *e e*.

Fourth, the improved pessary described herein, when the same is considered as a whole device, and constructed in its several parts as aforesaid, and used in the manner and for the purpose hereinbefore described.

64,212.—GEORGE KALE FOSTER, San Francisco, Cal.—*Fire Ladder.*—April 30, 1867.—The ladder is extended upward on the principle of "lazy tongs" by segmental racks on the lower arms.

Claim.—First, the segmental racks *F G* and pinions *T T*, operated by the gear *h g* and hand wheel *c*, substantially as described and for the purpose set forth.

Second, in combination with the ladder, the swivel

joint rings *r r r* on the ends of the fulcrum rods, to support and carry up the hose when the ladder is raised for use.

64,213.—GEORGE GIBBS, Canton, Ohio.—*Plow.*—April 30, 1867.—A double action lever within reach of the plowman is connected with and operates the pivoted stubble cleaner.

Claim.—The lever *a*, rod *b*, joint *c*, and slot *d*, constructed, arranged, and operating in the manner and for the purpose set forth.

64,214.—ALGERNON GILLIAM, Cincinnati, Ohio, assignor to himself, F. and H. DIEHL, same place.—*Harness Saddle.*—April 30, 1867.—The back plate of the cantle is recurved over the rear part of the seat, and attaches the back of the cover to the same, and both to the tree.

Claim.—The arrangement of recurved and overlapping metallic cantle *H*, and lug *C*, or devices substantially equivalent, enabling the fastening the rear portions of the seat, seat cover, and tree securely together by the agency of a single screw, as and for the purposes set forth.

64,215.—ALGERNON GILLIAM, Cincinnati, Ohio, assignor to himself, F. and H. DIEHL, same place.—*Harness Pad.*—April 30, 1867.—The marginal holes in the web of the tree are for passage of thread in attaching the edge facing. The pad cover, tree and bar piece are held together by the end screws, terrets and check hook.

Claim.—First, a harness-pad plate or tree, of malleable iron or other metal, with an upper flange *B*, and lower plane or flat surface, with holes *C*, as and for the purpose stated.

Second, as a new article of manufacture, a harness pad with a tree, consisting of the elements *A B C*, in combination with the pieces *D E F*, substantially as described.

64,216.—OLIVER W. GORDON, Mount Pleasant, Iowa.—*Operating the Treadle and Harness Shaft of Looms.*—April 30, 1867.—The treadles are operated by radial pins on a rotary transverse shaft.

Claim.—First, the combination of the harness frames *C*, and their supporting ends, with the hinged treadles *a*, the tappet shaft *B*, and adjustable tappets *B'*, the whole constructed and arranged to operate substantially as and for the purpose set forth.

Second, the combination of the hinged treadles *A*, actuated positively both in ascending and descending by the adjustable tappets *B'*, projecting from the tappet shaft *B*, with the harness frame *C*, and the end guides *E*, substantially as described.

64,217.—SHILAS GREENELL, Mokena, Ill.—*Seed Sower.*—April 30, 1867.—The shaft with its attached cups rotates in a cylindrical seed trough, discharging the seed on to a curved spreading board, from which it is distributed on the ground.

Claim.—First, the combination of trough *D*, spreading board *O O*, shaft *I*, having arms *S* and cups *J* and hopper *P*, when arranged to operate substantially as described.

Second, the ends *E*, having the loops *H*, in combination with the arms *G* and rod *I*, as described, and for the purpose set forth.

64,218.—D. B. HART, Mentor, Ohio.—*Potato Digger.*—April 30, 1867.—A wheel steadies the digger in the rear; a rotary cutter is adjustable on a slotted bar suspended from the nose of the beam, and curved rods clean the track. The perforated share, screen, mold board and supplementary screen clean the potatoes as they are gathered, receiving a vibratory motion through a bell crank and gearing operated by the ground wheel.

Claim.—First, the digger plowshare *E*, provided with open spaces or perforations, as and for the purpose set forth.

Second, the screen mold board *M*, provided with adjustable screen rods, as and for the purpose specified.

Third, the auxiliary screen *P*, in combination with the digger plowshare *E* and screen mold board *M*, supported and vibrated by means of the combined arrangement of parts specified, viz: the graduated bell-crank lever *S*, standard *S*, link *T*, standard *R*,

connecting rod T', crank pinion wheel T², spur wheel T³, adjustable driver wheel U, slotted strap U', swinging rods R and Q, pivoted hanging Q, beam A, and landside D, all operating as and for the purpose specified.

Fourth, the rotary stalk cutter H and standard H', slot I and set screw J, in combination with the clearing rods K and K', and beam A, as and for the purpose set forth.

Fifth, the use of the chain W, in combination with the truck, as represented, and the employment of the guide wheels V, both operating as and for the purpose specified.

64,219.—WM. H. HARTMAN and A. K. M. PICKERT, Pistoria, Ohio.—*Attaching Thills to Carriages.*—April 30, 1867.—The pin of the thill iron engages in the shackle hooks which are secured to the axle clip; a plug in the rear holds the connection securely, and is itself secured by a screw plate.

Claim.—First, the rubber block E, provided with the guard F, and secured by means of through bolt or screw G to the detached or separate clip bar H, in combination with the slotted stay D, secured to clip I, in the manner shown and described.

Second, the head B, pivots C, and slotted stay D, in combination with the clip I, guard F, screw G, and rubber E, when the several parts are constructed and arranged in relation to each other, in the manner and for the purpose described.

64,220.—WM. MACEY HAYNE, Sacramento, Cal.—*Kiln for Drying and Curing Hops.*—April 30, 1867.

The boxes with removable wire cloth bottoms and tops are placed in the kiln, and the top is left open until the hops are ready to turn. The cover is then slipped in and the box attached to hooks by an eye at each end, which allows the box to be reversed, after which the wire frame cover is removed.

Claim.—A hop kiln constructed with boxes, having the slides F F, or their equivalents, substantially as and for the purpose described.

64,221.—JAMES HITCHENS, Nevada City, Cal.—*Quartz Mill.*—April 30, 1867.

An open metallic cylinder containing quartz reciprocates in an upright position upon a smooth plate, and grinds to powder the quartz which escapes beneath its edge.

Claim.—An ore pulverizer, consisting of the containing cylinder A and the supporting plate B, constructed and operating substantially as and for the purpose herein described.

64,222.—JOHN HOLT, Chelsea, and SIMON G. CHEEVER, Boston, Mass.—*Harness Hame.*—April 30, 1867.

The inclination of the bar of the staple causes the hold-back strap to bear fairly upon the length of the bar, and keeps it clear of the roll of the collar.

Claim.—The projecting angular arrangement of the hold-back strap attachment, substantially as described.

Also, the combination in one integral piece of the breast strap and trace attachment for harness hames, substantially as described.

64,223.—JAMES HOTCHKISS and EZRA BUSS, Springfield, Ohio.—*Die for Brick and Tile Machines.*—April 30, 1867.

Rollers just outside of the mouth of the die project inward to contract the ribbon of clay to diminish the friction on the tapering die and give a smooth surface to the clay. The rollers are cleaned by scrapers and have a miter joint at their contacting edges.

Claim.—The employment of friction rollers, either adjustable or not, applied to the dies of brick and tile machines, for the purposes herein specified.

Also, the contraction of the die to the mouth thereof, in combination with friction rollers on the die, substantially as and for the purpose herein set forth.

Also, the mitered or beveled edges of the rollers, for the purposes herein specified.

Also, the convexly-curved or bulging form of the rollers, for the purpose herein set forth.

Also, scrapers I I, in combination with the rollers, substantially as and for the purpose herein specified.

64,224.—JARVIS W. HOUGHTELIN, Detroit, Mich.—*Car-starting Apparatus.*—April 30, 1867.—The

draw bar is connected to a frame pivoted on the axle; pawls upon this frame act upon ratchet wheels of the axle when put in operation by a treadle.

Claim.—First, the double levers B B, pivoted on the axle near the wheels connected by the bar M, provided with the bent rod H and pawls F F, operated from the draw bar D, all as described and for the purpose set forth.

Second, in combination with the above, the lifting lever C, foot piece K, and connections, as described and for the purpose specified.

64,225.—SAMUEL E. HYNDMAN, Middletown, Ohio.—*Wagon Brake.*—April 30, 1867.—As the tongue and its hounds are slipped back in descending a hill, the brake levers are oscillated and the rubbers brought against the wheels. A bolt is introduced to prevent the action in backing.

Claim.—The brake levers *f f*, rods *e e*, in combination with the slide braces *d d*, hounds *c c*, and tongue *t*, sliding bolt *h* and lock bolt *s*, when the parts are constructed, arranged, and operated in the manner and for the purpose specified.

64,226.—JAMES W. INNIS, Salem, Ind.—*Thill Coupling.*—April 30, 1867.—The thill iron is swiveled by a cross-bolt, in the head of a pin, which sets in a vertical socket in front of the axle clip, and is clamped by a set screw.

Claim.—The thill coupling, consisting of the clip A and pin receiving projection *a'*, cast therewith, through the side of which passes the tightening screw F, pressing into the cavity in the pin D, and operating substantially as described, for the purposes specified.

64,227.—DEDRICK JORDAN, Charlestown, Mass.—*Cutter Guide for Molding Machines.*—April 30, 1867.

The cylindrical guide piece has outward segmental projections for guides, and an inner flange for attachment between two jam nuts.

Claim.—The combination of the cutter guide *a*, constructed with the flange *b*, the cylinder *c*, and the adjustable and retaining nuts *c d*, as and for the purpose specified.

64,228.—ARZA B. KEITH, North Bridgewater, Mass., and T. K. REED, East Bridgewater, Mass.—*Cutting Out Leather.*—April 30, 1867.

The vertically-reciprocating cutter is actuated by a cam on a shaft, which is rotated by gearing connecting it with a pulley shaft. A treadle puts a friction clutch between the pulley and one of the cogs in operation, and on the release of this treadle a spring lever checks the cutter when in its elevated position.

Claim.—The described process of press cutting with handle dies, substantially as described.

Also, the combination with a treadle lever of a stop lever and a friction coupling, arranged to operate substantially as described.

64,229.—GEORGE KINGSBOROUGH, Cleveland, Ohio.—*Ship Chimney Jack.*—April 30, 1867.—The chimney head has segmental sliding doors, within which are pivoted plates which deflect the currents passing through the side openings of the chimney.

Claim.—The slides B, adjustable hinge deflectors C, and guards D, in combination with the channel or chamber I and case J, arranged in the manner and for the purpose set forth.

64,230.—W. IRVING LAIGHTON, Portsmouth, N. H.—*Curtain Tassel.*—April 30, 1867.—The forked catch sliding beneath the cap holds the knot on the cord of the tassel from withdrawal.

Claim.—The combination of the cap or cover *a* with slide *b*, to be attached to the barrel of the tassel, for the securing of the cord *c*, after putting it through the tassel as described, for the purpose aforesaid.

64,231.—JOHN R. LATTIN, Birmingham, Conn., assignor to himself, E. WOOSTER & Co., and F. HULL & Co., same place.—*Skirt Hoop.*—April 30, 1867.—Explained by the claim.

Claim.—The bottom hoop for hoop skirts formed by combining two or more springs in a single cover, the upper edge of which is formed as described, so as to be stitched to the tape of a skirt, as and for the purpose set forth.

64,232.—JAMES T. LEETE, New York, N. Y.—*Burning Fluid.*—April 30, 1867.—Composed of benzine or naphtha of 65° gravity, 40 galls.; charged with carbonic acid gas, and mixed with arrow root, 4 lbs.; glycerine, 1 lb.; gum camphor, $\frac{1}{2}$ lb.; liquid ammonia, 1 lb.; and ambergris, 1 oz.

Claim.—A new compound for a burning fluid having as its base benzine or naphtha, fully charged with carbonic acid, so as to neutralize and partially destroy its inflammability, and the admixture thereafter of the several ingredients in the proportions named, as substantially set forth.

64,233.—HERMAN S. LUCAS, Chester, Mass.—*Preparing Fuel from Coal Dust and Fresh Water Peat.*—April 30, 1867.—Improvement on his patent, August 2, 1864, (No. 43,695.) A solution of common salt is mixed with the coal dust and peat to prevent too rapid consumption of the latter.

Claim.—The application of common salt, either dry or in natural or artificial solutions, in the preparation of fuel from fresh water peat and fine coal, in the manner and for the purposes set forth.

64,234.—JAMES B. MALLALIEU, Chicago, Ill.—*Expanding Mandrel.*—April 30, 1867.—The elastic bush is severed longitudinally so that it may fit on any part of the tapering mandrel accommodating itself to different sized bores in the articles to be turned.

Claim.—The combination of the mandrel A with the movable bush or jacket B without a collar, as and for the purposes set forth.

64,235.—JEREMIAH A. MARDEX, Newburyport, Mass., assignor through mesne assignments to A. B. ELY, Newton, Mass.—*Let-off and Take-up Mechanism for Looms.*—April 30, 1867.—The pendent arm of the rock shaft over which the warp passes from the roller is connected to a bent rod surrounded by an adjustable spring, and the rebent end of this rod has an adjustable dog which operates on a pawl to allow a slight amount of rotation in the yarn roller. The spring is adjustable in tension and the dog in position, and regulate the amount of tension on the yarn.

Claim.—First, the combination of the rock shaft C with its arm E and the spring rod F provided with the adjustable nut F, when constructed and arranged as and for the purpose described.

Second, the combination of the adjustable spring rod F and the dog G with the pawl H and escapement wheel I, substantially as and for the purpose specified.

Third, a let-off motion in looms effected by the tension of the yarn upon a rocker shaft C provided with an arm E, in combination with a spring rod F, a pawl H, escapement wheel I, and the yarn beam B, with its intermediate connections as set forth.

Fourth, in combination with the above described devices for effecting the let-off motion, a take-up motion effected by means of a pawl O attached to the lay in combination with the toothed wheel P attached to the cloth beam, and one or more pawls attached to the frame, substantially as and for the purpose specified.

Fifth, the relieving pawl H operated by the tension of the yarn upon the rock shaft through the medium of the adjustable spring rod F, substantially as described.

Sixth, the spring rod F when made with a screw thread, in combination with the nut F, rock shaft C E, and relieving pawl H, substantially as set forth.

64,236.—B. MARTIN, Prairie du Chien, Wis.—*Door for Railway Cars.*—April 30, 1867.—The doors have a trapezium form to fit the slanting cleats and are held by cleats and the uprights. Pins pass over the upper corners and hold them down. The corners are braced by metallic shoes. Ledges on the side form pockets for the doors while out of use, or hooks attach them to eyes on the frame above.

Claim.—As an improvement in railroad cars for carrying grain in bulk, the combination of the trapezoidal door C, inclined cleats B, checks D, cleats H, recesses I, pins E, notched shoes F, and bolts G, all constructed and arranged to operate as and for the purposes specified.

64,237.—CHARLES Z. MATTISON, Buffalo, N. Y.—*Tucking and Plaiting Attachment for Sewing Machines.*—April 30, 1867.—One of the two folders is elastic and attached by one end to the rock shaft

which actuates the oscillating needle-carrier, while its other end is always beneath the end of the other rigid folder. The rocking of the shaft causes the end of the elastic folder to push itself into and to make the fold of the cloth while the stitch is being made, but to retreat and relieve the cloth of its pressure when the feed takes place.

Claim.—First, the spring bar A attached to the rocker of a sewing machine, and operating as and for the purposes and substantially as described.

Second, the adjustable sliding rule D, in combination with the spring bar A attached to the rocker, the same lapping over said spring bar the width of the desired hem, fold, or tuck, and operating in the manner and substantially as set forth.

64,238.—SHANNON MCGUFFIN, Rising Sun, Ind.—*Churn Dasher.*—April 30, 1867.—The funnels on the rod are attached to the perforated disk dasher by a spring, and the two differently constructed dashers may be disconnected when required.

Claim.—The combined inverted funnels and butter gatherer heretofore referred to.

64,239.—E. R. MCKINNEY, Lacon, Ill.—*Gate.*—April 30, 1867.—By drawing on the pendants attached to the swing bar the gate can be opened or shut by an equestrian without dismounting.

Claim.—The arrangement and combination of the cross-bar B near the top of hinge post with its pendants C C and r r connecting with the lever L on the top bar of the gate; also device of lever L with rods t t connecting with latch, as herein described.

64,240.—G. L. MCKNIGHT, Worcester, Mass.—*Divider and Calipers.*—April 30, 1867.—A bent spring beneath the pivots tends to expand the arms which are adjusted by a nut on a screw pin between the out-curved upper ends. A jam nut fixes the adjustment.

Claim.—First, the combination with the arms of calipers or dividers of the screw C, slotted nut D, and tightening nut F.

Second, the combination with the curved ends E E and arms A of the slotted nut D and tightening nut F, substantially as and for the purpose set forth.

Third, the combination with arms A, having shoulders l l, of spring g, substantially as and for the purposes set forth.

Fourth, the combination of nut D with the curved ends E E of arms A for the purpose of adjusting the arms, substantially as set forth.

64,241.—WM. H. MCNARY, Brooklyn, N. Y.—*Knitting Machine.*—April 30, 1867.—This relates to that class of knitting machines employing needles with short inflexible hooks from which the stitches are taken by stitch hooks without any longitudinal movement of the needles themselves. The improvements are especially applicable to machines in which the rotary or lateral motion of their needles is controlled for the purpose of giving the desired form to stockings, &c., by means of a rotary or studded cylinder or drum and a threaded wheel, as described in McNary's patent, May 15, 1860, No. 28,390.

Claim.—First, the combination with the needle ring, the presser having the compound motions, substantially as and for the purpose described.

Second, operating the stitch hooks by cranks upon separate shafts carrying gear wheels engaging corresponding wheels on the main shaft, substantially as and for the purpose described.

Third, connecting the wheels of the switch wheel directly with the needle ring, substantially as and for the purpose set forth.

64,242.—MOSES MILLER, East Gaines, N. Y.—*Land Roller.*—April 30, 1867.—The front rollers are separated sufficiently to admit the seat. Attached by its pivoted cross reaches to the middle of the frame is another independently working roller and frame.

Claim.—The roller B, having an independent frame M, and the cross reaches N N, in combination with the rollers A A and the frame C, operating in the manner and for the purpose shown and described.

64,243.—CLARK MOORHEAD and ISAAC GRIER, Lewistown, Ill.—*Washing Machine.*—April 30, 1867.—The hollow revolving slat cylinder which contains

the clothes has beaters hung at each end that turn over as the cylinder revolves and beat the clothes.

Claim.—The beaters *b*, hinged to the inner ends or sides of the revolving drum for the uses and purposes above named, substantially as above set forth.

64,244.—GEORGE F. NEALE and LOUIS AMEDE, South Boston, Mass.—*Glass Annealing Apparatus.*—April 30, 1867.—The wheeled metallic case is run on a sunken track into the annealing oven and there receives plates of flattened glass from the table which is moved from the flattening chamber. A turn-table in the oven enables the truck to be switched out to a side track on which it is withdrawn from the oven.

Claim.—The combination of the railway and the system of carriage boxes with the flattening furnace, such railway being so arranged as to enable the said annealing carriages or boxes to be run into and out of the said furnace, and to rest while on that part of the railway which is without it, substantially as specified.

Also, for the purpose described, the combination and arrangement of the interior track *i*, the turn-table *k*, or its equivalent, the two exterior tracks *r r* and *t t*, and the transferring carriage *B*, provided with the track *u*, as specified.

Also, the combination and arrangement of the sunken space *h* with the furnace and railway, constructed and arranged substantially as described.

64,245.—A. B. NEWMAN Jr., Watkins, N. Y.—*Box for Propagating Plants.*—April 30, 1867.—The box has cleats inside leaving an impression in the earth where it is to be detached; one side opens on hinges and is secured by a button.

Claim.—A box or trough for propagating or growing plants, vines, vegetables, small fruits, shrubs, seedlings, and stocks, as herein described.

64,246.—JAMES NICHOLSON, Philadelphia, Pa.—*Apparatus for Manufacturing Lap-welded Tubes.*—April 30, 1867.—Welding grooves are formed on each set of rolls for lap-welding tubes. Openings are formed in the front of the furnace next the rolls, and trains of rollers convey the tubes therefrom.

Claim.—In combination a furnace with one or more openings in its front, which will admit of the simultaneous discharge of two or more heated plates, or skelps, with a set of rolls having two or more welding grooves, and two or more trains of carrying rollers, all substantially as herein described.

64,247.—JOSEPH B. OKY, Indianapolis, Ind., assignor to himself and W. A. SCHOFIELD, same place.—*Combined Stove Cover, Lifter, Hammer, &c.*—April 30, 1867.—The combined tool is composed of two forms of hook, two lips, a hammer and claws.

Claim.—The utensil herein described, consisting of hoop *B*, lips *D D* and *C*, hammer *F*, hook *G*, and handle *A*, provided with a bifurcated end *H*, arranged and combined as set forth.

64,248.—CHARLES H. PALMER, Newark, N. J.—*Pocket Knife.*—April 30, 1867.—The actuating spring works inside the back of the handle, which crooking round forms a shoulder for the blade and boxing for the forward end of the spring. The handle is lined with brass which turns round its out edge. The scales are attached by spurs formed on the back.

Claim.—First, the spurs *b* formed on the back *B*, and combined and arranged with the checks *C* and scales *D*, substantially in the manner and for the purpose herein specified.

Second, the employment in pocket knives of the spring *E*, mounted separate from the back, and pressed backwards against the same by the opening and shutting of the blade, substantially in the manner and for the purpose herein specified.

Third, the housing or fitting of the spring *E* within the shoulder or recess formed by the part *B'* on the outward or forward extremity of the back *B*, the several parts being combined and arranged, substantially as and for the purpose specified.

64,249.—GEORGE T. PEARSALL, Apalachin, N. Y.—*Carriage Shackle.*—April 30, 1867.—The thills are elevated, the pintles dropped into their sockets, and the beveled edges of the spur crowd them against the rubber and prevent rattling.

Claim.—The pintle *B*, spur *C*, recess *E*, spring *D*, and socket *F*, substantially as described, forming a new and useful improvement in attaching thills or poles to carriages or other vehicles.

64,250.—HENRY PEMBERTON, Allegheny, Pa.—*Manufacture of Soap.*—April 30, 1867.—100 parts of finely ground cryolite are added in small quantities to milk of lime containing 75 parts of quicklime. The mixture is condensed by boiling to 30° Baumé and 3½ parts of grease added for each pound of cryolite.

Claim.—The preparation of soap from cryolite, substantially in the manner hereinbefore described.

64,251.—HENRY PEMBERTON, Allegheny, Pa., and BERNHARD HEINEMANN, Natrona, Pa.—*Box, Can, or Vessel for Putting up Caustic Alkalies, &c.*—April 30, 1867.—The box is covered on the inside with a solution of silicate of soda or potassa and dusted with powdered gypsum.

Claim.—Protecting the surface external or internal, or both, of barrels, cans, or cases made of paper, muslin, wood, or other vegetable substance, or either, or either or both surfaces of paper, muslin, or other vegetable fabric, for putting up caustic alkalies and other solid or liquid substances which require protection from air or moisture, or which are liable to penetrate their covering by means of a coating of silicate of soda or potassa, in combination with powdered gypsum, lime, or other substance capable of combining therewith, substantially as and for the purposes hereinbefore described.

64,252.—GEORGE R. POWERS, Kingston, Mass.—*Stencil Plate.*—April 30, 1867.—The plate is attached to a sleeve upon a cylindrical block in a recess above which is a helical spring by which the plate is raised, when it may be turned upon the block by a handle.

Claim.—First, the stencil plate *A*, in combination with the shell *B* and handle *D*, substantially as specified.

Second, the cylinder *C* provided with notches or grooves, in combination with the spring *E* or its equivalent, constructed and operating substantially as and for the purpose specified.

Third, the combination of the cylinder *C*, spring *S*, and handle *D*, as set forth.

64,253.—JACOB REESE, Pittsburg, Pa.—*Manufacture of Iron with Steel Surface.*—April 30, 1867.—The outer surface of the faggot or bloom is converted into a sub carburet by exposure in a furnace to a carbon or hydrocarbon.

Claim.—Giving a hard and highly polished surface, or a hard surface susceptible of high polish, to sheet iron and other articles of rolled, forged, or swaged iron by exposing the bar, bloom, pile, or slab, from which such articles are to be rolled, forged, or swaged to partial cementation, so that the iron may be carburated on the outside to a sufficient depth to give the required steel coating to the article manufactured therefrom, while the interior portion of the mass of iron retains the nature and characteristics of malleable or wrought iron, substantially as hereinbefore described.

Also, converting into steel by cementation the exterior of piles, slabs, blooms, or bars of iron designed to be rolled, forged, or swaged, while the interior or body of the piles, slabs, blooms, or bars remain unconnected and retain the ductility and softness of malleable iron, substantially as and for the purposes hereinbefore described.

64,254.—DANIEL T. ROBINSON, Boston, Mass.—*Machine for Making Horseshoes.*—April 30, 1867.—The bar after creasing is placed between the shears and the blank cut off. It is then driven by the forward movement of the "former" between the two reducing oscillating dies to form it in shape. The punch is then automatically brought over it and driven down by a blow of the spring hammer. The hammer being raised the punches are carried to the cooling tank and dipped therein, and the process repeated.

Claim.—The shears or cutting mechanism, consisting of the adjustable cutter block *C* and the lever *f*, operated by the finger *d* and spring *p*³, all con-

structed and arranged in the manner and for the purpose as before described.

Also, the mechanism for dipping the punches into water, consisting of the arm or carrier F, friction roller *j'*, carriage P, guides Q Q, and furcated lever R, the said lever being operated by the lever J, in the manner as before described.

Also, the water tank combined with this machine, in the manner described.

Also, the peculiar construction as well as the application of the shaping and reducing dies *j j*, as before described.

Also, combining with the carriage P the spring hook *m'* and abutment *s*², essentially in manner and for the purpose as before explained.

Also, the mechanism for operating the sliding carriage D, the same consisting of the lever J, bar M, connecting rod O, and wiper K, constructed and combined substantially in manner and to operate as before set forth.

Also, the combination of the hammer bar of the tripper *n*² and stud *q*³ of wiper K, under the arrangement and for operation as set forth.

Also, the hook *m*² in combination with the hammer and with the lip *b*³ on arm F, for the purpose of starting the punches from the shoe, substantially as described.

Also, the peculiar construction and application of the forming die for shaping the snow shoes, essentially as described.

Also, the combination and arrangement as herein described of all the several devices constituting this machine.

64,255.—SEYMOUR ROGERS, Pittsburg, Pa., assignor to LUMAN ROGERS, same place.—*Cotton-bale Tie.*—April 30, 1867.—One end of the hoop is looped around the link and the corrugated end is passed through the loop, being detained by the folds which act as teeth in engagement.

Claim.—First, the loop *c*, with the rigid arm *c'*, when constructed substantially as and for the purposes above set forth.

Second, the loop *c*, either with or without the rigid *c'*, in combination with the corrugated or rigid strap end *a* of a metallic hoop, constructed substantially as and for the purposes above set forth.

Third, the rigid arm *c'* of a loop *b*, in combination with the slot *e*, and the folded end *d* of a metallic hoop, constructed substantially as and for the purposes set forth.

64,256.—HENRY SCHEFFER, St. Louis, Mo.—*Preserving Eggs.*—April 30, 1867.—The eggs are first dipped in a solution of alum and salt and then in a solution of silicate of soda or potash.

Claim.—The process of forming a silicious coating by the application of a silicate and any simple or double alkaline salt, acting substantially as described in process numbered there.

64,257.—ADOLPH SCHLINGMAN, West Alexandria, Ohio.—*Bedstead Fastening.*—April 30, 1867.—Side cleats on the rails have mortises to receive the screw pieces which are engaged therein by a traversing key.

Claim.—Securing a bedstead rail by a tongue D, which being screwed or otherwise firmly secured to the post, is traversed by a key C, which, as it is driven downward, bears against the rear side of the cleat, and acts to close and perfectly secure the joint in the manner set forth.

64,258.—A. J. SENATZ and G. W. KNOWLTON, Sacramento, Cal.—*Amalgamator.*—April 30, 1867.—The two copper-bottomed pans are connected together by bars and communicate with each other by a pipe, one pan being placed slightly above the other. A vibratory motion is given to the pans by means of a crank shaft and springs. The vibrating riffle frames are supported above the pans by metallic staples and transverse bars which are slotted to convey quicksilver to the bottom of the pan.

Claim.—The copper-bottomed pans, with the iron rods or bars and slots in the end, fastened to the sides of the pans with pins, and by means of which rods or bars the pans are flattened together, and an undulating motion is secured for the water and earth which are dashed upward against the stationary riffles,

whereby the earth or sand is prevented from becoming solid.

Also, as a part of the same machine, the turned up ends of these pans, and the stationary riffle beds connected with the pans, all of said parts being the machine in combination which produce the intended effect.

64,259.—JAMES B. SKINNER, Rockford, Ill.—*Plow.*—April 30, 1867.—To reduce the friction and clogging on the landside, a strip is welded on the standard next the landside, to which it is bolted. A diagonal brace welded to the standard connects with the beam, and a cross-brace connects the mold board with the landside. The mold board and share have lips that overlap each other to make a smooth joint.

Claim.—First, the brace *d*, welded or fastened to the lower part of the standard and the landside, as and for the purpose described.

Second, the arrangement as described of the plow beam, mold board, landside, and handles, with the curved standard and diagonal brace C, for the purposes of reducing the weight and increasing the strength of the plow, as set forth.

Third, the standard constructed and connected with the landside and inner handle, for the purpose of avoiding friction or clogging, as set forth.

Fourth, the arrangement as described of the overlapping lips *i i'* on the inner front corners of the mold board and share, for the purposes set forth.

64,260.—GIDEON O. SPENCE, Titusville, Pa.—*Apparatus for Burning Petroleum, &c., in Conjunction with Steam or Heated Air.*—April 30, 1867.—The hydrocarbon is thrown in jets against the angular corners of the heated body, and sufficient oxygen is provided to consume the resulting fumes.

Claim.—First, providing within the fire box or furnace, for the purposes herein set forth, a solid substance or its equivalent, capable of receiving and retaining the required degree of heat for resolving petroleum or other fluid hydrocarbons into gases, when brought in contact with the same.

Second, the within-described method of supplying the fuel and oxygen, by discharging petroleum or other fluid hydrocarbons through one or more pipes, having their orifices within blowpipes or their equivalent, when applied and operated in combination with a heater, substantially as described and for the purposes herein set forth.

Third, the use of one or more blowpipes, or their equivalent, for the purpose of supplying oxygen and concentrating the heat, when applied and operated in combination with the heater, for the purposes herein set forth.

Fourth, the within-described method of revolving and consoling crude petroleum and other fluid hydrocarbons, by impinging one or more currents or jets of the same upon or against a solid heated substance, or its equivalent, within the fire box or furnace, capable of receiving and retaining such a degree of heat as shall resolve said crude petroleum or other fluid hydrocarbons into gases, for the purposes herein set forth.

Fifth, an apparatus for burning crude petroleum and other fluid hydrocarbons, consisting substantially of a heater, one or more pipes for supplying the fluid hydrocarbon, and one or more blowpipes, combined and applied for the purposes herein set forth.

64,261.—E. M. STEVENS, Boston, Mass., assignor to ALFRED B. ELY, (trustee,) Newton, Mass.—*Shuttle Guard for Looms.*—April 30, 1867.—The guard prevents the escape of the shuttle, when down, and is hinged to enable it to be readily raised when required.

Claim.—The hinged guard, in combination with a positive self-locking device, which shall hold the same in position, when down, against any blow of the shuttle, while it may be readily unlocked and thrown up by the operative when desired, substantially in the manner and for the purpose set forth.

64,262.—JOHN P. TARNUTZER, Fond du Lac, Wis.—*Cultivator.*—April 30, 1867.—When the shaft is turned by the pressure of the driver's foot on the bars of the capstan-head, the hinged cultivator frame moves laterally, operated by the pinion on the pinion rack, by which the intermediate frame is also moved. The ground is pressed by rollers in front of the teeth. The handle on the toothed frame raises it above the

spring catch, which holds it while surmounting obstacles.

Claim.—The shaft D, with pinion p and pinion rack r, and capstan-head C, and movable frame B.

Also, the rollers F F and sheave S, upon which a chain passes.

Also, the hinges h h, upon which the frame E is hung.

Also, the wings w w.

Also, the movable frame B.

64,263.—HEADLEY THOMPSON, Hector, N. Y.—*Brand for Marking Animals.*—April 30, 1867.—The metallic letters are removable from their frame and may be used either as types or brands.

Claim.—The movable type A, constructed with stems A' thereto attached, in combination with the stock B, constructed with sockets B' and the thumb screws C, and arranged for use substantially as and for the purpose set forth.

64,264.—L. M. TOWNSLEY, Sedalia, Mo.—*Fastening for Window Blinds.*—April 30, 1867.—The cog wheel on the window blind gears into a cog wheel on a line coincident with the line of the axis of the blind hinges attached to the window frame. The axle of the operative gear passes through the frame to the interior to a crank, one-half turn of which opens or closes the blind.

Claim.—The combination and arrangement of the catch D, the springs d, and the levers D² and D³, substantially as described and set forth.

64,265.—ADELIA WALBORN, San José, Cal., assignor to himself and J. H. ATKINSON, San Francisco, Cal.—*Washing Machine.*—April 30, 1867.—The stationary washboard in front is faced by a movable one kept in position by two eccentric buttons fastened to the ends of the box. Wooden pegs in conjunction with a sliding clamp hold the clothes as the frame moves. The lever operates the movable head piece of the sash on bearings in the side pieces of the frame, being assisted by a rubber spring.

Claim.—The double washboards O and K, the eccentric buttons B, the sash frame N, with clamp C, the lever handle G, the spring J, in combination and exactly as set forth, and for the purposes specified.

64,266.—JOHN S. WHITE, Boston, Mass.—*Window Brush.*—April 30, 1867.—The bristles are secured with copper wire; a metallic plate stiffens the cap, which turns round the central attachment pin that fastens the cap to the flexible back. The handle shifts the brush as it wears.

Claim.—The improved window brush as made with the flexible backing and the inflexible cap plate connected by a center pin, as and for the purpose set forth.

Also, the arrangement and combination of the stiffening plate c with the cap plate and the inflexible backing and its bristles, as explained.

64,267.—CHARLES WILLIAMS, Manchester, N. H.—*Cooking Stove.*—April 30, 1867.—The fireplace has beneath it a sifter, into which the cinders fall and which may be shaken longitudinally by a rod extending outside. The lower of two ovens has top, bottom, and sides of steatite held by metallic corner pieces.

Claim.—The arrangement of the hearth U, the ash sifter G, and box H, their chambers D E, and the fire place A.

Also, the combination and arrangement of the two ovens B C, the ash sifter and box chambers D E, the fireplace A, the flues I K L M N O P R S and T, and dampers h l l, as set forth.

64,268.—DARIUS WILLIAMS, Rock Co., Wis.—*Washing Machine.*—April 30, 1867.—The tilting concave washboard sustains the clothes beneath the roller in a frame oscillated by a crank and sliding vertically in its rock bar.

Claim.—First, the tilting washboard, composed of parts S and S' and slats e, in combination with part T and bearings e, when both are constructed and used substantially as and for the purposes described.

Second, the roller R, operated by means of the framework composed of parts I K L M N and O, substantially as described, in combination with the tilting washboard, composed of parts S and S' and slats e,

when the whole are connected together and operated substantially as and for the purpose described.

64,269.—CHARLES L. ALEXANDER, Washington, D. C.—*Printers' Type Case.*—April 30, 1867.—The horizontal partitions, instead of being at a right angle to the bottom, are made oblique thereto so as to be nearly vertical when in use.

Claim.—A type case having the lower or front sides of the boxes inclined toward the upper or rear part of the case, substantially as described.

64,270.—JOHN J. ALVORD, Tecumseh, Mich., assignor to himself and SAMUEL C. BLINN, same place.—*Hoop Machine.*—April 30, 1867.—The knife is hung from the frame, is operated by a pitman connected with the crank wheel of the driving shaft, and cuts the hoop at a single drawing stroke. The pawls are pivoted to the arms and, engaging the teeth of the ratchet wheel, feed the table forward the thickness of a hoop.

Claim.—The arrangement of the arms O P, pivoted together upon the shaft M, and having the pawls R S secured thereto, ratchet wheel T, vibrating frame L, bearing the said shaft M, the sliding table K, to which is secured the rack K, meshing into the gear wheels N, and cams J upon the shaft I, substantially as herein set forth, for the purpose specified.

64,271.—JAMES ANNIN, Le Roy, N. Y.—*Cleaning Watches, Jewelry, &c.*—April 30, 1867.—The article to be cleaned is dipped in a liquid composed of cyanuret of potassium, soft water, alcohol, and boxwood saw dust.

Claim.—The process of cleaning watches, jewelry, silver and plated ware, &c., by the ingredients and in the manner substantially as represented and described.

64,272.—JABEZ K. BARCOCK, Shortsville, N. Y.—*Hay and Manure Fork.*—April 30, 1867.—The ferrule and head are cast in one piece; holes are drilled into the solid head and the tines secured therein by transverse keys.

Claim.—The ferrule A and head B, cast in one piece, with holes drilled longitudinally in the head to receive the tines, and holes drilled transversely through the heads for the keys or pins D, substantially as and for the purpose herein set forth.

64,273.—JOSEPH BARROW, Mobile, Ala.—*Buckle.*—April 30, 1867.—Explained by the claim and illustration.

Claim.—The buckle constructed of a continuous rigid frame A, with bars C, on which are hung the tongues D, having independent motions, and the clasp F for holding the ends of the strap, as herein represented and described.

64,274.—P. D. BECKWITH, Dowagiac, Mich.—*Grain Drill.*—April 30, 1867.—The claim supporting the cover is attached to the adjusting bail, which simultaneously adjusts all the covers, being operated by a curved hook.

Claim.—The mode herein described of securing or attaching the chain to the bail A by means of the rod or hook d, whereby a simple and permanent attachment without weakening the bail is obtained, substantially as specified.

64,275.—G. W. BENTON, Dansville, N. Y.—*Washing Machine.*—April 30, 1867.—The suds box rests on springs, and rollers are fitted transversely therein. The adjustable cylinder has rubber arms, is operated by a hand crank, and regulated by springs bearing on the shaft of the cylinder, and held down by rods.

Claim.—The within-described arrangement and combination of the springs B, frame C, concave series of rollers D, cylinder a, rubbers c, springs E and adjusting screw rods F, all operating in the manner and for the purpose specified.

64,276.—JOSEPH W. BRADLEY, Rocheport, Mo.—*Washing Machine.*—April 30, 1867.—The perforated cylinder is turned by a hand crank, and has T-shaped slats attached, which form inwardly projecting ribs; a corrugated perforated partition forms a wash-board for each division.

Claim.—The cylinder G, consisting of the T-shaped

slats, placed a short distance apart around its periphery, projecting ribs *a* upon the inside of the perforated cylinder heads, grooved or corrugated partition *J*, and door *k*, as herein set forth for the purpose specified.

64,277.—CHARLES R. BROADBENT, Boston, Mass.—*Slipper*.—April 30, 1867.—The pulp is laid on blocks, and is varnished when rigid.

Claim.—As a new article of manufacture, a slipper or shoe made of paper, substantially as described.

64,278.—ROBERT BROOME, Central Falls, R. I.—*Cooking Vessel for Frying, Steaming, &c.*—April 30, 1867.—The adjustable kettle and steamer are regulated by the various positions in which they are placed, and by the juxtaposition of the perforated parts to each other.

Claim.—The culinary vessel or utensil herein described, composed of parts A B C and D, when constructed, combined, and arranged substantially as set forth.

64,279.—A. H. BROWN, Springfield, Vt.—*Meat Hammer*.—April 30, 1867.—The hammer face has angular projections.

Claim.—A meat hammer having its face or faces provided with one or more angular edges, substantially as and for the purpose herein set forth.

64,280.—GEORGE W. BROWNE, New York, N. Y.—*Row Lock*.—April 30, 1867.—The row lock is attached by a swivel to a plate hinged inside the gunwale, so that when the oars are not in the thole it will swing down inwardly.

Claim.—The arrangement and combination of the annular plate C, centrally pivoted thole D and plate B, secured to the gunwale of the boat, as herein set forth.

64,281.—D. E. CAMPBELL, Boston, Mass.—*Attachment for Door Key*.—April 30, 1867.—The clutch is sprung over the handle shank and the arm extended through the key ring; the sliding bar has an indentation engaging the key ring.

Claim.—A safety attachment for the keys of doors, consisting of a bar B, having spring arms or jaws D D and a spring sliding catch G, when arranged and combined together, and so as to be used and to operate substantially in the manner described.

64,282.—W. W. CARPENTER, Middletown, N. Y.—*Heating Stove*.—April 30, 1867.—The vertical air pipe has a sleeve damper by which the exit of air immediately above the stove is regulated. Above this damper a branch leads to the main flue, and this branch and the main air pipe have circular oscillatable dampers.

Claim.—The horizontal pipe E resting upon the grate, its ends passing through the sides of the stove, and supporting the vertical pipe D centrally in the furnace, said pipe D provided with the adjustable ring L, and connected to the stovepipe H, where all are constructed and arranged as herein set forth for the purpose specified.

64,283.—WILLIAM B. COATES, Philadelphia, Pa., assignor to THOMAS REECE and ARTHUR CLARKE, same place.—*Bag for Preserving Ice*.—April 30, 1867.—The woolen bag is put into a somewhat larger one of cotton-duck or water-tight fabric. A cross seam near the bottom leaves a chamber below for accumulation of water.

Claim.—First, the application of woolen bags of one or more thicknesses, for the purpose of preserving ice.

Second, the outside water-proof bag of oil-cloth, cotton duck, rubber cloth, or equivalents, and chamber for drippings K, the discharge openings at H H and at G G and N, strap and buckle D and cord E.

Third, the bags A and B in combination, the whole being made and constructed as herein described.

64,284.—OWEN COLLINS, New York, N. Y.—*Fireplace Heater or Furnace*.—April 30, 1867.—The grate bars are hollow to admit streams of air, and the fire space is surrounded by a smoke-consuming chamber, and that by an air space. The caloric currents

pass into a complexly-formed chamber above and issue through a horizontal flue.

Claim.—First, the arrangement of the tubular grate bars with relation to the rear and side chambers K L of the base communicating therethrough with the space or spaces within the jacket M, substantially as specified.

Second, the smoke-decomposing chamber G, made to encompass the fire chamber and communicating therewith by smoke passages *b*, also provided with suitable air inlets and outlets, as herein set forth.

Third, the combination of the side and bottom air inlets *h i* to the chamber L of the base, and controlled by dampers or valves J, to vary the ingress, essentially as specified.

Fourth, the draft tubes J, arranged to descend into the fire and controlled by dampers *d*, substantially as shown and described.

Fifth, the reversely-conical or concave radiating reflectors N O and deflector Q, arranged for operation essentially as represented and described.

64,285.—P. H. COLLINS, Philadelphia, Pa., assignor to HARRY BITTER and A. MERITT ASAY, same place.—*Clamp for Closing Ruptures in Fire Hose*.—April 30, 1867.—The concave plates are hinged together and their free ends held by a ratchet pivoted on one jaw, which engages a catch on the other. A handle may be attached to one of the jaws to assist in carrying the hose.

Claim.—The recessed clamps, constructed substantially as described.

64,286.—L. O. CROCKER, Braintree, Mass., and G. F. FIELD, Weymouth, Mass.—*Ticket Cutter*.—April 30, 1867.—The stripper plate is connected by a spiral spring and guide wire to the point of the cameo die jaw, and is pivoted to the other jaw, the spring tending through it to open the jaws when closed. One of the handles is bent around and formed into a pin to enter a cavity in the other, and has a spiral spring pressing outward.

Claim.—The arrangement of the stripper *k*, with its outer end supported against and operated by a spiral spring or springs *l*, and its inner end jointed or connected with and so as to be operated by the counter-die jaw *b*, substantially as set forth.

Also, combining with the wire *f* the spring *g*, operating as and for the purpose substantially as set forth.

Also, in combination with the stripper plate *k*, (moved from the die before the action of the counter-die jaw,) the inclination of the cutting face of the die, both laterally and longitudinally, substantially as described.

64,287.—JOHN C. K. CROOKS, Birmingham, Mich.—*Attachment for Artificial Teeth*.—April 30, 1867.—The metallic loops are inserted with their flattened shanks in the longitudinal line of the tooth, while the loop itself is at right angles to said line.

Claim.—The loop or eye *a*, provided with the double shank *b*, the two ends of which are flattened in line with each other in such a manner that their outer extremities shall be widened to a greater degree than their points of connection with the eye, thereby being slightly wedge-shaped, said shank being inserted in the tooth A with the said flattened ends in the longitudinal line of the tooth, while the eye itself is at right angles to said line, substantially as herein shown and described.

64,288.—GEORGE DEWEY, Blooming Valley, Pa.—*Window Sash*.—April 30, 1867.—The glass is held in place by angular pieces of rubber; strips of the same between the sashes or the same and the beading prevent draft and act as a sash support.

Claim.—First, securing panes of glass in sashes or frames by means of triangular india-rubber strips or pieces *II*, substantially as described.

Second, the flat india-rubber strips *d* on the inner faces of window sashes, substantially as described.

64,289.—ALLEN O. DIVINE, Cambria Mills, Mich.—*Gate*.—April 30, 1867.—The gate is hinged at the middle standard and folds back when a narrow passage is alone required. The other section is supported on rollers, those at the feet of the standards running in ways on the sill. Hooks on the posts fasten the gate.

Claim.—A gate constructed of the hinged parts A B, as described, in combination with the way *m*, friction rollers *h* and *i*, and catch *s*, so arranged as to form at once a swinging, sliding, and folding gate, substantially as set forth.

64,290.—E. N. DODGE, Plainview, Minn.—*Whiffletree.*—April 30, 1867.—The tug arms have disks whose segmental racks engage the racks upon the two slide pieces, which are connected by an adjusting screw rod. The arms have oscillatory movement, with the shoulders of the horse as a common single-tree.

Claim.—The arrangement of the rods B B, the bars C C, and the connecting rod D, constructed and used as and for the purpose herein specified.

64,291.—E. O. DOUD and W. F. BEARDSLEY, Penfield, N. Y.—*Potato Digger.*—April 30, 1867.—The shovel drops the potatoes into a longitudinally-slatted and reciprocating riddle. The oscillating clearer plate whose projections pass up between the slats of the riddle and the rake, which draws the potatoes backward of the shovel, receive movement from the wrist pin of a wheel geared with the driver wheel.

Claim.—First, in combination with the shovel S the reciprocating hook H, arranged and operating substantially as shown and described.

Second, raising the head of hook H upon the ways *l* by means of the pivoted lever *y*, which is operated by the pin or tappet *t*, substantially as and for the purpose set forth.

Third, attaching the pitman *P'* to the shank O, as shown, for the purpose of producing a gentle pressure or force through the pitman *P'* upon the rake head, the wrist pin *u* acting as a fulcrum to effect it.

Fourth, in combination with the longitudinally-reciprocating riddle or separator R, the reciprocating cleaner *k*, constructed, arranged, and operating substantially as and for the purposes set forth.

Fifth, the heads E, constructed as shown and described, in combination with the pitman *r*, depressions *r'*, and pins *c*, all operating conjointly, as shown and described, for the purpose of rotating the cleaner *k*.

Sixth, the sinuous slot *T'* and rack *g*, in combination with the shaft S' and pinions *P''*, for the purpose of raising and lowering the machine, and at the same time retaining the pinions G and G' in gear with the spur wheels of the ground wheels after the machine is lowered sufficiently to put them into gear, as set forth.

Seventh, the sinuous slot *T'* in the stock or yokes J, as shown, and for the purposes set forth.

Eighth, the arrangement of the hand wheel K, shaft M, ratchet and pawl *w'* and *y'*, step box N, pinion P, and bevel wheel B', for the purpose of revolving the ground wheel shaft S, and retaining the desired elevation or gauge of the machine.

Ninth, the relative arrangement of the ground rollers D, as shown, in combination with the shovel S and jointed or adjustable tongue T, in potato diggers, for the purposes set forth.

64,292.—J. W. DOUGLAS, Middletown, Conn., as signor to W. and B. DOUGLAS, same place.—*Hose Coupling.*—April 30, 1867.—The sections of the coupling are adjusted and secured by an eccentric nut in combination with lugs with corresponding tongue and groove attachment.

Claim.—First, the inclined lugs B B', provided with corresponding groove and tongue, for the purposes and substantially as described.

Second, the inclined concave grooved nut C, in combination with the lugs B B', substantially as described.

64,293.—W. DURVEA, Glen Cove, and W. ENNIS, Hudson, N. Y.—*Heating Drum Attachment for Furnaces.*—April 30, 1867.—The air passes downward in a drum surrounded by the calorific current and traversed by a central flue; it then passes through a horizontal pipe, and upward through a similar drum to the place of exit.

Claim.—The apparatus constructed substantially as described of tubular radiating smoke boxes D D', within a chamber A, partitions G G', and smoke and air inlets and outlets arranged relatively to each other

to establish a circulation through the apparatus, substantially as specified.

64,294.—W. DURVEA, Glen Cove, N. Y., and W. ENNIS, Hudson, N. Y.—*Furnace for Burning Saeudust, &c.*—April 30, 1867.—Improvement on the patent of Ferdinand Braun, May 17, 1864, (No. 42,816.) The perforated inverted conical fire pot has air apertures above the fuel to consume the smoke when air is admitted. The bottom has an oscillating shaking movement by a radial arm. Fuel passages from a drying chamber above are regulated by an oscillating plate operated from the outside.

Claim.—First, the combination of the perforated conical fire pot or chamber B, with its dome-shaped roof *a*, and shaking grate D, fuel-feeding tubes or passages *c* communicating with a drying chamber or receptacle above, and regulating plate or valve C, substantially as specified.

Second, the combination with the fire chamber B and fuel supply passages *c* of the air inlets *f*, arranged relatively to the passages *d* and dome *a*, essentially as herein set forth.

64,295.—NATHANIEL T. EDSON, New Orleans, La.—*Paddle Wheel.*—April 30, 1867.—The floats are kept in a vertical position while in the water by their rectangular arms which pass through the slots of the swivel blocks on the spokes of the eccentric wheel, which is driven by independent cog gearing.

Claim.—First, a combination of the float arms with their lugs *f*, the swivel blocks H, and wheels A B and F, when wheel F is constructed with arms firmly attached to its inner rim, and the float arms placed at right angles with the floats.

Second, a combination of the cog wheels *b'* and *c'*, when acting and being acted upon by cog wheels *d'*, and used with wheels A B and F, substantially as set forth and described.

64,296.—E. P. EDSTROM, Somerville, Mass.—*Horse Collar.*—April 30, 1867.—The roll is formed on a ratan possessed of sufficient flexibility to enable bending it to the desired shape, and sufficient rigidity to keep it normally in shape, or to bring it back to shape after compression or expansion. The roll is stitched directly to the body through its face.

Claim.—A horse collar in which the roll is formed upon a core piece, substantially as described.

Also, in the construction of a horse collar stitching the body part *a*, and the face piece *d'*, of the roll together at the front of the roll, when said body part is drawn over the inner side of the roll and the frame without a seam under the roll, substantially as shown and described.

64,297.—B. M. ESTERLE, San Francisco, Cal.—*Railroad Rail.*—April 30, 1867.—Protuberances on the inner floor of the rail afford inner guides for the wheel flanges and oppose obstacles to the passage of other vehicles with ordinary wheels.

Claim.—The railroad rail provided with alternate inclines A and B, substantially as and for the purposes herein set forth.

64,298.—SAMUEL B. FAY, Franklin, Pa.—*String Tag.*—April 30, 1867.—The pointed metallic tip is run through the cloth and draws after it the cord, which is noosed round the ticket below.

Claim.—The metallic tip *c*, formed with a point at one end and oval at the rear whereby the same may be inserted or withdrawn from the goods when used in combination with the string and tag, in the manner and for the purposes set forth.

64,299.—T. A. and A. F. FISHER, Beardstown, Ill.—*Carriage.*—April 30, 1867.—A spring connecting bar on the carriage is connected by the pointed king bolt and fifth wheel to the front axle, and the coupling rod is jointed to the fifth wheel and swiveled to the brace attached to the body.

Claim.—First, the jointed king bolt H, in combination with the fifth wheel and forward axle and with the spring K attached to the carriage body D, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the jointed coupling rod L with the fifth wheel G, to which its forward

end is attached, and with the brace or arm M, to the lower end of which its rear end is swivelled, substantially as herein shown and described and for the purpose set forth.

64,300.—WALTER FITZGERALD, Boston, Mass.—*Button Hole Cutter.*—April 30, 1867.—The cutter is adjustable over the end of the abutment plate so as to regulate the length of button hole cut.

Claim.—The arrangement of the stationary bed and movable cutter by which increased lengths of cuts are obtained by movements towards instead of away from the fulcrum of the levers carrying the cutters and bed, substantially as described.

Also, the combination with the cutter and its slotted carrier of the adjusting screws by which the edge of the knife is aligned so as to come into contact with the surface of the bed.

64,301.—GEORGE FLINT, Lowell, Mass.—*Parlor Skate.*—April 30, 1867.—The wheeling motion of the skater is facilitated by a middle driving wheel which descends below a line drawn between the other two wheels.

Claim.—The middle wheel or runner *c*, in combination with the wheels *b* and *d*, arranged substantially as herein described and for the purpose fully set forth.

64,302.—T. L. GOBLE, Orange, N. Y.—*Carriage Jack.*—April 30, 1867.—The carriage axle rests on the rail, and is lifted by the operating lever which is pivoted eccentrically to the standard.

Claim.—First, the notched rail E pivoted at one end to the eccentric lever D, and at the other end to the pivoted adjustable stand F, substantially as described for the purpose specified.

Second, the adjustable stand F pivoted to the notched rail E, which is operated by the eccentric lever D, substantially as described, for the purpose specified.

64,303.—J. and W. B. GOFF, Hornellsville, N. Y.—*Gate.*—April 30, 1867.—One of the projecting bars of the gate clamps between the eyebolts attached to the post and is secured by a pin passing through the eyes and a staple on the bar. The other end is secured by an ordinary gate catch with a pin above the bar.

Claim.—The arrangement of the metal eyes *x x*, pin I, and loop J, with gate A, in the manner and for the purposes set forth.

64,304.—CHARLES GOOCH, Cincinnati, Ohio.—*Skate.*—April 30, 1867.—The clamps fit in slots of the foot rest and have pronged upright arms adjusted by thumb nuts.

Claim.—The clamp D, fitting in the holes B of the foot rest A, consisting of the plates F with inclined inner edges and having pronged upright arms G, and adjusted by means of the bolt I and thumb nut J, as herein set forth, for the purpose specified.

64,305.—H. W. GOODRICH and WM. B. MASON, Boston, Mass.—*Steam Engine Slide Valve.*—April 30, 1867.—The valve has a shallow vertical cylinder on its top in which fits a piston secured by a cross-plate to a carriage resting on rollers and connected to the stem. The valve and carriage may be connected by links.

Claim.—The combination of the slide valve, a cylinder, a piston, and a carriage arranged to operate together, substantially as described.

64,306.—CARLOS H. GOULD, Cincinnati, Ohio.—*Steam Generator.*—April 30, 1867.—The upper and under water spaces are connected by a circular series of vertical pipes and an annular water chamber. From the verge of the upper water chamber depends an annular water leg, and the space between it and the water chamber within is supplied with jets of air from perforated pipes. The caloric current passes from the fire space downward in the annular diving flue and beneath the boiler to an open-ended cylindrical damper by whose vertical movement the draft is regulated. The water feed is regulated by a float and weighted lever; the float and lever arms are at right angles to their steam packed pivot which passes diametrically through the boiler shell. An adjustable rod of the lever passes through to the cap of a chamber in the water pipe, and resting upon an elastic dia-

phragm bears it down upon the end of a pipe within said chamber when the float is raised, but allows passage of water when the float is depressed by falling of the water level.

Claim.—First, the annular water space F', communicating in the manner described with a drum or steam box J, and enclosing the fire chamber when combined with the enclosing non-metallic wall P' and bed P having the bottom central ventage U, substantially as set forth.

Second, in the described combination with the elements of the preceding clause, the enclosing air-jacket Z, for the purpose set forth.

Third, in combination with the elements of clause first, the annular descending and centrally discharging flue V, as set forth.

Fourth, the tubular damper 3 in the described arrangement with the flue V and the bottom of the boiler, as explained.

Fifth, the ash spout *k*, arranged and adapted as and for the purpose represented.

Sixth, in the described combination with the elements of clause first, the feed water pipe *f* passing up through the center of the escape flue and of the boiler bottom, as and for the purpose described.

64,307.—D. R. GOULD, Chestertown, N. Y.—*Hydrant.*—April 30, 1867.—The conoid valve has a small groove which allows the waste of water from the discharge pipe to prevent freezing up of the same. The operating lever is worked by a cam.

Claim.—First, the valve F constructed as described and provided with the groove *a* and arranged in connection with the case B and the discharge pipe D, substantially as and for the purpose specified.

Second, the arrangement of the plate *b* supported upon the spring *d* and used in combination with the opening in the bottom of the case B and the stem E, substantially as and for the purpose specified.

64,308.—JAMES S. GRAHAM, Rochester, N. Y., assignor to himself and C. R. TOMPKINS, same place.—*Tenoning Cutter Heads.*—April 30, 1867.—The knives have a circular bed and curved edges whereby a shearing cut is effected. One knife cuts the length of the tenon.

Claim.—The arrangement of the knives or cutters *k*, constructed substantially as shown and described, upon the longitudinally curved bed *a* of the head H of tenoning machines, for the purpose herein set forth.

64,309.—J. GRANGER, Zanesville, Ohio.—*Boat Builders' Platform.*—April 30, 1867.—The platform is pivoted on posts and inclines toward the water while a boat is being lauded or launched, and at other times is tilted into a horizontal position.

Claim.—First, pivoting the tilting platform to the post *a*, so that when the platform is tilted the entire weight of the platform and the boat will rest upon the ground, substantially as described for the purpose specified.

Second, the post A with its inclined shoulders, to which the platform B is pivoted at a distance nearer to its inner end than at the outer, so that when the platform is lowered the weight is upon the ground on the foundation, in the manner as and for the purpose specified.

64,310.—THOMAS GREEN, Brooklyn, N. Y.—*Water Meter.*—April 30, 1867.—The cast-iron cylinder has within it an oscillating piston, valves, and passages. The water flowing through them acts upon a registering apparatus connected with the friction shaft.

Claim.—First, a water meter constructed substantially as and for the purpose herein specified.

Second, the water gate B, the valve C, and the slide rod *m*, in combination with the cylinder A, constructed and operating substantially in the manner and for the purposes herein described.

64,311.—P. S. GREENMYER, Smithville, Ohio.—*Supporter.*—April 30, 1867.—Shoulder and auxiliary straps support the suspended body belt and the two-fold series of straps to which the pessary is attached.

Claim.—The belt A carrying the uterine supporter C with its straps and arms, when used in combination with the shoulder straps D D and their respective

connecting straps, all arranged in the manner and for the purpose specified.

64,312.—ROBERT E. HAINES, Cambridge, Mass., assignor to BOSTON SILVER GLASS COMPANY, Boston, Mass.—*Glass Ware Mold.*—April 30, 1867.—The upper and lower portions of the mold are confined by grooved-hinged clasps, with inclined projections.

Claim.—The employment of hinged clasping bands, constructed and arranged to operate substantially as described, to hold the upper section, when made whole of a glass ware mold to lower sections thereof, when made in parts.

64,313.—L. M. HART, Philadelphia, Pa., assignor to himself and CHARLES S. HINCHMAN, same place.—*Machine for Pressing Tuyeres.*—April 30, 1867.—The carriage supports several molds, which are successively brought beneath the plunger; the carriage is detained by a stop to hold the mold at the proper point for operation.

Claim.—In combination with a traversing core mold a traversing carriage, carrying two or more molds for making tuyeres or other articles of clay or other plastic substances.

64,314.—JOHN HARTMAN, JR., Philadelphia, Pa.—*Skate.*—April 30, 1867; antedated October 30, 1866.—The two swivel clamping plates attached to the rear end of the skate frame act as a fulcrum, and move in a slot. The thumb-screw under the skate frame tightens the forward strap after buckling, and brings together the clamping plates.

Claim.—First, tightening the skate by means of a supplementary plate D, operated by a screw E, substantially in the manner above described.

Second, the combination and arrangement of the the swivel clamping plates F and F', with the sole B, by means of the adjustable fulcrum pin G, substantially in the manner and for the purpose above set forth.

64,315.—STEPHEN C. HENDRICKSON, New York, N. Y.—*Telegraph Insulator.*—April 30, 1867; antedated April 24, 1867.—The shelter is to keep dry a certain portion of the wire, and prevent the escape of the current on the outside of the wire over the insulator.

Claim.—First, a drip insulator, arranged in connection with the gutta-percha coverings of telegraph wires, substantially as described and for the purpose set forth.

Second, the trunk piece G, the bell M, the inverted bell O, the trunk piece P, and the gutta-percha connections at J and Q, constructed substantially as and for the purpose described.

64,316.—ROBERT HITCHCOCK, Springfield, Mass., assignor to JOHN MULLIGAN and JOHN H. HARE, same place.—*Guide for Axle Boxes.*—April 30, 1867.—Detachable guide plates are secured by bolts in the jaws of the axle boxes, so as to be renewed as they become worn.

Claim.—The detachable metallic guide plates B B, provided with flanges *d d* upon their inner edges, and having the wedge-shape projections *b* fitting into the wedge-shaped grooves in the jaws A, when all are constructed and arranged as herein set forth for the purpose specified.

64,317.—WINDSOR HOLDREDGE, Oxford, N. Y.—*Gate.*—April 30, 1867.—The gate is constructed upon the "lazy-tongs" principle. It is operated by weight on the track, which sets in motion a bell crank and push bar. Spring and weight elevate the track, and close the gate by the reverse motion of the same appliances.

Claim.—Connecting the expansible and contractable gate *p q*, with the hinged platforms J J, by means of the descending arms K K, the horizontal levers *l*, the horizontal shaft *m*, the vertical arm *n* and the crooked lever *y*, in such a manner that the depression and elevation of either of said platforms will operate said gate, substantially in the manner herein set forth.

64,318.—PARLEY HOWE, Staffordville, Conn.—*Hand Spring for Machinery.*—April 30, 1867.—The

adjustable spring projects the lever into the notch in the guide, and when it is relieved therefrom draws it home to the frame.

Claim.—The hand spring constructed, arranged, and applied substantially as and for the purpose described.

64,319.—DAVID T. HUBBLE, Bethel, Conn.—*Suspending Lamps.*—April 30, 1867.—The suspending chain passes around a drum containing a coiled spring, which acts to draw up the lamp; a claw engages one of the links for adjustment. The drum is enclosed in a pendent case, which is slotted to admit a side movement of the chain to release it from the claw.

Claim.—First, the arrangement and combination of the mechanism consisting of the drum B, spring D, roller T, claws H and chains C, with frame N, as and for the purpose set forth.

Second, the pendant A, with its central opening and slot I, in combination with the above operating mechanism, as and for the purpose set forth.

64,320.—THOMAS S. HUDSON, East Cambridge, Mass.—*Hand Stamp.*—April 30, 1867.—Improvement on the patent of B. B. Hill, November 6, 1866. Circular type with impression characters on the perimeters and indicating characters on their sides are revolved by the spindles on which they are placed. Holes in the casing expose the characters on the sides of the wheels. The type block indicating the year is locked by a key.

Claim.—First, operating both of the type wheels G H by their spindle I, in the manner and for the purpose set forth.

Second, the type wheels G H, provided with notches *e*, in combination with the spindle I, with its projection *f* and spring *g*, operating substantially as and for the purpose set forth.

Third, the type wheels G H, with the characters marked on their sides, substantially as described, in combination with a casing E, provided with its holes *c d*, substantially as and for the purpose set forth.

Fourth, the key L, or its equivalent, for locking the type block K in place, substantially as described.

64,321.—BENJAMIN IRVING, New York, N. Y.—*Concentrating the Extract of Bark for Tanning and other Purposes.*—April 30, 1867.—The flat worm made of corrugated plates, in which the extract is vaporized, passes through a steam chamber and has a vapor discharge pipe at its upper end and a liquid discharge pipe at its lower end; the pipes are connected with tanks whose upper ends are connected to an exhausting apparatus to assist the flow of the extract and escape of the vapor from the heated coil.

Claim.—The method of process hereinbefore described of treating the extracts of bark for concentrating it by a continuous operation in a vacuum worm or evaporating tables, substantially as set forth.

64,322.—BENJAMIN IRVING, New York, N. Y.—*Machine for Obtaining the Extract of Bark for Tanning and other Purposes.*—April 30, 1867.—The soaked slab of bark is passed between the upper steam heated roller and another roller, through a water trough, and then between the first roller and another one; from thence it drops on an endless apron passing through a shallow tank and delivering the bark to another pair of rollers, the upper one being steam heated.

Claim.—First, the combination and arrangement of the rollers E and D', and D², with the trough F, substantially as hereinbefore described and for the purposes set forth.

Second, the combination of the pipes G² and G³ with the water trough F, for the purposes hereinbefore set forth.

Third, the combination and arrangement of the rollers E and D' and D² with the water box F, and collecting trough J, for the purposes hereinbefore set forth.

Fourth, in combination with the rollers E D' and D², the endless apron P and water box V, for the purposes hereinbefore set forth.

Fifth, in combination with the endless apron P and water box V, the pressure rollers U and U², for the purposes hereinbefore set forth.

Sixth, the combination of the rollers E and V with the steam pipe N², for the purposes hereinbefore set forth.

64,323.—BENJAMIN IRVING, New York, N. Y.—*Obtaining the Extract of Bark for Tanning and other Purposes.*—April 30, 1867.—The bark is passed alternately between the heated pressure rollers and through tanks to extract the tanning liquor, which falls into receivers beneath the rollers.

Claim.—The method of treating bark for obtaining the extract thereof for tanning and other purposes by the process, substantially as hereinbefore described.

64,324.—BENJAMIN IRVING, New York, N. Y.—*Apparatus for Concentrating the Extract of Bark for Tanning and other Purposes.*—April 30, 1867.—The process is, or may be, conducted in the apparatus described under patent No. 64,321, of even date.

Claim.—First, the use of a flat worm made of corrugated sheets or plates of metal, substantially as hereinbefore set forth and for the purposes described.

Second, in combination with a flat worm made substantially as hereinbefore described, a steam chamber or box, for the purposes set forth.

Third, the use of one or more tanks H and I in combination with connecting pipes G and J, and exhausting pipe L, arranged and operating substantially as hereinbefore set forth.

Fourth, the combination of the flat worm made as hereinbefore described, with one or more tanks H and I, by means of the pipes F and K, for the purposes hereinbefore set forth.

64,325.—BENJAMIN IRVING, New York, N. Y.—*Apparatus for Concentrating Extracts from Bark for Tanning.*—April 30, 1867.—The projecting upper end of the coil has a lower branch for the induction of the extract and an upper branch for escape of vapor. The coil is enclosed in a steam chamber, and has an exit pipe at its lower end.

Claim.—The combination of the worms, or of coils of cylindrical pipes, made as hereinbefore described with the steam chamber, for the purpose of concentrating extracts from barks for tanning purposes.

64,326.—CHAS. W. ISBELL, New York, N. Y., and P. W. MCKENZIE, Jersey City, N. J.—*Steam Generator.*—April 30, 1867.—Antedated April 22, 1867.—The sections or tiers of which the generator is composed are formed of rings having projections upon their inner surfaces, which extend nearly to the center of the furnace. The projecting portions are closed at their inner ends, but are open at their outer ends, where they communicate with the surrounding water space, which is otherwise bounded by the outer cylindrical shell.

Claim.—First, the steam generating rings or sections F, constructed with radial finger-shaped tubes H, of tapering or diminishing form from their outer and open ends toward their inner and closed extremities, substantially as specified.

Second, in combination with a series of said rings or sections F, a cylindrical shell or casing inclosing an annular water space B, forming a steam generator with flue spaces b between and around the pockets H, substantially as herein set forth.

64,327.—JOHN JACOBS, Oneida, Ill.—*Self Adjusting Neck Yoke.*—April 30, 1867.—The disk which encompasses the end of the tongue is secured by a swivel plate to a clip on the neck yoke.

Claim.—The swivel loop C and plate B, or their equivalents, constructed substantially as specified and used with a neck yoke, as and for the purpose herein set forth.

64,328.—ABJAH JOHNSON, West Newton, Ind.—*Striking Attachment to Clocks.*—April 30, 1867.—A metallic ring is appended to the arbor of the hour hand with which it rotates. A pin set at any desirable point in said ring trips the end of the striking wire, which for this purpose is turned outward from the striking works through an aperture in the clock face.

Claim.—The ring B placed and figured as shown and perforated for the insertion of pins to operate the striking machinery of a clock, and in combination

therewith the movable pins C, substantially as and for the purpose set forth.

64,329.—S. A. and L. M. KAYS, Independence, Iowa.—*Horse Rake.*—April 30, 1867.—The vibration of the lever presses the forward ends of the teeth and causes them to catch against the ground and rotate the rake head. When the lever is released the spiral spring raises it and its connections to their original positions. By raising the lever the rear bar holds the rake from rotating.

Claim.—First, the lever I and curved bar K, in combination with the rake head F, and pendent lever J, for the purposes and substantially as shown and described.

Second, the spiral spring b in combination with the bar K and lever I, substantially as shown and described and for the purposes set forth.

64,330.—MOSES W. KIDDER and MOSES W. SHOREY, Lowell, Mass.—*Refrigerator.*—April 30, 1867.—The entering air is brought in contact with the pipes containing the outgoing cold air and is thereby cooled, a non-conducting material covering the said passage. When one compartment is opened a valve at the back prevents the cold air from flowing out of the other chamber or the entrance of external air thereto.

Claim.—First, the arrangement of the induction tube B within the eduction tube or passage I, in the manner and for the purpose set forth.

Second, the use and application of valves b and f to the back or either side of each or any of the compartments, said valves being operated by opening and closing the inner doors, substantially as and for the purpose explained.

Third, the combination of the tubes, pipes, or passages arranged for ventilation as set forth, the valves b and f and rods e, with the refrigerator, the whole arranged to operate substantially as and for the purpose set forth.

64,331.—JOHN G. KIMBERLIN, Dryden, N. Y.—*Horse Hay Rake.*—April 30, 1867.—The lever by the driver's seat when pressed forward raises the teeth; on releasing the lever an intermediate spiral spring returns the teeth to effective position.

Claim.—The continuous chain g, provided with an intermediate spring h, in combination with the lever C and rake head C, substantially as described, for the purpose specified.

64,332.—HIRAM KNAPP and WARREN H. PEASE, Goshen, Ind.—*Well Tube.*—April 30, 1867.—The vertically slotted end of the tube has a spiral wire wound upon it, and a covering of gauze outside the wire. The whole is encased in a tubular piece, which is removed after the tube has been sunk to its place.

Claim.—The combination of the slotted tube A, plug F, spiral wire C, screen D, encasing cylinder E, substantially as described, for the purpose specified.

64,333.—A. KOMP, New York, N. Y.—*Quartz Crusher.*—April 30, 1867.—The two revolving crushing rollers are geared together and their shafts carry elliptical cams by which, through anti-friction rollers, the concave faced jaws are oscillated, being connected together by their upwardly projecting arms.

Claim.—The oscillating crushing and grinding jaw E E' in combination with the revolving jaw C C', constructed substantially as and for the purpose described.

64,334.—WILLIAM KRAISS, Fair View, Pa., assignor to himself, JACOB BECKMAN and MYRON SILVERTHORN, same place.—*Beehive.*—April 30, 1867.—The slides limit the entrance passage and are perforated for ventilation.

Claim.—The arrangement of one or more hives provided with chambers P, frames F, lining box H, drawer J, and external slides K, as described, in combination with an external bee house or casing, in such manner as to leave the spaces A B N between the sides, flooring and roof of the hive and the external casing thereof filled with ashes or other poor conductor of heat, substantially as and for the purposes set forth.

64,335.—ISRAEL L. LANDIS, Lancaster, Pa.—*Portable Fence.*—April 30, 1867.—The rails of each panel are pinned to vertical posts and to a diagonal middle brace. The panels are attached by notched boards fitting across the corners in slots in the posts and pinned beyond the rails.

Claim.—The construction of the notched brace E with its pins G, or rod G, when combined or used with a rail or pole fence fastened together with pins B, as herein described and for the purpose set forth.

64,336.—JAMES S. LESTER and LYMAN G. JENKINGS, Lafayette, Ind.—*Derrick.*—April 30, 1867.—For building purposes chiefly; it has a vertically adjustable head-beam and a rotatable head. Brace arms are pivoted to the frame and staked to the ground.

Claim.—First, the combination of the revolving or swinging adjustable frame D E F, with the vertical post or cylinder A, substantially as herein shown and described.

Second, the combination of the revolving pulley bore G, with the vertical post or cylinder A, substantially as herein shown and described.

Third, an improved derrick formed by the combination of the pulley box or frame G, the adjustable frame D E F, the vertical post or cylinder A, and the adjustable braces B, with each other, substantially as herein shown and described.

Fourth, connecting the ropes J K, and pulleys H I, with each other, with pulley box or frame G, and with the swinging frame D E F, in such a way that one of the platforms attached to said ropes may be raised at the same time and by the same operation by which the other is lowered, substantially as herein shown and described.

64,337.—THOMAS LING, New York, N. Y.—*Pump.*—April 30, 1867.—The pump cylinder is moved up and down by means of a handled lever, the motion being assisted by the pressure of the foot upon the end of a bar the lower end of which is attached to the cylinder.

Claim.—The bar G, brakes K K', one or more, and bar E, arranged and applied to a rising and falling pump body, substantially as and for the purpose herein set forth.

64,338.—T. JONES and W. MORGAN, Pittsburg, Pa.—*Compound for Improving the Quantity of Iron.*—April 30, 1867.—To 500 lbs. of pig metal boiling in a common furnace, add 7 oz. manganese, 1 lb. common salt, 2 oz. copperas, 3 oz. potash, and 1 oz. salt-peter.

Claim.—The use and application of the above described compound, for the purpose set forth.

64,339.—SIMON F. MACKIE, New York, N. Y.—*Mill for Crushing Ore.*—April 30, 1867.—The stamps work upon a bed which is surrounded by a screen through which a current of water passes. The stamps have cylinders in their upper ends, the piston rods of which are connected to the cranks, the confined air forming a pneumatic spring to relieve the machinery from strain.

Claim.—First, the combination of the cylinder stamp heads *a*, covers *c*, pistons *f*, piston rods *g*, cross-heads *y*, connecting rods *r*, crank shaft *x*, and guides *u*, with the bed *k*, and screen *l*, substantially as herein described, and for the purposes herein set forth.

Second, the plate *z*, in combination with the flanged stamp head as described.

64,340.—G. B. MANLEY, Cogan's Station, Pa., assignor to himself and TIMOTHY O. VAN ALEN, Danville, Pa.—*Lattice and Truss Bridge.*—April 30, 1867.—The braces and string pieces have double-edge flanges, and at the intersections the flanges are notched out to the web to receive the flanges of the string pieces; the braces are also notched at their intersections. Between the parallel string pieces are blocks fitting their inner sides and traversed by transverse bolts.

Claim.—First, the method and arrangement of interlocking the wrought-iron strings and braces of a lattice-work truss for bridges, in the manner herein described.

Second, the brace block D, in combination with the grooved and ribbed beams of strings A and C, fitted

and secured between them, as and for the purpose herein described.

64,341.—S. MARKEE, Auburn, N. Y., assignor to himself and JOHN M. EASTERLY, same place.—*Plane Iron.*—April 30, 1867.—The curved cup is attached to the plane iron by the screw and flanged sliding nut which fits in the slot of the iron.

Claim.—The plane iron consisting of the slotted iron A, curved cap C, flanged sliding nut D, and screw B, arranged and operating substantially as described for the purpose specified.

64,342.—GEORGE B. MARKHAM, Plymouth, Mich.—*Knife Sharpener.*—April 30, 1867.—The beveled grindstone is hung in a metallic frame and attached with a set screw to a bench. The guide rest is attached to the frame branch by the slotted arm.

Claim.—The adjustable guide rest *e*, attached to the frame branch *b*, by an arm *d*, when constructed as described and arranged in relation to the beveled grindstone A and its metal supporting frame, as herein set forth for the purpose specified.

64,343.—EDWARD G. MARKLEY, Sunbury, Pa., and GEORGE H. BARDWELL, Philadelphia, Pa.—*Manufacture of Fuel from Anthracite Coal Dust.*—April 30, 1867.—Composed of coal dust, 85 per cent. and 15 per cent. of a mixture of pitch, petroleum, saltpetre, starch, and water. Mold into blocks under heavy pressure.

Claim.—The improved anthracite block as above described and set out, made of the materials combined in substantially the proportions above set forth.

64,344.—ISAAC D. MATHEWS, Worcester, Mass.—*Hanger and Journal Box for Shafting.*—April 30, 1867.—The hanger has a vertically adjustable bracket, whose upper concave surface engages the convex part of the box. The box is adjusted by set screws in the upper and under projections of the hanger.

Claim.—First, the combination of the main part A, having a slot *g*, projections *b* F, screw bolts D G and *e*, with the bearing piece E and box C, said parts being constructed and arranged for joint operation, substantially as and for the purposes set forth.

Second, the combination of screw *c* and cap *d*, with the journal box C and projection *b* of the hanger part A, substantially as and for the purpose set forth.

Third, the combination with the concave bearing part E and cap *d*, having projections *n e*, as shown, of the journal box C, having slots or recesses *f f*, for the purposes set forth.

Fourth, the combination of nut *h* and screw G, with the projection F, and oil or drip-pan H, substantially as set forth.

64,345.—ANDREW J. MARTIN, Rockford, Ill.—*Harvester Rake.*—April 30, 1867.—The rake teeth are held to their pendent position by a spring, except when passing over one of their operating arms. The rake bar is pivoted at the inner end to a revolving lever, and a similar lever has play in a longitudinal vertical slot of the bar. The rake is swept around in an irregular revolution. The actuating bevel wheels of these arms are concave elliptical on their faces to give the proper relative speeds to the arms at all parts of the stroke.

Claim.—First, driving an automatic rake by a series of concave elliptic bevel gears, substantially in the manner and for the purpose described.

Second, the combination of a slotted rake arm moving horizontally over the platform, with two crank arms, arranged one behind the other, and driven by elliptic gearing, substantially in the manner and for the purpose described.

Third, the combination of the recessed pinion E with the loop *e*, when arranged and operating as described to throw the rake into and out of gear.

Fourth, the combination of the rigid rake head T with the yielding teeth, when arranged and operating as described.

64,346.—C. S. MARTIN, Milwaukee, Wis.—*Dray.*—April 30, 1867.—Rubber springs are placed between the guide plates, and vertical slide jaws are strengthened by braces.

Claim.—A dray, constructed with springs of india

rubber D, placed between the guide plates E, attached to the axle C, and vertically sliding jaws B, attached below the body A, and strengthened by braces G, said parts being combined and arranged substantially as described.

64,347.—HELEM MERRILL, Philadelphia, Pa.—*Using Steam for Heating and Evaporating.*—April 30, 1867.—The water of condensation flows into a water vessel, from which the air escapes through a cock at top, and a float within opens a cock, which allows the water to be forced from its bottom to a similar vessel above the water level in the boiler; this vessel, when filled, opens communication with the boiler, and the water flows into it. The floats operate on the exhaustion of water in the vessels to close the cock.

Claim.—First, the retaining of the water in the receiving and discharging cylinders until at required height it exerts a power sufficient to perform the operations substantially as described and set forth.

Second, the independent float as connected and combined with the stop cocks, making the whole apparatus self-acting, for the purposes substantially as set forth and described.

Third, the method of returning the water of condensation to the boiler, substantially as described.

64,348.—J. W. MYERS, Lyons, Iowa.—*Churn.*—April 30, 1867.—The cream entering the cylinder through the funnel is forced through its perforated side plate by centrifugal force; a stationary breaker in the middle facilitates the projection, and the process is completed by the slat dashers below.

Claim.—First, the stationary breaker H.

Second, the revolving perforated cylinder L R J K.

Third, the combination and arrangement of these parts in connection with the other parts, when constructed and operating substantially as and for the purpose set forth.

64,349.—WILLIAM NASH, Corning, N. Y.—*Hay Rack.*—April 30, 1867.—The frame has vertical slats attached at suitable distances, and horizontal longitudinal slats on the bottom above the seed drawers. There are troughs to the sides for preserving stray hay, and for feeding grain and roots.

Claim.—First, the drawers F F, placed so as to be drawn out at the ends from under the longitudinal slats *d d d*, which form the support for the hay in the rack, the drawers F F being so arranged as to receive and save the grass seed, after it is liberated from the hay in feeding, substantially in the manner and for the purposes herein described.

Second, the combination for the side troughs E E, hay rack B and drawers F F, constructed and operating substantially as and for the purposes herein set forth.

64,350.—ADAM NEER, Bellefontaine, Ohio.—*Gravel Wagon.*—April 30, 1867.—The wagon is run back to dump the load, and again run forward by ropes operated by reels on the fore end of the bolster frame.

Claim.—First, the combination of the rope L, pulleys M and O, reel or drum I, and crank R with each other, and with the box I and frame F, substantially as herein shown and described, and for the purpose set forth.

Second, the combination of the rope S, pulley T, reel or drum U and crank V with each other, and with the box I, and frame F, substantially as herein shown and described and for the purpose set forth.

64,351.—J. A. NIMAN and B. FIDLER, Mansfield, Ohio.—*Machine for Bending Tires.*—April 30, 1867.—The combined right and left-hand screws are held in position by their central collar, and slide the carriages conveying the rollers, regulating them to the curve of the tire.

Claim.—The right and left-hand screw I, provided with a collar II, working in a recess in the bed of the machine, combined with the sliding or traversing roller carriages E, which carry the rollers B, which said screw is tapped or screwed into and through the said roller carriages F, and by means of which said combination we are enabled to set the rollers B equidistant nearer to or further from the central roller A, for the purpose required, and retain them in place, all

of which is substantially set forth, described, and shown in the accompanying drawings and in this specification.

64,352.—GEORGE NIMMO, Jersey City, N. J.—*Manufacture of Fire Brick.*—April 30, 1867.—Coal ashes are used, combined with clay as furnace lining.

Claim.—The employment of the residuum of the combustion of coal as the base or principal component in the manufacture of fire bricks, retorts, furnace linings, pots, and similar articles, as and for purposes specified.

64,353.—E. W. NOHL, Ripon, Wis.—*Manufacturing Metals, Glass, and Pottery.*—April 3, 1867.—Explained by claim.

Claim.—The manufacture of metals from the ore, without the usual mixture with the latter of coal or other solid face by the means of the combustion of gas, generated for the purpose, and brought directly into the furnace, and burned in combination with a blast of air, substantially in the manner and for the purposes set forth.

64,354.—WILLIAM NUGENT, North Providence, R. I.—*Picker Motion for Looms.*—April 30, 1867.—

The object is to prevent the rocker from jumping out of its place in the rail, and to construct the whole so that when the picker strikes the shuttle it will not cause the latter to jump or tilt so as to bring its nose against the warp. The picker is adjusted by a longitudinal slot in the rail and has free rocking motion to an extent determined on one side by the length of slot in its pivot block, and on the other side by a pin in an arm of the block.

Claim.—First, the rail A provided with cavity I, in which plays the pin of the arm I, of the slotted block G, which carries the staff C and rocker E, and having horizontal slot L, through which slot and the vertical block of the slot G plays the bolt F, encircled by the sleeve a, and operating in the manner herein represented and described.

Second, the cavity I in the side of the rail A, in combination with the block G, whose arm J has a pin that works in said cavity, substantially as shown.

64,355.—R. J. NUNN, Savannah, Ga.—*Steam Generator.*—April 30, 1867.—The generator is constructed of tubes in successive series; those around the furnace are protected from the intense heat of the fire, and the series is so arranged that any one of the series can be stopped off from the rest and removed for renewal or repairs without disturbing the remaining ones.

Claim.—First, steam generator or boiler constructed entirely of tubes or pipes when such tubes or pipes are arranged and connected together and protected from the direct action of the fire, substantially in the manner herein described.

Second, the interior circulation tubes herein described when the said tubes are perforated in the manner and secured in their position in the manner substantially as described when used in the vertical tube of a boiler, as and for the purposes set forth.

64,356.—SAMUEL J. PARKER, Williamsport, Pa.—*Automatic Boiler Feeder.*—April 30, 1867.—

The water tank has a partially tubular vertical stem ending in a pipe at the water level in the boiler. This stem has a sliding sleeve with a surrounding water chamber supported by a weighted lever. When raised the chamber communicates with the tank through the sleeve; when full the chamber falls and communicates with the boiler, exchanging water for steam; it again raises as soon as the water level is low enough to bare the end of the pipe.

Claim.—First, the within described arrangement of the vessel C with the tube D and fixed pipe M, in combination with suitable packing e and a, boiler and a water tank, substantially in the manner and for the purposes herein set forth.

Second, in combination with the above the arrangement of the passages d relatively to the movable part C, adapted to discharge steam from beneath the packings e, substantially in the manner and for the purpose herein set forth.

64,357.—WILLIAM F. PARKER, Andover, Mass.—*Drilling Machine.*—April 30, 1867.—The drill is fed

by a center screw which engages a socket screw of the shaft, the ratchet collar of the screw being intermittingly engaged by a cam and rotated in the shaft; a cam ring raises the pawl from the ratchet wheel during the greater part of the revolution.

Claim.—The combination of the pawl N with the ratchet wheel K, the cam M, and the slide P, for the purposes herein set forth and described.

In combination with the subject-matter of the foregoing clause and with the supporting frame I, the top piece *a*, arranged as described.

64,358.—HORACE L. PERRY, Aurora, N. Y.—*Gang Plow.*—April 30, 1867.—The adjustable frame carrying the gang of plow shares is hinged to the forward end of a carriage whose wheels, of unequal diameter, traverse in the furrow and on the land respectively. Racks hinged to the plow-frame and pinions on a shaft having bearings on the main frame are the means of vertical adjustment.

Claim.—First, the cast-steel plow D, when constructed and used in combination with the hinged plow-frame C, main frame A, and wheels B B, for the purposes and substantially as herein described.

Second, the combination and arrangement of the pinions E E, crank shaft F, hinged racks G G, ratchet wheel H, and stop lever II, for the purposes and substantially as herein set forth.

64,359.—OLIVER PERRY, W. N. WELLES, and CLARK PERRY, Ortonville, Mich.—*Sheep-shearing Table.*—April 30, 1867.—The adjustable extension tables are pivoted to the frame below, and actuated by a treadle secured by a ratchet bar. A cord and loops on the table fasten the sheep.

Claim.—The combination and arrangement of the table A, swinging frames B B, rope g, and treadle C, all constructed and operating in the manner substantially as and for the purposes herein specified.

64,360.—NICOLIA PETERSEN, Columbus, Miss.—*Musical Dial.*—April 30, 1867.—The dial exhibits the names and distances of musical tones in a circle; the scales are distinguished by different colors, and a movable dial combined with the stationary one assists in setting the device for different notes.

Claim.—First, a musical dial substantially as and for the purpose described.

Second, the combination of the movable dial B with the stationary main dial A, as and for the purpose set forth.

64,361.—GEORGE W. PORTER, Boston, Mass.—*Apparatus for Carburetting Gas and Air.*—April 30, 1867.—The fibrous material is held between two perforated plates brought together by a thumb-screw, rendering it more dense and impeding the passage of gas through it. Openings may be made in the middle partitions by hooks operated by thumb-screws outside of the vessel. The hooks are kept in position by spiral springs.

Claim.—First, the construction and arrangement of the hooks in the side of the box A, their inner ends, pointing in opposite directions, retained by means of the spiral springs J, and capable of being adjusted whereby a breach is made in the capillary substance, as and for the purpose specified.

Second, the construction and arrangement within the box A of the perforated plates, adjusted by means of the thumb-screw *a*, whereby the capillary substance is compressed or released, as herein set forth, for the purpose specified.

64,362.—THOMAS L. REED, Providence, R. I., assignor to ATLANTIC TUBING CO., same place.—*Flexible Tubing or Hose.*—April 30, 1867.—A coil of wire is covered with a braided tube of cotton thread, which is coated with a varnish of linseed oil, sulphate of zinc, sugar of lead, and camphene. Over the tube thus formed a rubber tube is secured to prevent the varnish from cracking.

Claim.—The flexible impervious tubing formed by combining the non-collapsible tube with a sheath or tube of india-rubber, or other vulcanizable gums or compounds, by the means and substantially as described, for the purpose specified.

64,363.—WALTER REED, Wayne, N. Y.—*Fence.*—April 30, 1867.—The panels are supported by in-

clined struts, which intersect between the upper two rails and are united by a notched cross brace near the surface of the ground.

Claim.—An improved fence formed by the combination of the stakes C and D and lock-bar E with each other and with the panel or panels of the fence, substantially in the manner herein shown and described and for the purpose set forth.

64,364.—T. C. RICE, Worcester, Mass., assignor to THOMAS H. DODGE and T. W. WELLINGTON, same place.—*Apparatus for Heading Wrench Bars.*—April 30, 1867.—The bed is reciprocated by rack and pinion, and the head of the blank subjected to the pressure of a roller above. The bed has depressions of different shape, which form dies in which the head is successively pressed, its shank extending down through holes in the bed.

Claim.—First, the combination of the sliding table C, perforated in the manner described, with the horizontal rolls H H, for reducing the head of the wrench to the proper thickness, substantially as set forth.

Second, the combination of the grooved table or bed C, perforated in the manner described, with the vertical friction roll K, for reducing the head of the wrench to the proper depth, while the sides are prevented from lateral expansion, substantially as set forth.

Third, the combination of the friction roll K with the grooved table or bed C, provided with the inclined hole *h*, for reducing one part only of the head and giving it the proper inclination, substantially as set forth.

Fourth, the combination with the friction roll K of the grooved table C, when provided with the inclined hole or perforation *h*, notch *z*, and pit *u*, for receiving the surplus metal, as set forth.

Fifth, the combination in the sliding table C of the hole *g* with the sides *o o* and projection *p*, substantially as and for the purposes set forth.

Sixth, the combination of the perforated table C, for holding the wrench head in different positions, with the friction rolls and the rack and gear, or other actuating mechanism, the whole being arranged and operated to reduce and shape the wrench head, substantially in the manner herein specified.

64,365.—EDWARD RICHMOND, Brooklyn, N. Y.—*Whip Rack.*—April 30, 1867.—The bracket plate has openings with pierced diaphragms of rubber, through which the handle is thrust. Adjustable hooks are attached to slots in front and accommodate themselves to the same purpose.

Claim.—First, the wedge-shaped opening formed in a rack, as described, of a hook or guide of metal, or other suitable material, secured in the said rack under such an arrangement that the portion of the said hook, which guides and maintains the whip lash or tip in its proper relation to the opening, shall be parallel or nearly so with the face of the rack, and transverse to the length of the opening over which it is placed, substantially as shown and set forth.

Second, the combination with a wedge or V-shaped slot, formed on the edge of whip rack, of adjustable guide or hook, corrugated or bent at the point where it traverses the slot, above which it is placed, and pivoted to the top of the rack, so that it may be moved to lessen the width of the said slot, substantially as and for the purposes shown and described.

64,356.—EDWARD RICHMOND and JOSEPH G. MOODY, New York, N. Y.—*Ticket Safe and Alarm Bell.*—April 30, 1867.—Explained by the claim and illustration.

Claim.—First, the ticket safe or receptacle, the same consisting of a box slotted to admit of the insertion of the tickets, and provided with a door in which openings are formed, and an inside leaf or plate held against the door by means of spring, the said door and spring leaf being held to the box in such manner as that the tickets when inserted through the said slot may be securely held between them, as herein shown and set forth.

Second, the combination with slotted box or safe of the hinged door and inside spring leaf or plate having formed on their upper ends flanges or lips which overlap each other, so as to prevent the withdrawal of the tickets placed within the said box, substantially as herein shown and described.

Third, the combination with the herein described ticket safe of an alarm bell attached to said safe, substantially in the manner and for the purpose herein shown and specified.

64,367.—JOHN L. RITER and R. C. SWANN, Brownsville, Ind., assignors to themselves, T. J. WEST and R. B. PERRY, Union county, Ind.—*Churn*.—April 30, 1867.—The eccentric wrist pin runs in a slotted plate secured to the churn and swings the latter on its centers.

Claim.—The arrangement of the shaft and fly-wheel E with plate G, having a pin Z near its periphery, which works into a slotted plate *d* upon the side of the churn C, for operating said churn box upon its bearings, as herein set forth.

64,368.—SILAS ROGERS, Stamfordville, N. Y.—*Thill Coupling*.—April 30, 1867.—The shackle plate in front of the axle clip is curved in front, agreeing to the sweep of the thill, and has a slot in it which receives the spindle of the thill iron.

Claim.—A thill coupling composed of the plate C, attached to the lip A, and having a curved front end, and the thill iron D provided with a slot *c*, and connected to the plate C by means of a groove and pin, arranged as shown and described, or in an equivalent way.

64,369.—H. ROSENTHAL, New York, N. Y.—*Paint Brush*.—April 30, 1867.—The ferrule which encompasses the butts of the bristles is riveted or screwed to the flange of the socket plate.

Claim.—The combination of the ferrule C, socket plate or disk E, handle B, and bristles A, when the latter are secured together, substantially as set forth.

64,370.—ANSELL P. ROUTT, Liberty Mills, Va.—*Cultivator*.—April 30, 1867.—The adjustable and reversible share is secured by loop and key upon the curved sheath whose point enters a hole in the back of the shovel to steady it.

Claim.—The changeable, reversible, and adjustable share secured by loops G and keys or wedges *h* upon the curved sheaths or shanks C, whose points enter the holes or notches in the shovel or plow to secure and steady it in any position in which it may be adjusted, substantially as set forth.

64,371.—T. J. V. ROZ, Paris, France.—*Piano-forte*.—April 30, 1867.—This orphean piano has elementary, *soft*, *leggio*, *transposing*, and accompanying key-boards, divided into graduated classes or separate progressive degrees, for instruction in the piano-forte or organ; the large key-board, which is also fitted with *transposing* and accompanying movements, forms the last class.

Claim.—First, the construction of the back or bottom of the piano of round or oval columns F, in combination with an iron frame *a* and bars A, and the bar *b*, as and for the purposes specified.

Second, the piano action composed of the levers O, lifter *o*, and lever O' applied in the manner specified, so that the same shall be separate from the key-board, in order that one key-board may be moved away and another brought into place, as set forth.

Third, the anti-friction supports J L, winch 9, cord 16, and tightening screw I', in combination with the *transposing* key-board 1 and rack 17, for moving said key-board with facility and retaining it in place, as set forth.

Fourth, the small or elementary key-boards fitted so as to be movable and applied in the manner specified, to act upon the same notes as the main key-board, as and for the purposes specified.

Fifth, the cards connected with the respective notes and raised by the depression of the note so as to exhibit the name and sound of the particular note to aid in the instruction of elementary music, as set forth.

Sixth, a series of levers composing the action between the keys and hammers, said action connecting on one line with the keys and lengthened downwards at the bass end, and projected upwards at the treble end, the intermediate connections being graduated so as to reach the hammer above the notes at the treble end and below the notes at the bass end, as specified.

64,372.—CYRUS W. SALADEE, Newark, Ohio.—*Door Spring*.—April 30, 1867.—The arm is adjustably pivoted on the door jamb and its outer end impinges upon a spring plate in the cylinder on the door.

Claim.—First, the box or cylinder A secured rigidly to the door or gate in combination with the arm B and standard D, in the manner and for the purpose substantially as shown and described.

Second, the arm B, constructed and operating in the manner and for the purpose substantially as shown and described.

Third, the standard D, or its equivalent, when provided with a series of bearings or holes 1, 2, 3, Fig. 3, in combination with the arm B, substantially as and for the purpose specified.

Fourth, in combination with the arm B, the indentation *z*, substantially as and for the purpose described.

Fifth, the combination of the adjustable arm B, standard D, follower E, spring C, and the box or cylinder A, or their equivalents, arranged and operating in the manner and for the purpose substantially as shown and described.

64,373.—EDWIN M. SCOTT, Auburn, N. Y.—*Starting and Stopping Street Cars*.—April 30, 1867.—Pulling one lever throws the rack into engagement with the small pinion and condenses the spring. Pulling on the other lever throws the rack in engagement with the larger gear wheel to rotate the axle and assist in starting. Pulling both levers simultaneously checks the car.

Claim.—First, the fixed pinion *c* in combination with gear *d* and slotted racks *e f*, as and for the purpose specified.

Second, in combination with the above, spring E, elbows *h h*, and levers *i i*, all arranged as and for the purpose set forth and described.

64,374.—JONATHAN F. SHOEMAKER, Van Wert county, Ohio.—*Photographic Printing Frame*.—April 30, 1867.—The back of the printing board is in four sections, which are fastened by staples and hooks, and may be raised one at a time. The face has flaps of cloth by which the likenesses may be covered up or exposed singly.

Claim.—The folding-back photographic printing frame, substantially as herein described.

64,375.—C. LATHAM SHOLES, Milwaukee, Wis.—*Machine for Printing Numbers*.—April 30, 1867.—For printing numbers consecutively by the use of rotating disks having the numbers on their peripheries; they have a positive motion, and are arrested at a given point by a locking bar so as to straighten the line.

Claim.—First, the disks E, provided with the dogs *r* and projections *e'*, in combination with the plate *d*, when arranged to operate as and for the purpose set forth.

Second, operating the disks E by means of the projecting pins *t* and the cam *c*, arranged to operate as shown and described.

Third, aligning the disks E by means of the V-shaped notches and the locking bar *x*, operating substantially as set forth.

Fourth, the sliding bar *z*, with its spring *m* and the oscillating cam or guide *a*, when said parts are arranged for joint action, substantially as herein set forth.

64,376.—GEORGE SPRAGUE, Spring Hill, Kansas.—*Corn Cultivator*.—April 30, 1867.—The cutters sever the roots ahead of the shovels, which can be adjusted to throw the dirt either way. A swing frame in reach of the driver adjusts the beam to which the cutters and shovels are attached.

Claim.—The combination of the root cutters F F, the shovels *d d*, and the plow beams E E, arranged and connected for adjustment and operation, substantially as and for the purposes herein described.

64,377.—W. G. and C. STERLING, New York, N. Y.—*Lantern*.—April 30, 1867.—Horizontal segmental pieces are attached to the lower ends of the guard wires, pass beneath lugs on the base, and are held by spring catches.

Claim.—The guards A A, attached to the circula

part B, in combination with the catch D or lugs G G, or their equivalent.

Also, the eyelet clamps, Fig. 3, when used for the purpose above described.

64,378.—S. G. STEVES, Jamestown, N. Y.—*Car Truck*.—April 30, 1867.—The car frame is suspended from the axle boxes, and is trussed by a tension rod below and braces and chord above.

Claim.—The car truck frame A, in combination with the braces J J', chord H, and tension rod K, and so constructed that the sides of said truck form a truss by which it is suspended below the axles, in the manner and for the purpose substantially as set forth.

64,379.—H. M. STOKER, Watson, Ill.—*Fence*.—April 30, 1867.—The boards are nailed to the pointed posts, and the latter lock against each other and are united by through pins. Inclined struts brace the fence laterally.

Claim.—The two-fold adjustability of the posts of the panels L and H, in combination with bars E, connecting pins t, and binders C, and pointed posts A, the whole constructed, arranged, and operating in the manner and for the purpose substantially as herein set forth.

64,380.—JAMES B. STUART, Bunker Hill, Ill.—*Fifth Wheel for Wagons*.—April 30, 1867.—Two segmental plates are attached to the axle and to a pivot on a curved bar in front of the axle. A second frame pivoted with the other is attached to the bolster and has segments sliding on those of the frame below.

Claim.—A circle plate or fifth wheel for vehicles, composed of the frame A and plate B connected by a bolt d and attached respectively to the front axle and bolster, substantially in the manner as and for the purpose herein set forth.

64,381.—F. F. TERRY, Port Gibson, N. Y.—*Shank and Socket for Hand Hay Forks*.—April 30, 1867.—The ferrule has a block of metal which is drilled to receive the tines which may be retained by one transverse pin.

Claim.—First, locking the several tines t to the shank or head S by a single key, substantially in the manner herein shown and described and for the purpose set forth.

Second, providing the head or shank S with round holes to receive the wire tines t, as and for the purposes shown and described.

Third, the arrangement of the handle socket or ferrule C in connection with the receiving shank S, as and for the purpose herein set forth.

64,382.—WILLIAM THOMPSON, Cleveland, Ohio, assignor to the CLEVELAND GAS MACHINE COMPANY, same place.—*Gas Generator and Carburetter*.—April 30, 1867.—The air is forced by the vibration of two closed chambers immersed in a water tank. The carburetting liquid is carried up by revolving buckets and the interior of the carburetting vessels is warmed by steam generated by a lamp.

Claim.—First, the corrugated cylinder C, annular chamber e, as arranged, in combination with the chains f and buckets g, for the purpose and in the manner as described.

Second, the heater S, burner V, pipe Q, in combination with the carburetter W, case P, and gasometer Y, for the purpose and in the manner as set forth.

Third, the cylinder C, diaphragm F, valves I and K, in combination with the generator B, for the purpose and in the manner substantially as described.

Fourth, the pipe j, sleeve h, in combination with the corrugated cylinder C, for the purpose and in the manner specified.

64,383.—E. P. and E. S. TORREY, New York, N. Y.—*Weather Strip*.—April 30, 1867.—A strip of rubber is secured in a kerf of the molding, which is then ready to be attached to a door, (or other object;) the latter, in closing, brings the protruding portion of the rubber against the threshold or casing and closes the crack.

Claim.—First, a weather strip formed of a single piece of molding as herein described and shown in Fig. 5 with a strip of india-rubber or other suitable material, applied therein, as specified, for covering

joints on level surfaces, substantially as above specified.

Second, the weather strip shown in Fig. 6, for guarding joints in angles, constructed as and for the purpose herein set forth.

64,384.—GEORGE W. TOWNSEND, Galesburg, Mich.—*Stump Extractor*.—April 30, 1867.—The frame is on runners, is anchored at one end, and its draw bar has cavities for the engagement of two draw bars, connected to cranks on a shaft driven through gearing by a rope on a drum. The slack of the rope is wound upon another drum.

Claim.—The pulleys a and a', arranged substantially as herein shown and described, in combination with the draught bar C and pitmans E.

Also, the double crank shaft D, the gear wheel F, and pitman H, in combination with the draft bar C and pitmans E, substantially as herein specified.

64,385.—ALÖIS POHR VON PÖHRNHOF, Brooklyn, N. Y.—*Manufacture of Bicarbonate of Soda*.—April 30, 1867.—The hydrate of soda, precipitated during the evaporation of solutions of soda ash, is exposed to the action of carbonic acid gas, and the steam generated by passing the hot gas through water as it comes from the flues.

Claim.—A process of manufacturing bicarbonate of soda without admixture of crystal of sal-soda from hydrate of soda, and as such alone without submitting the latter to a previous procedure, and through the simultaneous influx of carbonic gas and water, steam created by said gas for the purpose and in a manner substantially as described above.

64,386.—EDWARD L. WALKER, Jenner's Cross Roads, Pa.—*Washing Machine*.—April 30, 1867.—The reciprocating compressor is beneath the clothes and presses them against the lid, which is adjustable and attached by spring pins that enter holes in the ends of the machine. The compressor is operated by a lever frame and two sliding side pieces.

Claim.—First, the movable cover, or its equivalent, against which the compression of the clothes is effected substantially as described.

Second, the compressor operated from beneath against the stationary or adjustable cover or its equivalent, substantially as described.

Third, the box or tube provided with a series of sockets or their equivalents, for graduating or adjusting the height of the removable top or cover, substantially as described.

Fourth, the arrangement of means for operating the lifting compressor, consisting of uprights attached to said compressor, pivoted fulcrum standards, and the lever frame, or their equivalents, substantially as described.

Fifth, a compressing cover provided with a rubber board on its under surface, and arranged to turn on pivots over against the side of the frame, in the manner and for the purpose described.

64,387.—WILLIS WEAVER, Salem, Ohio.—*Carpet Stretcher*.—April 30, 1867.—The looped wire proceeding from the lever is engaged over a tack head, and the toothed plate engaged with the carpet, which is drawn forward by a movement of the lever, and secured by the clawed staple whose bend is placed over the head of another tack.

Claim.—First, an improved carpet stretcher, formed by the combination of the pivoted tooth plate B, pivoted wire loop C, or equivalent, and lever A, with each other, substantially as herein shown and described.

Second, the combination of the spring E, with the pivoted tooth plate B, and lever A, substantially as herein shown and described, and for the purpose set forth.

64,388.—T. L. WEBSTER, Brooklyn, N. Y.—*Holder for Slotting Tools*.—April 30, 1867.—The holder has a joint by which the tool is allowed to fall back when the end pressure is removed, and to compress the spring which presents the tool properly at the next stroke.

Claim.—The tool holder for slotting machines, constructed as described, consisting of the parts a b, fitted together and connecting by the pin c, to form a joint which will admit of the slotted part b, moving

only in one direction, spring B, fitted in the recess *c*, of the part *a*, substantially as herein shown and described.

64,389.—SAMUEL K. WELLMAN, Nashua, N. H.—*Manufacture of Fire Brick.*—April 30, 1867.—Composed of pulverized "diamond rock" 35, fire sand 15, and fire clay 50 parts, molded and burnt in the usual manner.

Claim.—The use of a diamond rock in the manufacture of fire bricks, furnace linings, and similar articles, substantially as described.

64,390.—JOHN D. WELLS, Franklin county, Ohio.—*Corn Planter.*—April 30, 1867.—The dropper is operated by a connecting rod attached to a slide at one end, and at the other to a crank on a driving wheel; a plow opens the ground and a roller covers the corn and mashes the clods.

Claim.—The application of a driving wheel with a crank attached for operating the valves, together with the arrangement and particular combination of the several parts named as above described, or substantially the same as would answer the intended purpose.

64,391.—HORATIO WHITING, New York, N. Y.—*Dividers.*—April 30, 1867.—The segmental guide on one leg has a rack which is engaged by a circular nut in a slot of the other leg.

Claim.—The construction and arrangement of the annular flanged screw nut F, provided with a screw thread upon its inside, and hung in the slot E, in the leg B, upon the arm D, the latter provided with teeth upon its upper side and passing through the slot in the leg B, at right angles with the slot E, the said screw nut being held in place by means of the spring G in the slot E, substantially as described for the purpose specified.

64,392.—ELIJAH WILLIAMS, Marianne, Florida.—*Propelling Boats.*—April 30, 1867.—The paddles are rotated by two pawl levers through intermediate gearing.

Claim.—First, the combination of the pawls O O with the springs P P, and the driving wheels F, the pinion wheel E, the ratchet wheel D, and the paddle wheels B B, all constructed and operated substantially in the manner and for the purposes hereinbefore set forth.

Second, in combination with the above, the method of elevating and depressing the paddle wheels by means of a platform operated by adjustable screws and blocks, substantially in the manner and for the purposes above set forth.

64,393.—GEORGE L. WITSL, Philadelphia, Pa., assignor to ELIZA SIBBET and JOHN C. CROMPTON.—*Churn.*—April 30, 1867.—The spiral opening in the rod is traversed by a guide pin in the lid, which gives a reciprocating rotary motion to the dasher as it is moved vertically by power applied to the revolvable head.

Claim.—First, the dasher handle E, when constructed with a spiral opening entirely through the same in combination with the pin B, for giving an alternately rotary motion to the dasher, with the vertical reciprocating action of the handle substantially as described.

Second, the combination of the concavo-convex dasher C, with triangular openings and radial flanges D, having angular notches in their ends, with a device for giving a reciprocating vertical and alternating rotary motion to the dasher, substantially as and for the purpose set forth.

Third, the combination of the dasher handle E, constructed as described, and the cross-piece G, when arranged to operate substantially as set forth.

64,394.—SYLVESTER J. WRIGHT, Ellsworth, N. Y.—*Automatic Gate.*—April 30, 1867.—The depression of the track actuates the lever below, which is connected by a chain which passes round the pulleys and to the gates above to open them.

Claim.—First, the combination of the rollers C, flexible straps D and I, spring or springs J, lever arm E and rope or chain F, with each other, with the stationary box or frame A, movable frame or platform B, and gate H, substantially as shown and described and for the purposes set forth.

Second, the combination of the coiled wire spring L, or equivalent, with the gate H, substantially as and for the purpose herein set forth.

64,395.—THOMAS G. HALL, York, Pa., assignor to himself, LEWIS STRAYER, and PETER S. BOOSE, same place.—*Water Wheel.*—April 30, 1867.—Each bucket has a vertical projection to prevent the water spouting before the force is spent. The bent plates forming a converging inlet combine with a wheel having a downward and inward discharge, and with gates having horizontal projections on their lower ends to economize the water and allow its escape when the force is exhausted.

Claim.—First, the vertical projection *g* on the buckets K, substantially as described.

Second, the combination of the bent plates F, forming converging inlets with the wheel having the parts E G O constructed as described, and with gates I, having projections *i*, all arranged substantially as herein represented and described.

64,396.—ELISHA O. POTTER, Pawtucket, R. I., assignor to C. A. WARLAND and J. M. RYDER, same place.—*Machine for Cutting Files.*—April 30, 1867.—Improvement on his patent, November 8, 1864, (No. 44,998.) Explained by the claims and illustration.

Claim.—First, combining the chisel holder or device which holds the chisel with the chisel slide or other device by which the chisel is raised and lowered to and from the file blank by means of a circular bearing or socket, the center or axis of which is at or near the center of the edge of the chisel, and the plane of its oscillation is transverse to the file, substantially as described.

Second, the manner in which are combined or arranged the former or shaper which controls the inclination of the chisel to the bed, with reference to the bed and to a cutter frame made to oscillate in a vertical plane parallel to the length of the file to vary said inclination, by attaching the former or shaper to the bed and below the cutter frame, and causing the cutter frame to rest directly upon it for support, substantially as described.

64,397.—WILLIAM G. ADAMS, Franklin, Mass.—*Compound Structure of Rubber and Fiber for Belts, &c.*—May 7, 1867.—Strips of tape are cemented together by rubber, until a fabric is obtained of proper width to form the belt. A sheet of rubber of the same width is attached to one side of the fabric, which is then vulcanized.

Claim.—A compound structure of vulcanized rubber and fiber, in which the disposition of fiber is substantially that specified.

64,398.—C. F. ALLEN and LUTHER W. CAMPBELL, Aurora, Ill., assignors to themselves, A. T. HALL and A. J. AMBLER.—*Apparatus for Drying and Seasoning Lumber by Super-heated Steam.*—May 7, 1867.—A continuous supply of water is introduced by gravity into the generator without contact with the heated walls of the latter. The dry steam is introduced within the kiln, and after absorbing the moisture of the lumber, is conducted to the escape.

Claim.—First, a superheating steam generator, which is constructed and supplied with water and arranged within a drying kiln, substantially as described and for the purposes explained.

Second, in a drying kiln, the arrangement of a divisional pan F within the generator E, for the purpose of protecting the latter from contact with water, substantially as described.

Third, the floors A¹ A², with space between them, arranged at the top of the kiln, in combination with the ventducts b, leading into the kiln from beneath the drawing apartment, substantially as described.

Fourth, in combination with the escape valve *y* of the super-heating generator, the balance valve *a*, communicating with the open air, substantially as described.

Fifth, the elevated water tank G, pipe *c*, pan F, in combination with a superheating generator, which is adapted for drying purposes, substantially as described.

Sixth, a provision for conducting off the moisture from a point which is below the desiccating chamber or kiln in which superheated steam is employed for drying purposes, substantially as described.

64,399.—GEORGE H. BANCROFT, Philadelphia, Pa.—*Awning*.—May 7, 1867.—The ratchet wheels are fixed to the ends of the awning roller and are fastened by detent pawls, which may be raised by lifting cords. The end of the awning is bound round a metallic rod attachable by hooks to the posts.

Claim.—The ratchet wheel D, detents *a a'*, cords *b b'*, metallic rods *e*, and the metallic hooks *fff*, &c., when combined and arranged substantially as and for the purpose herein specified and described.

64,400.—A. ELY BEACH, Stratford, Conn.—*Pneumatic Tube*.—May 7, 1867.—The valves move perpendicularly within guides in pneumatic tubes. They are connected by levers attached to the roof of the tube, and operated by the contact of passing cars.

Claim.—The employment, in combination with pneumatic walls or tubes, of automatic valves, operating substantially as herein shown and described.

64,401.—A. ELY BEACH, Stratford, Conn.—*Pneumatic Car Truck*.—May 7, 1867.—The truck travels in a pneumatic trunk, being propelled by the pressure of compressed air against the vertical valve board, which fits the bore of the trunk.

Claim.—The employment of pneumatic trucks, made substantially as herein shown and described.

64,402.—A. ELY BEACH, Stratford, Conn.—*Pneumatic Railway*.—May 7, 1867.—A blower is arranged at one end of the pneumatic tube to exhaust or condense the air therein. When the diameter of the blower wheel exceeds that of the tube it is arranged within a casing connecting by ducts with the tube.

Claim.—The employment of the within-described device in combination with pneumatic tubes, substantially as set forth.

64,403.—D. S. BLUE, Fremont, Ohio.—*Horse Hay Fork*.—May 7, 1867.—The lever and slide, being moved down, close the arms to enter the hay, and on being reversed they open to retain it. The catch connected with the wrist prevents the discharge motion till released by the tripping cord.

Claim.—The shaft A, slide B, slots *b d*, and arms E F, in combination with the lever C, wrist *f*, and catch D, arranged and operating as and for the purpose substantially as set forth.

64,404.—EDWARD BOSTOCK, Albany, N. Y.—*Sewing Machine Tuck Creaser*.—May 7, 1867.—The plate is set so that the edge of the rail shall be as far from the needle as twice the distance between the stitching of the tucks, the gauge being set the width of a tuck from the needle. The first tuck is folded and placed under the arm with its folded edge against the gauge. As the cloth advances the grooved wheel presses it over the edge of the bevel rail, making a crease in it parallel with the stitching.

Claim.—First, the tuck creaser or folder for use with or without a sewing machine, made and operated as specified.

Second, in combination, the gaugo plate N, constructed as described, the plate A, and the creasing wheel, when both plates are adjustable relatively to each other, and also relatively to the needle and feeding device of the machine, by means of a single thumb screw.

Third, in combination with the plate A, which carries the creasing devices, the gauge plate N, having a downward projection W on the same for the purpose of sliding or adjusting it along the plate A, in such a manner as to secure a parallelism of the straight edge with the line of creasing and stitching.

Fourth, the socket or bridge L, fixed firmly upon the plate A, for embracing and keeping in true position the wheel-supporting bar D H, and also for the reception of a thumb screw M, for adjusting the vertical pressure of the wheel or creaser.

Fifth, constructing the arm D with a right-angled projection, which supports the wheel, as and for the purpose specified.

Sixth, the combination of the right-angled projection on the wheel-carrying arm D, with the right-angled projection on plate A, when the same are constructed and arranged to operate as described.

64,405.—JAMES BRADGON, Boston, Mass.—*Refrigerator*.—May 7, 1867.—Air chambers and deflec-

tors are formed between the food chamber and the casing. The current of cold water from the ice causes a passage of cool air through the food chamber.

Claim.—In a refrigerator so constructed as to have between its food chamber and the casing thereof an air space, the air passages *f l* and *k*, so located and arranged in conjunction with the deflectors *h* and *i*, and the falling water from the melting ice to establish a current of pure cool air and through the food chamber, substantially as described.

64,406.—WILLIAM B. BURNETT, New York, N. Y.—*Attaching Handles to Whitewash Brushes*.—May 7, 1867.—The staple on the brush is attached to the eye of the ferrule by set screws working in screw-tapped lugs.

Claim.—First, the construction of the ferrule D with an eye *b*, and with a series of grooves around said eye, in combination with a staple B and a set screw G, substantially in the manner and for the purpose set forth.

Second, the combination of two or more screw-tapped lugs *g g* with the open grooves *e f*, on both sides of the ferrule, and with the eye *b*, substantially as and for the purpose set forth.

64,407.—PIERRE EUGENE CHOLLET, New York, N. Y.—*Piano Forte*.—May 7, 1867.—The strings are tuned by the tension of the threaded hooks, and when in tune the pointer falls into one of the notches of the head. When the strings are relaxed and out of tune, the spring releases the levers, and throws back the pointer. The notched head is then turned, causing the levers to approach each other, and as the lower lever is raised, the spring relaxes until the pointer (against the foot of which the spring operates) is thrown into one of the notches, placing and retaining the instrument in tune.

Claim.—The combination with the levers E and H, the latter of which is provided with the hooks or their equivalents, the use or employment of the notched head, screw, and pointer for the purpose set forth.

64,408.—L. L. CRANE, Cleveland, Ohio, assignor to himself and LEAVETT CRANE & CO., same place.—*Forging Machine*.—May 7, 1867.—The lower die is set in the anvil block, and the upper one in the head of the trip. The die forms in one operation the spindle, butting ring and square of an axle.

Claim.—The dies J K, constructed as described, in combination with the anvil and trip hammer B D, all arranged and operating as set forth.

64,409.—S. F. DIMOCK, Spencer, Ohio.—*Car Brake*.—May 7, 1867.—The oscillation of the lever brings the roller in connection with a wheel, rotates the transverse shaft, and the two line shafts which are coupled together, and winds the chain upon the spool, bringing the brakes into action.

Claim.—First, the adjustable line E, rollers H and I, in combination with the rod G, shaft T, spool V, arranged and operating substantially as and for the purpose set forth.

Second, the adjustable link E, rollers H and I, in combination with the shafts J W and gearing P and L, arranged and operating as and for the purpose substantially set forth.

Third, the shafts J W, gearing P and L, in combination with the rollers Q, adjustable stay N, wheel C, arranged as and for the purpose substantially as specified.

64,410.—DANIEL A. DRAPER, Cambridge, Mass.—*Forming Letters on Type Blocks*.—May 7, 1867.—The letters, &c., are formed by pressure on the edge of the type block, which is squeezed into dies, formed in sectional metallic plates; these are clamped while pressure is applied, and unlocked to free the block.

Claim.—The combination of the within described devices for producing letters, figures, &c., upon the edges of the type blocks for hand stamps and other purposes, substantially as set forth.

64,411.—WILLIAM E. DUNN, Delaware, Ohio.—*Manufacture of Artificial Teeth*.—May 7, 1867; antedated February 2, 1867.—Improvement on the patent of Loomis, May 2, 1854. Biscuiting teeth are inserted into the yet plastic plate in the matrix; the denture is then removed, biscuiting, enameling, and finished in the furnace.

Claim.—A denture constructed by the application of biscuited and unglazed teeth to the plastic body or base while in the mold, substantially as described.

64,412.—FRANCIS ELDER, Chester, S. C.—*Washing Machine.*—May 7, 1867.—The tub has overhanging ledges inside to prevent splashing, and to hold the lid. The clothes are pressed by the rubber against a corrugated washboard at one end.

Claim.—The combined arrangement of the ledges *h i i*, cover *H*, rubber *H*, movable journal caps *l l*, and dasher board *g*, both above and below the rear or upper edge of the rubber *B*, as specified.

64,413.—T. J. FARR, Medina, Ohio.—*Wagon Brake.*—May 7, 1867.—The brake is applied by the mutual approach of the fore and rear axles, owing to the holding back of the horse, and is released by the forward draft of the horse.

Claim.—The arrangement of the slotted coupling pole *D*, bar *E*, brake arrangement *e e G G*, lever *J*, and staff *I*, substantially as described.

64,414.—M. FOREMAN and J. R. MATHEWSON, Philadelphia, Pa.—*Steam Blower.*—May 7, 1867.—The axial jet of steam is directed forward through the apparatus, and draws in annular jets of air from the pipes which it successively traverses.

Claim.—A steam pipe *E*, in combination with two or more pipes *A A'*, of different diameters, the whole being arranged and operating substantially as described.

64,415.—WM. T. GRAY, Galesburg, Ill.—*Stone-pipe Damper.*—May 7, 1867.—A revolving and reversible register is arranged on the inside of the pipe, being attached by a diametric rod. The metallic ring fills the space between the fan and the pipe; the wheel acts as an accelerator or damper according to its position above or below the metallic plate.

Claim.—The combination and arrangement of the fan wheel, with the circular plate and ring, the parts being arranged and operating in the manner and for the purpose specified.

64,416.—JAMES HART, Melbourne, Victoria.—*Apparatus for Crushing and Amalgamating Ores.*—May 7, 1867.—The ore enters the revolving cylinder from the hopper. The heavy inner cylinder rolls in and crushes the ore against the bottom of the outer one which contains mercury. The discharge cylinder is attached to the outer cylinder so as to catch any particles of metal that may pass over its edge. A current of water may flow through the apparatus.

Claim.—The combined arrangement of the cylinders *L M P*, constructed and working substantially as herein described.

64,417.—G. W. HATCH, Garrettsville, Ohio.—*Fence Post Pedestal.*—May 7, 1867.—The base of the post is attached to the hollow pedestal, whose side lugs only rest upon the foundation block and are pinned thereto.

Claim.—The construction of a metallic pedestal *A*, provided with ventilating openings *G* in combination with the post *E*, for the purpose and in the manner, substantially as described.

64,418.—F. G. HOEPFNER, New York, N. Y., assignor to himself and CHARLES BURCHARDT, same place.—*Velocipede.*—May 7, 1867.—The horse is so connected to pawls operating the rear wheels as to rotate them by its oscillation. The carriage is guided by a line passing from the fifth wheel to the bridle rein.

Claim.—The compound lever *G g h*, in combination with the body *A* of the toy and with the ratchet wheel and pawls, or their equivalents, mounted on the axle *C*, substantially as and for the purpose described.

64,419.—K. W. HOLMES, McGrawville, N. Y., and ANDREW ALDRIGHT, Dryden, N. Y.—*Coating Wood with Rubber and Gutta-percha.*—May 7, 1867.—The article is covered with rubber, placed in a mold of suitable shape and vulcanized.

Claim.—The coating and lining of wood with rubber, gutta-percha, or prepared gum, substantially as set forth.

64,420.—WILLIAM and JAMES HOLROYD, Watford, N. Y.—*Machine for Cutting Screw Taps.*—May 7, 1867.—One end of the tool-rest plate rests in bearings on a slide and lies upon a longitudinal pattern which is revolved by a spindle and belt so as to give the requisite saliency to the cutting point of the thread and recession to its heel.

Claim.—First, the vertically adjustable tool rest *D*, vibrating plate *D'* and sliding support *E*, in combination with rotary centering points *b b'*, substantially as and for the purposes described.

Second, the application of the rotary pattern *F* to an adjustable bar *H*, which is applied to a treadle *K*, substantially as and for the purposes described.

64,421.—JACOB D. HOLTZERMANN, Piqua, Ohio.—*Bitters.*—May 7, 1867.—Composed of pure spirits, sugar, orange peel, orange apple, orris root, galanga root, gentian root, calamus root, wormwood, ginger, cardamom seed, cassia, mace, nutmeg, cloves, and coriander seed.

Claim.—The compounding or combination of the above named ingredients in proportions above as set forth.

64,422.—S. T. HURLBERT, Painesville, Ohio.—*Deflecting the Bottoms of Vessels Made of Sheet Metal.*—May 7, 1867.—The inverted pan is laid upon a disk which has a flat central depression and a marginal flange; against the edge of the latter the bottom of the pan is deflected by the rotary head.

Claim.—The use of the independent rotary head, Fig. 1, constructed and operating in combination with the former, Fig. 2, in the manner substantially as specified and for the purpose set forth.

64,423.—MORRIS ISBELL, New Haven, Conn.—*Hollow Auger.*—May 7, 1867.—The flexible forks of the bit shank have a two-part head with cutters in each; the parts are adjustable toward and from each other to suit varying sizes of tenons.

Claim.—The divided head *B* in combination with the springs *C C*, the land *D* and the adjusting screw *E*, all constructed and arranged to operate substantially in the manner described.

64,424.—CHARLES H. JAMES, Cincinnati, Ohio, assignor to himself and FRANK MILLWARD, same place.—*Tube for Steam Generators.*—May 7, 1867.—Water descends in the inner tube and ascends in the more highly heated, annular outer tube, which connects with the former at the lower end, and discharges at a point above the mouth of the said inner tube.

Claim.—The stationary or rigid confined tube *K*, provided with one or more enclosed ducts or passages *L*, communicating the outer or fire tube *I*, with the water space on the crown sheet of the boiler, the outer tube *I* extending and discharging its contents above the water line or above the passage *L*, communicating with the inside tube *K*.

64,425.—JACOB JAMESON, Philadelphia, Pa.—*Manufacture of Iron.*—May 7, 1867.—To produce wrought iron direct from the ore. The ore is deoxygenized by passing it successively over a series of tables, over which the blast from the finishing furnace passes; it is then melted and finally refined in a finishing furnace, where it is subjected to a hot blast.

Claim.—First, the production of wrought iron direct from the ore by the process substantially as described.

Second, in combination with the oven *A*, constructed as described, the double furnace *I*, as set forth.

Third, the combination of the oven *A*, furnace *I*, and gas chamber *P*, for the treatment of ores when arranged for joint operation, substantially as described.

64,426.—WM. JOHNSON, 2d, Haverhill, Mass.—*Keyhole Guard for Door Locks.*—May 7, 1867.—The keyhole is covered on the outside, when the bolt is locked, by a lever plate operated by a pin from the main bolt projecting through a slot in one side of the case. Guards are provided to prevent its falling at improper times.

Claim.—First, the combination as well as the arrangement of the keyhole guard *F*, and its operation mechanism, viz: the spring *G*, the stud *I*, and the cam *K*, with the bolt and the lock case, provided with

a keyhole as set forth, such guard being for the purpose as specified.

Second, the combination as well as the arrangement of the stud L and the projection d, with the lever guard F, applied to the bolt B, and to operate therewith and with respect to the keyhole of the lock, substantially in manner as hereinbefore described.

Third, the combination as well as the arrangement of the stud L and the catch e, with the lever guard E, applied to the bolt B, and to operate therewith and with respect to the keyhole of the block, substantially in the manner as hereinbefore explained.

Fourth, the combination as well as the arrangement of the spring latch M, its catch slot and the projection N, or their mechanical equivalent, with the lock case and with the lever guard F, applied to the said case, and the main bolt, substantially in manner and so as to operate with respect to the keyhole, essentially as and for the purpose hereinbefore set forth.

64,427.—T. J. JONES, Summit, N. J., and T. L. WEBSTER, Brooklyn, N. Y.—*Faucet*.—May 7, 1867.—Explained by the claims and illustration.

Claim.—First, holding the plug of a faucet or stop cock to its seat by means of a spring, which is inserted into or through a recess made transversely through said plug, substantially as described.

Second, the construction of the V-shaped spring C with a centering notch in it, for the purpose specified.

64,428.—MARVIN H. KELSEY, Red Bank, N. J.—*Joint for Chimneys*.—May 7, 1867.—This is a collar for chimneys where they pass through the roof; its upper edges are inserted in the joints of the bricks, and its troughs collect and discharge the water.

Claim.—The metallic collar A for chimneys having the gutters a upon each side, substantially as described for the purpose specified.

64,429.—ABRAHAM B. KING, Camden, Ohio.—*Cultivator*.—May 7, 1867.—The two outer cultivators are coupled to the two inner ones by horizontal pieces, and have laterally-projecting independently-attached blades.

Claim.—First, the arrangement of the two outer cultivators F A S J F''' A''' S''' J', and the two inner and smaller ones F' A' S' K F'' A'' S'' K', so coupled together by the pieces G M D and their described accessories as to be held rigid, or to swing from side to side, or to be separated into two distinct double-share cultivators, in the manner described.

Second, the arrangement on the inner or landside, and in rear of a cultivator share of one or more independently-attached laterally-projecting blades or cutters T, substantially as and for the purpose stated.

64,430.—HENRY G. LEONARD, Taunton, Mass.—*Grate for Stoves*.—May 7, 1867.—The upper and lower sections of the grate fit together; the upper oscillates horizontally upon the lower when actuated by the lever which is pivoted in the lower section.

Claim.—In combination with a tipping and horizontally vibrating grate, the lever i into a slot in which a pin or projection from the grate works when the lever is applied to the cross-shaft or axis c, and operate the grate, substantially as set forth.

64,431.—A. M. LESLIE, St. Louis, Mo.—*Apparatus for the Preparation and Administration of Nitrous Oxide Gas*.—May 7, 1867; Antedated April 23, 1867.—The gas passes from the retort to the wash bottles and the gas holder. The wash vessels may nest into each other for portability. The connecting tubes are rubber, and fastened in the covers by thimbles, one soldered in the lid and the other inserted inside the tube where it passes through the cover. The inhaler has two valves, one opening outward and the other inward.

Claim.—First, the combination and arrangement of the tubes b, in the cap of the jar, and the tubes D and d, substantially as herein described and set forth.

Second, the employment of the india-rubber tubes D for connecting the different jars together and these to the generator and receiver, and for conducting the gas down through the water.

Third, the portable apparatus A B, when constructed and employed, substantially as herein described and set forth.

Fourth, the inhaler E, when constructed with the valves e and e'.

64,432.—LONDON LIMERICK, Louisville, Ky.—*Baby Tender*.—May 7, 1867.—The convertible chair or couch rests on a yielding frame supported by coiled springs on a base which travels on rollers.

Claim.—First, the arrangement of chair E H I, adjustable forward or backward, along a spring C, for the object explained.

Second, the combination of base A, spring C, sliding chair F G H I, and auxiliary spring E.

Third, the chair F G H I, with the brackets K K' L, knobs N O, adapted for a sitting or any recumbent position and supported upon a spring or yielding rest, substantially as set forth.

64,433.—ROBERT O. LOWREY, Saratoga Springs, N. Y.—*Foundation for Roofs*.—May 7, 1867.—Hydraulic cement and sand are made into a mortar and spread while in a plastic condition on the roof boards as a foundation for roofing material.

Claim.—A plastic foundation for roofing cement, prepared and applied substantially as herein described.

64,434.—DAVID DICK MATTESON, Harmonsburgh, Pa.—*Spring for Vehicles*.—May 7, 1867.—The ends of the spring are bent, and support the bed on each side near the corner; the middle is bent rectangularly in a horizontal plane, and one portion rests on the axle.

Claim.—A spring for carriages or buggies constructed of one piece of steel bent or formed in the manner described, constructed in the aforesaid combination and for the purposes set forth.

64,435.—THOMAS B. MCCONAGHEY, Newark, Del.—*Governor*.—May 7, 1867.—When the balls fly outward under accelerated motion the blocks are brought against the internal flange of the loose wheel and cause it to revolve, winding the cord and operating the steam valve. Springs return the parts to normal position on the decline of the speed.

Claim.—First, the governor arms, a a, in combination with the main piece B, and loose collar d, as and for the purpose set forth.

Second, the spring c c, in combination with governor arms a a, substantially as and for the purpose specified.

64,436.—JOHN S. MCINTIRE, Chicago, Ill.—*Oil Can*.—May 7, 1867.—The spout enters the funnel-shaped rim, above the level of the neck, so that a stopper in the latter closes both. An air inlet pipe, to assist in the discharge may be added.

Claim.—First, the narrow neck B, arranged relatively to the can A, and side spout D, substantially as and for the purposes specified.

Second, the arrangement and combination of the narrow neck B, the funnel C, side spout D, and vent tube F, with the can A, substantially as set forth.

64,437.—BARNEY MEE, Troy, N. Y.—*Hose Coupling*.—May 7, 1867.—The ordinary washer and loose ring of one section are dispensed with, as well as the necessity for forcing the sections toward each other in the line of their axes.

Claim.—First, a packing ring applied in a recess in the male part of a coupling in combination with a female member of the same coupling, the combination being substantially as specified.

Second, in combination with a packing ring, applied and acting as specified, and the male and female parts of a coupling, a bayonet fastening, or the mechanical equivalent, or substitute therefor, for holding the parts in place until pressure is applied to the packing ring, the combination being substantially such as set forth.

Third, an annular recess, in combination with the male part of the coupling, and with holes leading into it from the hollow of the coupling, forming a seat and an apparatus for applying pressure to a packing ring, the combination being as described.

Fourth, an annular recess, formed in the periphery of the male part of a coupling, provided with holes leading into it from the hollow of the coupling, in combination with the female part of a coupling, whereby a packing ring may be applied so as to pack a coupling joint, the combination being as described.

64,428.—N. M. MENDENHALL and J. JUDD, Terre Haute, Ind.—*Hand Spinning Machine.*—May 7, 1867.—By shifting the lever by its handle the reversing pinion is thrown into gear with one or the other of the pinions and so reverses the traverse of the carriage as desired. When the movement of the carriage engages a pinion with the rack-bar, thus feeding out the rolls from the apron, the trip bar is pressed by the front end of the carriage, freeing its notched edge from its detaining loop and relieving the tension of the cord so that the spring may rotate the roller and throw up the faller bar to allow the winding from the bottom to the top of the rotating spindles.

Claim.—First, the lever *p*, notched bar *q*, reversing pinion *O*, gear wheels *l* and *l'*, and pinions *m* and *n*, pulley *s*, and cord *s'*, in combination with the carriage *c*, as and for the purpose specified and set forth.

Second, the vibrating bar *y'*, spring *7*, cord *y''*, trip bar *y'''*, link *9*, lever *10*, cam bar *5*, cam *6*, arranged and operated substantially as above described and for the purpose specified.

64,439.—JOHN H. MOORE, Binghamton, N. Y.—*Moving Buildings.*—May 7, 1867.—The rollers are arranged in the parallel sections of the frame, which are attached by hooks and scraper bars. The rollers may move in different directions to enable the truck to turn at a short angle.

Claim.—The construction of the frame *A*, and the roller *B*, in combination with the parallel bars *or* scrapers *G*, the lever and lock *H*, the hooks *P*, the bolster *C*, as represented and described.

64,440.—WILLIAM A. MORSE, Philadelphia, Pa.—*Stair Rod.*—May 7, 1867.—Explained by the claim.

Claim.—First, a stair rod made of paper, paper pulp, felt, cloth, leather, or other equivalent fibrous material, lacquered, gilded, or otherwise ornamented to resemble highly finished brass, substantially as described and for the purpose specified.

Second, the use of paper, paper pulp, felt cloth, or leather, either separate or in combination, in the manufacture of stair rods, substantially as specified and for the purpose set forth.

Third, the use of either of the above-named materials in combination with wood or metal, substantially as specified and for the purpose set forth.

64,441.—JOHN B. MULVEY, Visalia, Ky.—*Window.*—May 7, 1867.—By withdrawing a bolt the pulley style may be pressed back to permit the withdrawal of the sashes without disturbing the stops or parting strips. The bolt is locked in place by a removable key.

Claim.—First, the combination of the solid window frame *G G'*, spring pulley style *E*, and locking device *H I i*, substantially as shown and set forth.

Second, the locking device, composed of the square bolt *H*, removable key *I i*, and cleat *J*, as set forth.

Third, attaching the cords of the weight to the sash by means of the grooves *k k*, the recess *l' m m'*, the pins *n n'*, and knots *o o'*, substantially as set forth.

64,442.—D. B. NELSON, Elmira, N. Y.—*Shovel.*—May 7, 1867.—Angular points are formed on the edge of an ordinary shovel.

Claim.—Constructing shovel blades with teeth, substantially as and for the purpose set forth.

64,443.—SAMUEL PAGE, Chelsea, Mass.—*Composition for Painting and Varnishing.*—May 7, 1867.—Improvement on his patent of October 11, 1859. The light distillate of coal tar distilled at a low temperature is re-distilled and the product mixed with the residuum left from the further distillation of the tar at a higher temperature.

Claim.—Treating the light distillate by additional substances as and for the purpose described.

64,444.—L. J. PARSONS, New Haven, Conn., assignor to himself and HENRY REYNOLDS, same place.—*Attaching Bits in Braces.*—May 7, 1867.—The perforated plate on the face of the socket is held by the sleeve against the shoulder of the bit.

Claim.—The combination of the plate *a*, with the socket *B*, and sleeve *C*, constructed and arranged so as to operate substantially as herein set forth.

64,445.—MARVIN PIERCE, Buffalo, Wis.—*Washing Machine.*—May 7, 1867.—The board has uprights

perpendicular to its sides, which have slots at their upper ends, to receive the gudgeons of a frame carrying a perforated and corrugated roller which is oscillated by hand.

Claim.—The combination of the rotary cylindrical rubber *E*, sweep *C*, slotted uprights *BB*, and wash-board *A*, the latter having the opening *a*, and soap-shelf *p*, and all being constructed and arranged as herein described and represented.

64,446.—ALBERT J. REDWAY, Cincinnati, Ohio.—*Fire-Place.*—May 7, 1867.—The crown of the fire-place is closed at front and back, but has side openings for the calorific current which passes over said crown to the chimney.

Claim.—First, surmounting the fire chamber of a grate or stove with the arched crown *C*, which extends from the front to the back of the fire-chamber, and is provided with the side flues *D D'*, all arranged and operating in the manner herein described and set forth.

Second, in combination with the crown *C*, and side flues *D D'*, the flue strips *G G'*, and abutments *H H'*, for the purpose specified.

64,447.—T. C. RICE, Worcester, Mass., assignor to THOMAS H. DODGE and T. W. WELLINGTON, same place.—*Apparatus for Rolling Wrench Bars.*—May 7, 1867.—The rolls have the necessary projections and recesses to form the blank into the required shape, by successive operations.

Claim.—First, the herein described combination of machinery for rolling wrench bars and other similar articles, organized substantially as herein shown and described for operation as set forth.

Second, the combination with the tongued segment roll *H*, and grooved segment roll *I*, of the stationary stop *f*, and table *L*, all constructed and arranged substantially as and for the purposes set forth.

Third, the combination of the notched segment roll *J*, and flanged segment roll *K*, constructed arm arranged for operation as described.

Fourth, the combination with the notched segment roll *J*, and flanged segment roll *K*, of the table *3*, and stationary stop *h*, substantially as and for the purposes set forth.

Fifth, the combination with the notched segment roll *M* and flanged segment roll *N*, of table *4*, and adjustable stop *s*, substantially as and for the purpose set forth.

Sixth, the combination with the tongued segment roll *Q* and the grooved segment roll *R*, having the flanges *x x* cut or inclined as shown at *c'*, of the table *6* and adjustable stop, as and for the purposes stated.

64,448.—DANIEL T. ROBINSON, Boston, Mass.—*Horse Collar.*—May 7, 1867.—The roll of the collar is formed with strips of raw hide, riveted together at the upper end.

Claim.—In the manufacture of horse collars, forming the roll of strips or layers of raw hide, arranged upon the collar, and secured together in the manner and for the purposes substantially as herein set forth.

64,449.—C. A. ROSE, Columbus, Ga.—*Manufacture of Paper Pulp.*—May 7, 1867.—The stalks of the cotton plant are combined with pine leaves; the long fibres give tenacity to the paper.

Claim.—The combination of pine leaves and cotton stalks, either with or without the addition of oak leaves and pine cones, as a material for making paper pulp.

64,450.—WARREN ROWELL, New York, N. Y.—*Transmitting Motion.*—May 7, 1867.—The ordinary crank is connected by rods to two additional cranks which rotate with it.

Claim.—The combination of the cranks *D D' D''*, and arms of rods *E E' E''*, or other suitable connection, so arranged relatively with each other that when rotary motion is imparted to the crank *D*, it will be transmissible to the cranks *D' D''*, and the shafts connected thereto, as herein described.

64,451.—WARREN ROWELL, New York, N. Y.—*Transmitting Motion.*—May 7, 1867.—The cranks have a connecting rod and their ends have rectangular arms projecting in the plane of their rotation and having wrist pins also connected by a rod.

Claim.—The hereinbefore described means for transmitting a continuous coincident rotary motion.

64,452.—PHILIP SCHWEIKHART, Buffalo, N. Y., assignor to DANIEL SCHWEIKHART, Eden, N. Y.—*Beer Cooler.*—May 7, 1867.—The air supplied by the fans is cooled on its passage through the ice chamber from which it is conducted through the liquids on their descent through and over the perforated troughs.

Claim.—First, a beer cooler having an ice box B, a chamber C, containing the liquid, and an air flue D and fan blower E, or equivalent, constructed, arranged, and operating substantially as herein described.

Second, cooling beer or other liquids by dividing the same into a large number of fine streams and forcing an ascending current of cold air through the descending liquid, in the manner and for the purpose substantially as herein described.

Third, the perforated plate or troughs F, having flanges $f^1 f^2$, arranged in the manner substantially as herein described.

Fourth, the sieves G G^1 , in combination with the chamber C, for the purpose and substantially as described.

64,453.—THADDEUS SELLECK, Greenwich, Conn.—*Railway Chair.*—May 7, 1867.—The ends of the rails rest upon a plate spanning the spaces between three or more ties; upturned edges of the plates embracing the rail base. The plates are clamped by bent plates at the rail junction and the ends of the plate.

Claim.—In combination with the rails A A, the flanged plate C, extending the distance of three or more intervals of the ties, the clamp, D, extending across the middle interval and embracing the point of junction of the rails and the end clamps E E, all arranged substantially as herein described and represented.

64,454.—WILLIAM P. SLENSBY, Chicago, Ill.—*Tool for Cutting off Boiler Tubes.*—May 7, 1867.—The support of the cutter is placed within a transverse groove in the stock and is adjusted laterally by a screw.

Claim.—First, the combination and arrangement of the revolving head block B, the adjustable cutter holder D, and the slotted collar F, as and for the purposes set forth and shown.

Second, in combination with the above the shaft A and ratchet handle C, operating as specified and for the purposes described.

64,455.—THOMAS H. SPENCER, Providence, R. I.—*Tooth Brush.*—May 7, 1867; antedated April 23, 1867.—The dentifrice receiver slides in the hollow handle of the brush.

Claim.—The tooth brush having a detachable handle and a dentifrice container therein, substantially as described.

64,456.—WILLIAM MONT STORM, New York, N. Y.—*Proof Meter and Register for Alcoholic Spirits and other Liquids.*—May 7, 1867.—A drum rotating with the amount of liquor passing through the meter, has a paper scale stretched upon it, which is marked by a pencil attached to a hydrometer to indicate the strength of the liquors.

Claim.—First, the float E acting as a hydrometer, and carrying a pencil or pencils, or any equivalent, in combination with the drum G, covered with paper or some equivalent, rotating in contact with such pencil or pencils, or their equivalents, so that they shall describe a line denoting the varying specific gravity of the liquor flowing through the instrument.

Second, the diagram Figs. 3 and 8, in combination with the instrument, having the hydrometer scale in horizontal lines upon it, and vertical lines to denote gallons, &c., as explained.

Third, having the pencils independently of their rise and fall with the hydrometer or float E, acted upon by changes of temperature, substantially in the manner and for the purpose described.

Fourth, the use of two pencils, acting in the manner and for the purpose explained.

Fifth, the use of the overflowing well A, for the purpose described.

Sixth, the application of the spring α , or any equivalent device, for the purpose set forth.

Finally, the instrument as a whole, its parts being constructed and operating together, substantially in the manner and for the purpose explained.

64,457.—WILLIAM MONT STORM, New York, N. Y.—*Liquid Meter.*—May 7, 1867.—Designed to be attached to the worm of a still, and operates on the principle of a steam pump, having a glass-lined, perforated cylinder, a valve chest and induction and education passages. The capacity is regulated by a right and left screw, which adjusts the pistons toward and from each other.

Claim.—First, the arrangement of the valve i , rod j and lever l , operating in conjunction with the sleeve z and piston rod f , as and for the purpose described.

Second, regulating a liquid meter, constructed substantially as described by means of the adjustable pistons $f f$, as and for the purpose explained.

Third, the glass cylinder a , embracing a piston or pistons, moving on a central rod, and supported by a perforated exterior case, as and for the purpose specified.

64,458.—WALTER L. STRONG, San Francisco, Cal., assignor to himself, G. W. STRONG, and J. F. TAYLOR.—*Amalgamator.*—May 7, 1867.—The mullers are attached to two sets of arms, and rotate in the pan in different directions by means of gear wheels and an axial shaft, which passes down through the bottom of the pan, and is put in motion by gearing.

Claim.—First, the shoes $c e$ and $g g$, in combination with the attaching joints d and h and the arms D and G, substantially as and for the purpose described.

Second, the geared wheels $L m m$ and the rim n , in combination with the shaft F and muller G g , as described.

Third, the wrench O, with the shaft P, operating upon the wheels $m m$, rim n , and shaft F, substantially as and for the purpose described.

64,459.—LUMAN D. TAYLOR, Granville Center, Pa.—*Hay Loader.*—May 7, 1867.—The endless toothed belt is driven by bands from the ground wheels. It runs over three rollers, the two lower ones are elevated an equal distance above the ground.

Claim.—The arrangement in the pivoted and adjustable frame D of the belt G and auxiliary delivery belt J, substantially as described and represented.

64,460.—JOHNSTON THOMAS, Huntingdon, Pa.—*Churn Dasher.*—May 7, 1867.—To the perforated and hinged dashers are attached two atmospheric pipes, which on the raising of the dasher, conduct air into cream. On the descent of the dashers the leaves collapse, easing the downward motion.

Claim.—The adjustable dasher and butter gatherer H and G, the lower perforated circular dasher B, the adjusting rod L, the atmospheric tubes D, and their ball valves E at top, all in combination, when constructed, arranged, and operated as herein described and for the purposes set forth.

64,461.—M. G. TOUSLEY and F. E. MARCELLUS, Fulton, Ill.—*Nose Jewel for Swine.*—May 7, 1867.—The pointed bolt perforates the snout, and its point enters the countersink.

Claim.—The arrangement and construction of the device, when constructed, arranged, and operating as and for the purpose above set forth.

64,462.—MYNARD I. TURCK, Shodack, N. Y.—*Horse Hay Fork.*—May 7, 1867.—By drawing the trip cord that runs over the pulley attached to the jointed cross-bar, the tines are expanded for insertion in the hay; they are contracted when the cord is loosened, the draft attached and the toggle bar straightened. They again expand to deliver the hay by drawing the trip cord.

Claim.—The arrangement and combination of the jointed cross-bar A A, tines F F, cross-bar B, trip cord t and pulley P, substantially as and for the purposes herein set forth.

64,463.—MARQUIS D. WALLACE, White Creek, N. Y.—*Churn.*—May 7, 1867.—The churn tub sets within the frame, and the inner rod of the dasher is adjusted telescopically in the screw rod according to the amount of cream.

Claim.—The combination of the frame B b and adjustable telescope shaft I, constructed and operating as described.

64,464.—GEORGE WATT, Richmond, Va.—*Plow Handle.*—May 7, 1867.—The curve of the handle is formed with a cast socket to avoid bending the timber.

Claim.—The curved metallic socket A, constructed as described, and employed for the purpose specified.

64,465.—MARSHALL D. WELLMAN, Pittsburg, Pa.—*Fire-place.*—May 7, 1867.—The rear part of the fire grate has communication with a rear flue by a passage furnished with a damper by which the combustion in the rear part is regulated. The top plate of the grate is removable and the ashes from its upper side fall into a chamber behind, having an opening into the ash pit through which the soot is removed.

Claim.—First, the combination of the shallow recess g in the back wall, or back wall and side walls of a fire-place, with the opening i and flue k, substantially as and for the purposes hereinbefore set forth. Second, making the rear part of a fire basket with grate bars e e, parallel to each other, and closer together than the bars d that compose the front part of such fire basket, substantially as and for the purpose hereinbefore set forth.

Third, the combination of the dust holes m m, furnished with slides n n, the air passage i, and flues k, for the purpose hereinbefore described.

Fourth, the use of the tapering grate bars for the purpose of diminishing gradually the amount of air admitted to the fire, as the space between the bars.

Fifth, perforating the tapering grate bars with air holes, for the purposes hereinbefore described.

64,466.—WALTER WHEELER, JR., North Providence, R. I., assignor to himself, PARDON JENKS, and E. O. POTTER, same place.—*Machine for Folding Cloth.*—May 7, 1867.—The cloth descends and its edges are held for a period by the reciprocating clamps alternately. The clamp shafts rock on their axes so as to throw the clamps out of the folds as made; the lower edges of each fold hang free. The delivery roller being actuated by the same machinery that operates the clamps, the folds are made of uniform length.

Claim.—First, an apparatus for folding cloth, which employs two sets of folding clamps, or the equivalent thereof, acting in alternation, to hold the cloth suspended by the upper folds already made, while a new fold is being laid, and operating for the purpose substantially as described.

Second, the combination in a machine for folding cloth of the following: first, delivering rolls or equivalent means for supplying cloth to be folded; second, an inclined conductor F, and transverse folding bar G, and two sets of clamps working in alternation, all substantially as herein described.

64,467.—SAMUEL H. YOUNG, St. Louis, Mo.—*Disinfecting Coffins.*—May 7, 1867.—A box lined with beeswax or asphaltum is placed within the coffin and in the box is a coil of hemp saturated with acetic acid and spread with chloride of lime. An aperture is made in the coffin to allow the disinfecting gases to escape.

Claim.—First, deodorizing and disinfecting corpses by enclosing the same in a receptacle wherein chlorine, or other equivalent, or distilling gas, is continuously generated and liberated, substantially in the manner and for the purposes herein set forth.

Second, the combination of a disinfecting and deodorizing compound with the interior of a coffin, in such a manner as that there shall be a gradual and constant generation and liberation of a disinfecting and deodorizing vapor in the coffin, substantially in the manner and for the purpose herein set forth.

64,468.—H. S. ALLEN, Granger, Ohio.—*Attaching Carriage Thills.*—May 7, 1867.—The hook is inserted over the pin, between the jaws, the back shoulder is concaved to fit the hook.

Claim.—The hook or head C, provided with a slot a, in combination with the pin D, cheeks or jaws E, and back piece F, arranged as and for the purpose set forth.

64,469.—JOHN H. ALLISON, Eureka, Ill.—*Cultivator.*—May 7, 1867.—The foot lever adjusts the harrows laterally to follow the sinuosities of the row. A rod in the front end of the foot lever is engaged with a hook above it to keep the frame elevated. The driver's seat is secured to longitudinally slotted parallel bars made adjustable to balance the machine.

Claim.—First, the harrows I I, connected together, and to the front part of the frame A as shown, in combination with the foot lever F, all arranged to operate in the manner substantially as and for the purposes set forth.

Second, the adjustable driver's seat D, in combination with the harrows and foot lever, substantially as and for the purpose specified.

64,470.—E. B. ANDREWS, Osborn Hollow, N. Y.—*Organ Pipe.*—May 7, 1867.—The object is to prevent the division of the tone of the pipe from one key to another, when the pressure varies.

Claim.—An organ pipe, having its throat B upon the outside, with the tuning plug C back of the throat, substantially as and for the purpose described.

64,471.—STEPHEN BALLARD, Sr., Sullivan, Ind.—*Churn.*—May 7, 1867.—The jointed arms and knives are attached to the rotary dasher shaft and act in combination with perforated breakers hinged to the side of the churn.

Claim.—First, the combination of the knives P and hinged or jointed arms N and O, with the dasher shaft J, substantially as described and for the purpose set forth.

Second, the combination of the circular dasher L, constructed as described with the dasher shaft J, substantially as described and for the purpose set forth.

Third, the combination of the frame E and gearing G H I, with each other and with the sides and top or cover D of the churn A, substantially as described and for the purpose set forth.

64,472.—JOHN BALLY, Deposit, N. Y.—*Fruit Picker.*—May 7, 1867.—One jaw is attached to the pole and forms the frame for the hood of the sack; the other jaw is actuated by a cord and a recoil spring. The fruit falls into the conveyer.

Claim.—The jaws A and B, constructed as described and provided with knife C, shield i, and spring, when used in combination with the socket F and bag C, for the purposes specified.

64,473.—S. J. BEELER, Wales, Ill.—*Soap.*—May 7, 1867.—Composed of stone lime, 14 lbs.; concentrated lye, 1 lb.; sal soda, 2 lbs.; salts of tartar, 1 oz.; borax, 6 oz.; saltpetre, 1 oz.; alum, 6 oz.; animal grease, 5 lbs.; and a sufficient quantity of soft water.

Claim.—The use of the ingredients herein named in the proportions substantially as set forth, when treated as described, for the manufacture of a new article of chemical erasive soap.

64,474.—HENRY M. BEIDLER, Chicago, Ill.—*Lamp.*—May 7, 1867.—Metallic conductors, in connection with the heat of the flame rarefying the air in the tubular frame, cause it to ascend to feed the flame.

Claim.—A metallic conductor to conduct heat from the illuminating flame of a lamp down into a tube or hollow case below, to rarefy the air therein, and cause an ascending current of air to feed the flame, substantially as described.

64,475.—CALVIN BISSELL, Aurora, Ohio.—*Hand Rake.*—May 7, 1867.—The operator holds the handles, the rake is drawn by a clevis being either upset or withdrawn to discharge the load.

Claim.—The herein described rake in its special construction and arrangement in the manner and for the purposes specified.

64,476.—JOHN BLACKIE, New York, N. Y.—*Coffee Pot.*—May 7, 1867.—The three compartments have ducts, so arranged, that when the water which is placed in the outer compartment is raised to boiling point, the pressure of generated steam will force it up into the leach at the top of the inner vessel that holds the coffee.

Claim.—First, a coffee pot constructed with the

three compartments A' B' and E and the tubes C and D, or their equivalents, in combination, to produce the effects set forth and described.

Second, a coffee pot constructed with an inner and outer receptacle communicating with each other, so that the water shall be heated in the outer and then pass into the inner, and so that the vessel containing the solution of coffee shall be surrounded by an air or water space, and the said solution thereby prevented from being heated to the boiling point, substantially as set forth.

Third, the leaching vessel G and tubo H, provided with the cap I, in combination with the tube D and chambers B' and E, substantially as and for the purpose set forth.

Fourth, the siphon C, in combination with the compartments A and B and the tube D, substantially as and for the purpose set forth.

64,477.—BENJAMIN A. BLANDIN, Charlestown, Mass.—*Bench Plane.*—May 7, 1867.—The lower end of the rocking bed piece is convex on its under surface, which rests on a seat in the stock. The upper face of the lower bed piece has a plane face on which the plane iron is supported, the rear end of the iron straddling a screw upon which the adjusting nut works.

Claim.—Combining with a mechanism for clamping a plane iron in position, the rocking bed piece *l*, supported and rolling in a concave seat *k*, and serving to support and adjust the cutting edge of the plane iron, substantially as set forth.

64,478.—GEORGE E. BOOTH, Seymour, Conn.—*Hollow Auger.*—May 7, 1867.—The lower cutters are pivoted eccentrically and by partial rotation are adjusted to the size required.

Claim.—First, the circular cutters D, pivoted eccentrically with the axial center of the auger, and operated substantially as and for the purpose specified.

Second, the plate E, with the rack *c* and pinion *b*, arranged substantially for the purpose set forth.

Third, the thimble F, in combination with the barrel A and the cutters D, substantially as described.

64,479.—EDWARD BOURNE, Pittsburg, Pa.—*Steam Generator.*—May 7, 1867.—The flues are enclosed in separate cylinders of larger diameter with intervening annular water spaces, which connect with the water space around the fire box. The caloric current passes through the internal tubes and then around the outside of the external outer tubes.

Claim.—So arranging and combining the tubes with relation to the fire box and the water space therein, as that the smoke or products of combustion not only pass through the interval tubes, but can be made to pass around the outside of and between the external tubes or surrounding cylinders, substantially as herein shown and set forth.

64,480.—JAMES N. BREWSTER, Brooklyn, N. Y.—*Ironing Board and Closet.*—May 7, 1867.—The board is connected to the closet and supported in a horizontal position when in use; at other times hanging vertically.

Claim.—The ironing board constructed with a hinged slide *e*, arranged to operate in the guides *b*, and in relation with the bars or stops *f* and *n*, substantially as herein set forth, for the purpose specified.

64,481.—B. Q. BUDDING, Milford, Mass.—*Pegging Machine.*—May 7, 1867.—The vibrating awl is driven at the point marked by the retaining tooth and is followed by the charged peg tube.

Claim.—In combination with the vibrating awl and the peg tube, the retainer tooth *f*, so arranged in relation to the awl that the awl will be driven into the hole previously made by the tooth, substantially as and for the purpose set forth.

64,482.—JONATHAN BULLIS, Macedon, N. Y.—*Hay Loader.*—May 7, 1867.—The rope extends over pulleys and through the hollow crane post, thence round the vibrating pulley shaft and drum, which is actuated by an endless band connecting the shaft with a driving wheel on one of the supporting wheels.

Claim.—The arrangement of the detachable hollow crane post P, elevating cord C, drum D, and vibrating

pulley shaft S, with its sliding box *f* and lever or connection bar *l* and the pulley *p*, in connection with the driving wheel *w*, attached to the ground wheel G of the wagon, when said parts operate in the manner and for the purposes shown and described.

64,483.—P. S. BURDITT and O. PRESTON, Hawk-insville, N. Y.—*Signal Whistle.*—May 7, 1867.—When the cord is pulled, it forces the piston rod into the cylinder, compressing the air, which escapes through the disk and produces the sound.

Claim.—First, the valve E, cylinder C, piston rod D, and cord I, all combined and operated as and for the purpose set forth.

Second, the sliding plate G, spring H, roller J, and pulley K, all combined and operated as and for the purpose specified.

64,484.—HENRY CALLAHAN, Dayton, Ohio, assignor to himself and JOHN REESE, same place.—*Bucket Ear.*—May 7, 1867.—The ear passes through a slot cut in the tin plate, which is then bent over the ends of the wire.

Claim.—The bucket ear B, when constructed substantially as described.

64,485.—EDWIN H. CAMP, Jackson, Mich.—*Hot Air Furnace.*—May 7, 1867.—The fire space has a series of vertical tubes near its outer edge and an upper annular space with similar tubes, which form passages for heating air. From the upper end of the annular space the caloric current passes to a central tube having its upper exit regulated by a damper, which, when closed, causes it to dive and find exit horizontally from the side pipe.

Claim.—The two tiers of tubes marked *a* and *c*, in combination with the space D, substantially as described, for the purposes specified, and in combination with the furnace.

Also, the diving flue E and the bent tubes F, arranged substantially as described, in combination with a hot-air furnace.

64,486.—GEORGE W. CARPENTER, Jarvis, Ind., assignor to himself and P. C. STUART.—*Door Strip.*—May 7, 1867.—The guide raises the hinged strip over the threshold, and it is forced into a vertical position by pressure against the jamb.

Claim.—A hinged weather strip C, which in closing the door is raised by the guide E over the threshold and forced into a vertical position by pressure against the jamb, against which it rests in front of the threshold when the door is closed, substantially in the manner set forth.

64,487.—A. H. CARYL, Groton, Mass.—*Atmospheric Railroad.*—May 7, 1867.—A tube extends along an elevated track supported on columns and supplied with compressed air by an engine. The tube, at suitable intervals, has valves and discharge pipes whereby the driving mechanisms on the suspended cars are supplied with power.

Claim.—First, the tube, arranged as specified, for the holding of compressed air, in combination with tanks or reservoirs on the cars, which supplies the engines that propel the cars, substantially as described and for the purpose specified.

Second, the iron tube placed on iron columns or otherwise suspended or supported above the carriage way to support a railroad track or tracks, as set forth, when such tube is strengthened by a vertical iron partition, or when made with perpendicular walls, in the manner described, for the purpose specified.

Third, the combination of the pipe B, rings C, ways D, bars E, bars F, diagonal arms G, and rods H, and pillars A, in the manner described, for the purpose specified.

Fourth, the supply tubes O, in combination with bosses P, arms Q, and sliding tubes R, operating with the tube S, and admitting the compressed air into the receptacle N, substantially as described, as and for the purpose specified.

64,488.—LEWIS S. CHASE, New York, N. Y.—*Picture Frame.*—May 7, 1867.—The central bar of the frame is attached with screw buttons and is easily removed for insertion of card advertisements, &c.

Claim.—The frame for advertising and other pur-

poses, constructed with the bars removable or detachable by unscrewing the button, and the other bars with grooves for allowing the glass to be removed, and arranged substantially as herein recited.

64,489.—WILLIAM H. CHRISTIE, Albany, N. Y.—*Shoe Lacer.*—May 7, 1867.—The plate is doubled to form a lace hook and shank outside, its ends entering a hole in the leather and clinching within.

Claim.—The hook doubled at the stem and curve, with the ends thereof projecting below the stem for inserting through the shoe or other article and clamping thereto, when formed of one strip of metal, and constructed and arranged as herein specified.

64,490.—JOHN CHRISTLEY, Slippery Rock, Pa.—*Churn Power.*—May 7, 1867.—The treadle is connected to the walking beam by a pendulum arm imparting reciprocating motion to the dasher rod attached to one end of the walking beam.

Claim.—The combination of the walking beam D, handle H, vertical bar E, pendulum rod K, treadle I, connecting rod C, spring L M, dasher rod F, and fly wheel, substantially as described, for the purpose specified.

64,491.—C. H. CLARK, Wilmington, Del.—*Piston Packing.*—May 7, 1867.—The wedge-shaped rings set within the groove in the perimeter of the piston head; steam passes through apertures and expands the rings against the bore of the piston.

Claim.—First, the packing rings B and C, of wedge-shaped form, with the recess *i* between their faces and with the saw-parted and slotted ends in combination with a piston.

Second, the valves *a* and *b*, in combination with the packing rings and the apertures through the piston head, substantially as described.

64,492.—CALVIN COLE, Ithaca, N. Y.—*Sash Stop.*—May 7, 1867.—A friction wheel is applied between the edge of the sash and frame which forms the bearing for the cord; the ends of the latter are secured to adjustable brackets, by which means the tension can be adjusted.

Claim.—First, the combination of the friction wheel *b*, having a limited sliding movement with the friction bearing or surface *c*, and the sustaining cord *d*, substantially as herein described for the purpose specified.

Second, the combination of the slotted adjustable piece *e* with the sustaining cord, substantially as herein described for the purpose specified.

64,493.—M. CONVERSE and A. C. TORRY, Jordan, N. Y.—*Composition in Roofing.*—May 7, 1867.—The felt sheets are covered with a composition of coal tar, cement, water lime, and sand.

Claim.—The mode of covering roofs by coatings of felt and a mortar composed of the ingredients named and compounded, combined and applied substantially as set forth.

64,494.—E. W. H. COOPER, Hartford, Conn.—*Tool Holder.*—May 7, 1867.—At the end of the rectangular shank is a conical socket which receives the segmental chuck in which the tool is held.

Claim.—The chuck B, either sectional or split in combination with the conical socket *a*, in the tool holder A, constructed and operating substantially as and for the purpose set forth.

64,495.—E. COPE and J. R. MAXWELL, Cincinnati, Ohio.—*Screw Suedging Machine.*—May 7, 1867.—Right and left spirally grooved rollers operate upon the end of the sheet metal tubes presented thereto and swage a thread thereon.

Claim.—First, constructing said rolls with right and left-hand screws respectively and arranging them so that the threads upon one shall bend the metal into the grooves of the other, all substantially as above set forth.

Second, also in combination with the subject-matter of the first claim, leaving a portion of the surface of the rolls plain or blank in the manner and for the purpose described.

64,496.—MARTIN H. CRANE, Cincinnati, Ohio, assignor to CRANE, BREED & CO., same place.—*Me-*

talic Burial Case.—May 7, 1867.—The case is stiffened by rails, sills, and styles of wood covered with sheet metal and soldered to the body of the case.

Claim.—First, a metallic burial casket stiffened by sheet metal drawn over wood and secured to the body of the case by soldering, in the manner and for the purpose set forth.

Second, the combined arrangement of the body proper of the wood and metal rim or rail C, for the reception of the screws employed to fasten the lid in the described combination with the composite wood and metal styles, the said rail sill and styles being formed separately from said body and the sills B, and afterward firmly soldered thereto and to each other, as set forth.

64,497.—GEORGE H. CROSS, Montpelier, Vt.—*Steam Confection Pan.*—May 7, 1867.—A funnel-shaped pan with a false bottom is arranged in a suitable frame. The lower portion of the pan forms a steam chamber, and the funnel is revolved by gearing.

Claim.—The hollow shaft D, attached to the pan, the steam pipe E, passing through the shaft, the reversed T G, and the pipes H and J, in combination with a steam confectioners' pan, the whole constructed, arranged and operating substantially as herein shown and described.

64,498.—J. W. CROSSLEY, Bridgeport, Conn.—*Machine for Cutting Tobacco.*—May 7, 1867.—The revolution of the crank feeds forward the tobacco and also makes the draw cut of the knife. The latter is attached at one end to the bed by a pivoted arm, and at the stud at the other end is guided in a curved slot so as to give it a simultaneous downward and longitudinal motion, derived from a bell crank operated by a cam on the driving shaft.

Claim.—First, the radius arm E, fixed plate *e*, provided with the curved slot *d*, the lever G, and pin *c*, cam M, and knife bar D, all arranged in the manner substantially as and for the purpose set forth.

Second, the screw T with the plunger U, attached nut S, ratchet wheel V, pawl W, and arm R, all combined and arranged to form the feed mechanism, as set forth.

Third, the adjustable rod N and screw bolt *n* for the purpose of regulating the throw of the pawl W, as set forth.

64,499.—L. DAUBERT, Louisville, Ky.—*Apparatus for Extracting Oil from Herbs and for other Purposes.*—May 7, 1867.—The herbs are placed in the vessel which is connected by pipes with the annular water space surrounding the furnace. The water circulates through the pipes.

Claim.—The annular chamber C with the furnace or fireplace B within said chamber, in combination with the pipes D E and boiler A, arranged as and for the purpose set forth.

64,500.—G. W. DAVIS and G. A. ROLLINS, Nashua, N. H.—*Steam Engine Governor.*—May 7, 1867.—The valve stem which is adjusted vertically by the motion of the governor balls under changes of speed, operates a bell crank, rock shaft, and link, and varies the position of the lifter relatively to the cross-head of the valve stem.

Claim.—The revolving eccentrics K, lifters J, links *i*, arms *g*, in combination with the governor for the purpose of operating steam valves, as substantially herein set forth.

64,501.—THOMAS DE WITT, Detroit, Mich.—*Carriage Spring and Coupling.*—May 7, 1867.—The half spring is hung on the over-curved ends of two short springs attached to the axle. The coupling pole is branched vertically before and horizontally behind a point traversed by the semi-circular backward extending segment on which it slides.

Claim.—First, the spring F having shoulder *f*² in combination with the spring D, and immediately secured to the axle E, substantially as described for the purpose specified.

Second, the coupling I herein described, the same consisting of the branches *i*², *i*³, *i*⁴, *i*⁵, in combination with the half circle H, constructed and arranged substantially as and for the purpose specified.

64,502.—ROBERT DICK, Buffalo, N. Y.—*Addressing Machine.*—May 7, 1867.—Improvement on his patent of October 4, 1859. The belt is combined with distributors and rollers revolving in fixed bearings, adapting the machine to the use of flour paste. The downward pressure of the frame resulting from dropping the machine on the outside to be labelled, performs the work of cutting off the label and attaching it to the required spot.

Claim.—First, the combination of the steam packing belt with the distributors and the new arrangement of the rollers for securing the results as recited, in the way and manner substantially as herein set forth.

Second, the spring wire frame and the manner of connecting it with the machine for the purpose stated, together with all other ways and manners, substantially the same as those herein set forth or intended to be set forth.

64,503.—ANDREW J. DINE, Xenia, Ind.—*Earth Auger.*—May 7, 1867.—The wings are jointed so as to allow the earth to pass under their rear ends or to allow the same to fall and act as a valve in raising the earth from the hole.

Claim.—A post hole auger constructed with the parts A D D' E E' F O G, arranged to operate substantially as set forth.

64,504.—THOMAS DIXCEE, Woodfield Road, England.—*Brick Machine.*—May 7, 1867.—The three operations of crushing, pugging or mixing, and molding are performed simultaneously, the plastic clay being forced through lateral orifices. The cutting wires are arranged at the required distance apart in the oscillating frame, the clay being held by the fences while being cut.

Claim.—First, the crushing or grinding rollers C in connection with the amalgamation or mixing blades D and the rollers C, at the moulding orifice or orifices, substantially as and for the purposes set forth.

Second, the cutting wires A attached to the bar K with the guide fences L L, combined and arranged to operate in the manner substantially as and for the purpose specified.

64,505.—A. B. DOOLITTLE, Hartford, Conn., assignor to ELI TERRY, Terryville, Conn.—*Machine for polishing Metal Springs.*—May 7, 1867.—From the burring rollers the spring is conducted between the burnishing rollers which act on the opposite surfaces of the spring simultaneously. It then passes through the bath of molten lead into which it is depressed by a roller. The bath has a blueing heat and the spring after leaving it is wound on a reel.

Claim.—The combination of the reels A E, burring rollers B, burnishing rollers C, and bath D, when all are respectively constructed and arranged to operate either in one and the same machine, substantially as and for the purpose described.

64,506.—FRANK B. DOUGHTY, New York, N. Y.—*Interfering Attachment.*—May 7, 1867.—The spur is inserted between the shoe and the hoof and holds in position the pad which is strapped around the hoof.

Claim.—Providing the pad with the metallic spur or spurs so arranged by means of which and the straps the pad is secured to the hoof of the horse as and for the purpose specified.

64,507.—J. F. DUBBER, Brooklyn, N. Y.—*Corset Fastening.*—May 7, 1867.—The metallic strips occupy folds in the edges of the corset. Slides are attached on each strip, those on opposite portions being hook and eye respectively.

Claim.—The slides C C' made with lips c c, to operate in combination with the springs A A' and seams B B', in the manner and for the purpose described.

64,508.—MICHAEL B. DYOTT, Philadelphia, Pa.—*Lamp.*—May 7, 1867.—The glass reservoir is suspended within an outer metallic casing which is attached by brackets to the metallic ring on which the upper shoulder of the recess rests; the recess is filled with cement. The intervening space forms a passage for the air.

Claim.—First, a reservoir or fountain of glass, earthenware, or other equivalent material suspended

within the outer metal casing B, substantially as and for the purpose herein set forth.

Second, the combination of the glass or earthenware reservoir A, metal ring D, brackets g, and outer casing B, the whole being arranged substantially as described.

Third, the cemented recess f, the projecting upper edge e of the same, and the ring D.

64,509.—FREEMAN ELLIS, Lafayette, Ohio.—*Fence.*—May 7, 1867.—The posts are attached on each side of the rails, their pointed ends penetrating the ground. Two braces pivoted together near the top secure the fence.

Claim.—First, a fence provided with the parts B, arranged and constructed so as to render it adapted for being inverted, that is, used either side up, substantially as and for the purposes set forth.

Second, the blocks j j', when arranged upon and confined with the pins h h, and pulleys i i, as and for the purposes specified.

64,510.—A. EMERSON, New York, N. Y.—*Machine for Making Nuts.*—May 7, 1867.—The heated bar is placed against a gauge, the slide is forced forward and the blank is cut from the bar; the blank is forced into the die to which the rounded header has been advanced by the movement of the other slide. The advance of the punch perforates the nut and forces the piece into the hollow opposite slide, whose second forward movement discharges the nut.

Claim.—First, the construction and arrangement of the slides I L, fitted in the guides H K of the frame B, and provided respectively with the dies J M, the punch N in the slide L, and fixed rod K in the slide I, when used in combination with an intermediate die open at both ends, substantially as described for the purpose specified.

Second, the construction of the die T with an enlarged centre when said die thus constructed, as used in connection with a punch arranged in connection with suitable dies, so that in the punching operation the blank will be expanded in the enlarged part of the die, substantially as and for the purpose set forth.

64,511.—BERNHARD EYBEL, New York, N. Y.—*Converting Motion.*—May 7, 1867.—The rotary shaft connects by eccentric pitman and bell crank with the lower shaft; the crank of the latter is attached to the slotted longer arm of the lever, and receives a reciprocatory rotary motion therefrom.

Claim.—The arrangement of the elbow lever F, eccentric C, and crank I, in combination with the shafts B H, substantially as and for the purpose set forth.

64,512.—BENJ. F. FARRAR, Springfield, Mass., assignor to himself, EDWARD M. WESSON and HENRY WILLIS, same place.—*Construction and Ventilation of Walls of Buildings.*—May 7, 1867.—The bricks are grooved longitudinally on their horizontal surfaces, and when laid together in the building the grooves form continuous horizontal air ducts.

Claim.—First, the walls of a house or other building, when constructed with horizontal air ducts c c c, such air ducts and their opening being arranged and combined substantially in the manner and for the purpose specified.

Second, a break or building block, when constructed with a channel or groove extending the entire length of one or both sides, as and for the purpose specified.

64,513.—HECTOR T. FENTON, Philadelphia, Pa.—*Steam Generator.*—The annular water space above the furnace has bent pipes which communicate with portions of the water space above and below, and project inward, nearly meeting in the center of the flue spaces, exposing their contents to the passing caloric current. Wire gauze screens guard the entrances to the pipes which lead to the elevated superheater.

Claim.—First, the cylindrical boiler, its fire box D, central flue C, and pipes E, the whole being constructed and arranged substantially as and for the purpose herein set forth.

Second, the combination of the above with a superheating chamber H, situated above the central flue and communicating through pipes with the steam space of the boiler.

Third, the boxes F, separated from the steam space

by wire gauze, or its equivalent, and pipes C, less in size than the boxes.

64,514.—C. T. FITCH, Harbor Creek, Pa.—*Post Driving Machine.*—May 7, 1867.—A weight is operated within the frame by means of an adjustable hook and rope.

Claim.—The combination of runners A, posts B, and braces C, with the hook I, inclined blocks F, sliding guide bar L, hammer E, adjustable arms O and P, and stop lever K, substantially as herein set forth for the purpose specified.

64,515.—W. A. FLANDERS, Shelby, Ohio.—*Bee-hive.*—May 7, 1867.—The passages permit the bees to pass more directly to the different compartments. The sanded surfaces prevent the deposition of wax at those points. The other features refer to ventilation and protection.

Claim.—The ways or passages G for the bees commencing at one side of the comb guides, and passing through the top bars of the comb frames, substantially as and for the purpose set forth.

Second, the use of sanded surfaces for the comb frames, as and for the purposes set forth.

Third, the use of glassed or sanded paper for comb guides M and linings to the communicating bee passages A' from comb to comb, substantially as and for the purposes set forth.

Fourth, ventilating the hive through the top bars of the outside comb frames and preserver H, constructed as described, from the diverging ways W and doors X and Y of the common entrance, as and for the purposes specified.

Fifth, the bee entrance guard V, having diverging passage ways W, from the central or common ingress Y, the same being either reversible or stationary, as and for the purposes set forth.

64,516.—HENRY C. FRITZ, Philadelphia, Pa.—*Shaft Coupling.*—May 7, 1867.—The adjacent ends of the shafting are clamped between grooved blocks, which are forcibly drawn together by screw bolts and encased in a sleeve.

Claim.—A coupling divided into parts longitudinally when bolted together by bolts or screws through the flanges, in combination with the sleeve or cover H, substantially as shown and described.

64,517.—JOSEPH GALLIPO, Cohoes, N. Y., assignor to himself and WALTER CAMPBELL, same place.—*Apparatus for Crutching Soap.*—May 7, 1867.—The dasher arms have angular and oblique paddles, which, by revolution, mix the material into a homogeneous mass.

Claim.—The arrangement of the radiating paddles e, beater frame f, transverse scrapers g, cross-bars h, and transverse paddle i, in combination with the revolving shaft D and box A, constructed and operating substantially as and for the purpose set forth.

64,518.—JOEL GARFIELD, Groton, Mass.—*Hay Spreader.*—May 7, 1867.—The rotary and eccentrically moving teeth are mounted in an open frame. They clear themselves of hay by their eccentric motion.

Claim.—In combination with rotating heads and forks and the stationary shaft k placed eccentrically to the axis of rotation of such heads, the shafts h, arms l, and loops m, when arranged to operate substantially as described.

64,519.—WILLIAM L. GEBBY, New Richland, Ohio.—*Planter and Cultivator Combined.*—May 7, 1867.—The large shovel opens the ground, the attendant operates the drill by the connecting lever, and the small shovels in the rear cover the seed.

Claim.—First, the arrangement of the arms I with the shovel K and teeth d, in combination with the shaft A and beam B, in the manner and for the purposes specified.

Second, the hopper box D, with seed slide i, when operating by means of the lever b, rods c and g, and spring e, when constructed and used in the manner herein set forth.

64,520.—WILLIAM F. GOODWIN, Washington, D. C.—*Harvester Rake.*—May 7, 1867.—The rake is

operated by a cog wheel on the axle which turns with it, but has sliding movement on the same; another cog wheel engaging with the former is brought to engage any one of a series of variously sized cog wheels to regulate the speed of motion of the rake. The rake is raised in its forward sweep by the roller on a projecting arm, said roller running up an inclined track. The finger bar and platform are hinged to the frame to allow its accommodation to inequalities of ground.

Claim.—First, the jointed lever, consisting of arms A⁴ and A⁵ for communicating motion from gearing on the main frame to a rake mounted on the hinged finger bar or platform, arranged and operating substantially as described.

Second, the reciprocating bar B, arranged in the described relation to the grain platform, in combination with the vibrating arm A³ and the rock shaft B² in the hollow post P, or their equivalents, substantially as and for the purpose specified.

Third, the bar A³, arms A⁴ and A⁵, bar B, shaft B² in the hollow post P, crank arm B³, link B⁴, crank arm B⁵, shaft B⁶, post B⁷, rod R¹, projections R², projecting arm M, track E, and switches T and T¹, combined and arranged to operate in the manner and for the purpose substantially as described.

Fourth, the post P, having a hole made through it to receive and support the shaft B², in combination with the projecting arm N flattened on the top of said post P, substantially as and for the purpose described.

64,521.—WILLIAM F. GOODWIN, Washington, D. C.—*Harvester Rake.*—May 7, 1867.—The rake is connected to an oscillating frame, and has connecting rods to a roller which runs on a cam-segment to raise the rake in its forward sweep; the roller is tripped from the cam and descends to the platform for the effective sweep.

Claim.—First, the swinging bent arm H' mounted on the projecting arm of post P, arranged and operating substantially in the manner and for the purpose described.

Second, the sliding bar M, rods C C', and crank arms K K², or their equivalents, operating in connection with the swinging arm H and rake R, substantially as and for the purpose described.

Third, the sliding bar M, provided with roller E, arranged as described, and operated by the track T, substantially as and for the purpose described.

Fourth, the track T, switches S S, and yielding lever L, arranged and operating substantially in the manner and for the purpose described.

Fifth, the lever L, post J, spring J', and stud O, arranged and operating substantially as described.

64,522.—WILLIAM F. GOODWIN, Washington, D. C., and ARTHUR W. BROWNE, Brooklyn, N. Y.—*Harvester Rake.*—May 7, 1867.—The rake is hung on a pendent arm upon an oscillating horizontal tubular rod, which contains an inner rod by which the rake is swung up during its backward stroke.

Claim.—First, the plate P with its recess W, the projecting stud U on the cam M, and the rod T, combined and arranged to operate in the manner and for the purpose substantially as described.

Second, crank S, rock shaft S, crank arm C¹, link C², crank arm C, rock shaft B¹, crank arm B³, rod B⁴, and crank arm B⁵, combined and arranged to operate in the manner and for the purpose substantially as described.

Third, the projecting arm O², track F with its notches E E, pawls q and q², pins q¹ and q³, and hollow arm B, combined and arranged to operate in the manner and for the purpose described.

64,523.—WILLIAM F. GOODWIN, Washington, D. C., and ARTHUR W. BROWNE, Brooklyn, N. Y.—*Harvester Rake.*—May 7, 1867.—The reel consists of bars upon chains or belts running on rotary pulleys.

Claim.—The pulleys A and A³, shaft B, chains I, bars O, and projections R and R¹, adjustable on the posts S S¹, combined and arranged to operate with the pulleys A¹ and A², in the manner and for the purpose substantially as described.

64,524.—LUKE GORE, Newburg, Ohio.—*Sap Spout.*—May 7, 1867.—The spile is of sheet metal; the portion to be driven into the tree is taper and

tubular, the other an open trough; the nib assists in holding the suspended bucket.

Claim.—The herein described sap spout, when constructed in the manner specified, as a new article of manufacture.

64,525.—JOHN GRAHAM, New York, N. Y.—*Loom.*—May 7, 1867.—The filling thread is carried double across the shed by a reciprocating eye-pointed thread-carrier, and then locked at the opposite selvage by passing a shuttle and its thread through a loop of such filling thread; the loop is spread by the movement of the thread-carrier across the web.

Claim.—The shuttle at the side of the shed and the reciprocating filling thread-carrier, arranged in combination with the lay and reed, so that the filling thread-carrier crosses the shed at such distance from the cloth-making point (or extreme range of motion of the reed in beating up the filling) as to carry the filling-thread diagonally across the shed and shuttle-*race*, substantially as and for the purpose described.

64,526.—JONATHAN H. GREEN, Christiansburg, Iowa.—*Heating Stove.*—May 7, 1867.—The grate forms the ceiling of the ash chamber, the sides of the latter are slotted and have registering damper plates.

Claim.—The arrangement of the grate C above the bottom of the stove whose sides are open or slotted, and provided with dampers P to register therewith, and operating substantially as described, as and for the purpose specified.

64,527.—ROBERT ANTHONY HARDCASTLE, New-castle-upon-Tyne, England.—*Differential Pulley Block.*—May 7, 1867.—Explained by the claims and illustration.

Claim.—First, the application and use of a sliding clutch, for the purpose of coupling and uncoupling the sheaves in differential pulley blocks, substantially in the manner hereinbefore described and illustrated by Fig. 1 of the drawings.

Second, the application and use of a sliding clutch, for the purpose both of coupling or uncoupling the sheaves in differential pulley blocks, and of locking one of such sheaves, as hereinbefore described and illustrated by Figs. 11, 12, and 13 of the drawings.

Third, the application and use of lateral eogs, pins, projections or teeth on one sheave, in combination with a fixed stop or catch on the frame of the pulley block, both for the purpose of coupling and uncoupling the sheaves in differential pulley blocks, and simultaneously locking one of such sheaves, substantially as and for the purpose hereinbefore described and illustrated by Figs. 3, 4, 5, 6, 7, and 8 of the drawings.

Fourth, the application and use to and in differential pulley blocks of a sliding clutch or a sliding sheave, in combination with a lever cord wedge or spring for producing the necessary motion for coupling and uncoupling and locking the sheaves, substantially as hereinbefore described and illustrated by Figs. 1, 2, 3, and 4 of the drawings.

Fifth, the application and use in differential pulley blocks of one or more spiral projections or threads, formed on the spindle or axis of the sheaves, and being in combination with inclined teeth or projections on one of the sheaves, and on the frame on the pulley block, for the purpose both of coupling and uncoupling the sheaves, and locking one of such sheaves as hereinbefore described and illustrated by Figs. 9 and 10 of the drawings.

64,528.—CYRUS H. HARDY, Charlestown, Mass., assignor to himself and GEORGE JACQUES, Boston, Mass.—*Bed Bottom.*—May 7, 1867.—The mattress rests on the heads of pins, which traverse the frame vertically, and are supported on springs beneath.

Claim.—The series of coiled lever springs E, operated by pins D or their equivalents, substantially in the manner and for the purpose set forth.

64,529.—W. F. HELLEN, Washington, D. C.—*Skate Sharpener.*—May 7, 1867.—The slotted adjustable plate is fastened by set screws, and forms guides for the adjustable file on each side of the runner.

Claim.—The slotted guide plate B, with the adjustable screws D and set screw E, combined with an adjustable file of any required size, when constructed, arranged, and operated as herein described and for the purposes set forth.

64,530.—EDWARD DRUCKER, Paris, France.—*Corset.*—May 7, 1867.—The corset is made in circumferential, instead of vertical, sections; the bust and hip sections are connected by a waist section, dispensing with gores; the sections are maintained in position by whalebones, &c.

Claim.—An improvement in corsets of the class in which the seams run transversely, instead of up and down, such improved corset or other similar article being made of two or more sections, united by an intermediate section having substantially the outline and conformation shown and described.

64,531.—DAUPHIN S. HINES, Brooklyn, N. Y., assignor to JOHN J. CROOKE, New York, N. Y.—*Making Tin Coated Foil.*—May 7, 1867.—The tin pipe of the requisite proportions is placed in ice water, and filled with molten lead. The ingot is then rolled to the required thickness.

Claim.—Forming the ingot by pouring molten lead into a tin pipe, while immersed in a cooling medium, substantially as described, in combination with the after process of rolling as set forth.

64,532.—ALFRED HOBBS, West Cambridge, Mass.—*Steam Engine Slide Valve.*—May 7, 1867.—The convex side of the valve is toward the cylinder, and its ports nearly opposite, so that the top pressure is nearly balanced by the pressure on the lower surface.

Claim.—A semicircular balanced slide valve, constructed and operating substantially as and for the purposes herein specified.

64,533.—WILLIAM S. HUDSON, Patterson, N. J.—*Locomotive Truck.*—May 7, 1867.—The locomotive has a swivelled truck at each end calculated to accommodate themselves to bends of the road.

Claim.—First, the two trucks M N, constructed and arranged as represented and mounted at opposite ends of the locomotive substantially as and for the purpose herein specified.

Second, in connection with the above, the within described arrangement of the equalizing levers H h, so as to equalize between the rear drivers C, and the top portion of the truck N, and allow the lateral movements of the main body of the latter without disturbing the action of the equalizing levers, substantially as herein set forth.

Third, the equalizing lever G g and cross lever E, mounted on the front of the locomotive and arranged relatively to the truck M, and forward drivers D, substantially as represented so as in connection with the lateral moving truck N, at the rear and the equalizing levers H h, connected therewith to support the weight on the three points g h h, on independently equalizing systems of levers and wheels, substantially as and for the purpose herein set forth.

64,534.—ANDREW HUNTER, San Francisco, Cal.—*Amalgamator.*—May 7, 1867.—The bottom of the box is laid alternately with bars of metal and wood. A block is suspended from a frame and carries a series of transverse blocks shod with iron. The shoes of the frame are reciprocated in contact with the table by a crank. An agitator is attached to the frame and stirs the amalgam as it passes to the vibrating copper-covered table.

Claim.—First, the box A, with sides and ends lined with copper in combination with the blocks B B, and the dies C C, substantially as described.

Second, the frame E, with shoes or mullers D D, suspended to frame F, by rods or bars G G, or their equivalent worked by rod J, and crank or eccentric K, as hereinbefore set forth.

Third, the movable frame F, with adjusting screws I I, or their equivalent for adjusting mullers D D, to any desired height.

Fourth, covering the tops of the mullers D D, with copper.

Fifth, box L, with frame M, set with skimmers and agitators, substantially as described and for the uses and purposes as hereinbefore set forth.

Sixth, table O, with steps covered with copper plates, with side vibratory motion as given by driver P and rod Q.

Seventh, the box A, lined with copper plates, in combination with blocks B B, dies C C, mullers D D,

adjusting or movable frame F, screws I I, rod J, crank or eccentric K, box L, and frame M, with agitators or skimmers, substantially as described, and for the uses and purposes as hereinbefore set forth.

The last described combination in connection with the table O, with its side-vibrating motion, substantially as described and for the uses and purposes as hereinbefore set forth.

64,535.—JOSEPH HYDE, Troy, N. Y.—*Folding Chair*.—May 7, 1867.—The chair has mainly three surfaces connected by jointed strips. It is adjustable in form of a couch or chair, and may be folded in small compass for carriage.

Claim.—First, the connecting and disconnecting of the legs G, or F, from the main part or body of the chair or couch in the manner, and by the means, or equivalent means, herein specified, thereby allowing the said chair or couch to be folded in a compact form, without disconnecting the back, seat, or apron from each other, substantially as herein described and set forth.

Second, the employment of the circular hook or latch fastening M, arranged in combination with the legs or other suitable part of a folding chair or couch, and operating in the manner and for the purposes substantially as herein specified and set forth.

Third, the rollers R, in combination with the foot board P and apron E, of a folding chair or couch when arranged in the manner and for the purposes substantially as herein described and set forth.

64,536.—ISAAC B. HYMER, Warsaw, Ind.—*Rail-road Rail*.—May 7, 1867.—The base piece has foot flanges and a vertical rib which supports the shank of the T-rail; side plates rest against the rib and shank and are secured by bolts. The sides of the rib and shank are grooved to reduce the contracting surface.

Claim.—The arrangement of the T-rail imposed upon the foot-rail and the two side plates bolted thereto the contracting face of the shank a, rib b, and side plates C, being grooved as described and represented.

64,537.—G. L. GAEGER, New York, N. Y.—*Machine for making Paper Bags*.—May 7, 1867.—The movable metallic "former" has movable flaps which turn the blank over the former, holding it in position. The "former" has a ridge where the edges of the blank are to be joined, insuring increased pressure thereon.

Claim.—The former B, in combination with the table A, gauge C, and flaps D D', worked and operating substantially as and for the purpose described.

Also the notch e, in the edge of the former to facilitate the operation of removing the finished bags from said former as set forth.

64,538.—SAMUEL W. JAMISON, New York, N. Y.—*Boot Crimping Machine*.—May 7, 1867.—The leather is placed on the tree and crimped by parallel plates which pass up and down on each side of the tree.

Claim.—First, the combination in a machine for crimping boots, having a stationary tree or form of the crimping plates with the brackets for supporting the same, under the arrangement herein described so that the said plates may adjust themselves vertically or laterally to the varying thickness of the leather or tree upon which it is placed substantially as shown and set forth.

Second, the combination with the crimping plates and brackets for supporting the same of the laterally self-adjusting ways between which the said brackets slide, the said ways being actuated by weights, springs, or equivalent mechanism to exert a continuous but yielding pressure upon the said crimping plates as herein shown and described.

Third, the method of supporting the said crimping plates, and the supporting brackets moving between laterally self-adjusting ways as described, from a cross head or beam sliding between the sides of the machine, and receiving motion, through the medium of gear or lever or other suitable mechanism, substantially as herein shown and set forth.

Fourth, the combination with the self-adjusting ways or uprights of the levers and rods connecting the same with both the said uprights and the weights,

under the arrangement and for operation substantially as shown and set forth.

64,539.—THOMAS J. JONES, Madison, N. J.—*Water Ejector*.—May 7, 1867.—Branch connections between the upper end of the induction pipe and the lower end of the delivery pipe permit the steam pipe to be placed in line with the latter.

Claim.—The pump constructed as herein described and shown, as a new article of manufacture.

64,540.—PETER M. KAFER and JOSEPH M. DE LACY, Trenton, N. J.—*Feed Water Heater*.—May 7, 1867.—A stationary heater charges the boiler of the fire engine. The fire damper is adjusted by connection to the piston of a small steam cylinder, to whose lower end steam is admitted.

Claim.—A water heater for steam fire engines, constructed substantially as shown and described, combining in its arrangement the regulating cylinder N, operating upon the damper substantially as set forth.

Also, the pipes B B', and the rubber or elastic pipes K, with their cocks, levers and chains, the slip joint at L, and the slip key E', constructed, arranged and operating substantially as described and for the purposes specified.

64,541.—WATSON KING, Springfield, Ill.—*Railway Track Cleaner*.—May 7, 1867.—The wheel guards and brake shoes are operated by means of eccentrics upon the axles connected by means of chains and rods with the brake wheels on the platform.

Claim.—First, operating the shields D, and brake shoes G, by means of the eccentrics H, upon the shaft C, substantially as herein shown and described for the purpose specified.

Second, in combination with the parts of the above, the rods I, cross bar J, chains K P, friction roller L, cross bar O, and openings S T, as herein set forth for the purpose specified.

64,542.—EDMOND H. KNIGHT, Unadilla, Mich.—*Cultivator*.—May 7, 1867.—The beams of the double plows are pivoted to the axle and connected by rods to the levers by which their vertical adjustment is effected; foot levers keep the plows to their work and give the lateral adjustment.

Claim.—First, the beams G, having plow and shovel standards H, pivoted to them in combination with the frames F F, the beams and frames being secured to the axle A, and used in connection with hand levers K, foot levers S S, and catches R V, all arranged to operate substantially in the manner and for the purpose set forth.

Second, the springs H* connected with the beams G, and attached to the frames F, substantially as and for the purpose specified.

64,543.—A. KOMP, New York, N. Y.—*Machine for Clasping Hooks to Ladies' Skirts*.—May 7, 1867.—The spangles pass by a spout to the guide, which delivers them consecutively to the carrier; this is on the end of an oscillating bar which carries the spangle, points downward, to the anvil, when they penetrate the tape and are clinched by the descending hammer.

Claim.—First, reversing the spangles by the action of the spangle carrier, substantially as shown.

Second, the slotted spring receiver g, in combination with the swinging spangle carrier E, constructed and operating substantially as and for the purpose described.

Third, the lips f, on the spangle guide D, in combination with the slotted spring receiver g, and oscillating spangle carrier E, constructed and operating substantially as and for the purpose set forth.

Fourth, the bell crank lever m and stop n, in combination with the spring receiver g, oscillating spangle carrier E, and hammer H, constructed and operating substantially as and for the purpose described.

64,544.—HIRAM Y. LAZEAR, New York, N. Y.—*Gas Burner for Heating Purposes*.—May 7, 1867.—The gas passes from the annular chamber through perforations in the cylinder, and the flame impinges upon the axial tube and heats the air therein.

Claim.—The combination of the supporting tube

A, trough B, dish C, and perforated cylinder D, with the central air tube operating as described, for the purpose specified.

64,545.—L. E. LEE and C. MUDGE, New Orleans, La.—*Turn Table for Railroads.*—May 7, 1867.—As the car runs on to the track, the detents of the turntable are disengaged, and the latter is rotated by the team attached to the car, the brake on the latter being applied to prevent its being moved longitudinally.

Claim.—The combination of projecting points, $b\ b'$ and $g\ g'\ g''$, and the openings or recesses into which they enter, the pivoted levers $c\ c'\ c''$ and d and $f\ f'$, with a railroad turn-table, when the said parts are constructed and arranged for conjoint operation, substantially as described, for the purpose set forth.

64,546.—TRISTAM S. LEWIS, Chelsea, Mass.—*Well Tube.*—May 7, 1867.—The transverse perforated tubes in the lower section are filled with a soluble material and occupy the space while the tube is being driven, excluding sand, &c., till the tube attains the required depth.

Claim.—The tube A, provided with one or more short perforated tubes b , operating substantially as described for the purpose set forth.

64,547.—ELIJAH LINDSLEY, Neenah, Wis.—*Car Coupling.*—May 7, 1867.—The link enters the opposite draw-head, the bumper strikes the end of the slide, and the pin drops into place.

Claim.—The sliding bar B, with its slot b , and pivoted pin A, playing into the tapering slot D, and fastening into the hole in the spring plate on top of the coupling, substantially in the manner and for the purposes described.

Also, in combination with the said slide and pin, the said spring plate and lever, and other parts of the said coupling, substantially as set forth.

64,548.—JOHN MCCREARY, Middletown, Pa.—*Gate.*—May 7, 1867.—The gate travels longitudinally nearly its whole length on a sheave journaled on a bracket attached to the post. Recesses in the vertical brace-bar permit the sheave to pass.

Claim.—A gate having a central cross-bar E, with the recesses formed on its inner surface, when used in combination with the grooved and swiveled roller d , and the right-angled hook f , substantially as shown and described.

64,549.—A. Y. McDONALD, Dubuque, Iowa.—*Well Tube.*—May 7, 1867.—The successive courses of wire act as a filter or sand screen.

Claim.—The pipe A, perforated as described and wrapped with the coarse wire after being first wound with the finer wire, in the manner substantially as and for the purposes specified.

64,550.—WM. H. MCPHERSON, Danby, N. Y.—*Horse Rake.*—May 7, 1867.—The tubular axle is also the rake-head, and the teeth are secured thereto by a double right-angled bend at their upper ends, held in position by means of bolts; the device for tilting the rake consists of a cogged wheel upon the axle, operated by a second and similar wheel having a hand rim by which it is revolved.

Claim.—First, the revolving tubular head J, provided with the teeth H' and H'' , in combination with the cam wheel E, spring stud D, and lever C, substantially as and for the purposes described.

Second, the combination of the teeth H' H'' , having a double right-angled bend at their upper ends, the bolts P, and head J, substantially as and for the purposes described.

Third, the use of the wheels I and K, acting on the head J, and moved by the hand rim L, or its equivalent, for the purposes set forth.

64,551.—P. L. MILLER, Mechanicsburg, Pa.—*Gate.*—May 7, 1867.—The gate is operated by levers projecting horizontally from posts within reach of a person on horseback or in a carriage. A counterbalance lever is actuated by the opening devices and governs the latch.

Claim.—First, the end piece G, provided with slotted arms G' , in combination with levers $F\ F'$, pin I, and rods $J\ J'$, as and for the purpose set forth.

Second, the rod J, provided with an enlargement or enlargements $a\ a'$, substantially as and for the purpose described.

Third, the pivoted latch K, in combination with the lever H, rod L, rod J' , and bracket d , as and for the purpose described.

Fourth, the combination and arrangement of the posts A D D' E E', and bed piece, substantially as and for the purpose set forth.

64,552.—D. L. MILLIKEN, Brattleboro, Vt., and O. M. PILLSBURY, Claremont, N. H.—*Joint for Stove Pipes.*—May 7, 1867.—The ends of the stove pipe sections are matched together and clamped by an enclosing band or sleeve which is tightened by a set screw.

Claim.—The adjustable band B, provided with circumferentially swaged grooves b , fitting over the corresponding heads c , near the ends of the sections A, of the stove pipe, as herein shown and described for the purpose specified.

64,553.—H. C. MOORE, Springfield, Mass.—*Peat Machine.*—May 7, 1867; antedated March 26, 1867.—The pressing rollers, heated by steam, receive the peat from a hopper above and deliver it to an endless belt which carries the peat under the die receiving an intermittent motion from a drum. The die falls at intervals upon the peat, which is sustained by a plate beneath the belt. A series of plungers slide within the die and press the blocks after they are cut. The blocks are carried forward by the belt and discharged.

Claim.—First, the combination of the die and press so as to co-operate with each other to cut, press, and shape the peat to the desired form, substantially as herein set forth.

Second, the combination of the endless belt E and plate F with the die A and press B, the parts arranged so as to operate automatically, substantially as and for the purpose herein described.

Third, the arrangement of the box L, for the peat to pass through, so formed as to gage the amount passing through to the proper height for the movement of the die, substantially as set forth.

Fourth, for the purpose of moving the press A, the arrangement of the slotted lever m and crank k on the shaft H, substantially as set forth.

Fifth, for the purpose of moving the die, the combination of the slotted levers $c\ c'$ and cams $b\ b'$ upon the shaft H.

Sixth, operating the draw K, by the ratchet motion arranged and operated by means of the lever n and cam T upon the shaft H, substantially as herein set forth.

Seventh, in a peat machine, the combination of rolls for grinding, an endless belt for conveying the peat, and die and press for shaping and compressing the same, substantially as herein described.

Eighth, the arrangement of the openings X X', as described, for the purpose of letting out the steam confined within the rolls intermitently.

Ninth, the box or cap X', in combination with the die A, for the purpose of holding the steam used for warming the die and peat operated by it, substantially as herein described.

Tenth, warming the die A and plate F, upon which the peat is pressed and formed, by means of steam or hot air, substantially as set forth.

64,554.—JOSEPH MOORE, San Francisco, Cal.—*Friction Pawl.*—May 7, 1867.—Spring pawls are socketed in the arms attached to the shaft, and fall consecutively into the notches inside the surrounding case, so as to prevent back motion.

Claim.—A stop apparatus for hoisting machinery constructed with the pawls Q Q Q, moving with the shaft P, and the ratchet case R turning loosely upon said shaft, together with the brake beams L L, levers T and V, and weight Z, constructed and operated substantially as and for the purpose described.

64,555.—PIERRE B. MONGEOT, Paris, France.—*Manufacture of Soap.*—May 7, 1867.—Excess of soda is removed by adding under the crusher a sufficient amount of pulverized colophony.

Claim.—Manufacturing the above described soaps, which go by the names of anhydrous rectified soaps, illustrated soaps, double-faced soaps, obtained by one

and the same process, that is to say, with anhydrous soap, which alone allows of the fabrication of a block or cake composed of parts of different nature, colors, and perfumes united together in the manner of mosaic work, as and for the purposes described, viz., having in one and the same block or piece heterogeneous soaps made to answer various purposes, or variously illustrated and perfumed soaps, substantially as described.

64,556.—JOHN MULCHAHEY, Springfield, Mass., assignor to himself and CHARLES MULCHAHEY.—*Belt Punch.*—May 7, 1867.—The punch is worked in the ordinary manner between a pair of jaws working on a central rivet; a pair of pliers pull the lacing through the belt. One of the jaws has a knife blade. An awl and a bodkin for pushing the lacing through the hole are attached as required.

Claim.—The arrangement of the awl M, projections H H', knife K, spring hook O, and bodkin S, upon and in connection with a belt punch, substantially as set forth.

64,557.—P. M. MEYERS, J. W. WALSER, and JOHN SPANGLER, Canton, Ohio.—*Beehive.*—May 7, 1867.—Antedated November 7, 1866.—The hopper is intended to protect the bees from the moth, the bee valve is used to divide the bees when driven from one part of the hive to the other.

Claim.—First, the use of the four pieces C C D D forming a complete hopper C C D D, when the pieces C C are movable in grooves a a, substantially in the manner and for the purpose specified.

Second, the peculiarly formed bee valve N used in connection with the openings R, substantially in the manner and for the purpose specified.

Third, the peculiar combination and arrangements of double box A having the boxes H H, honey boxes K K K K, ventilators X, opening E E, slides F F, openings R R, hoppers C C D D, drawers O, doors B B and I I, arranged on each side thereof, and cover G, substantially in the manner and for the purpose specified.

64,558.—CARLTON NEWMAN, San Francisco, Cal.—*Pot for Melting Glass.*—May 7, 1867.—The pot is shaped like those for flint glass; it has a top opening for the calorific current which passes off through two side flues. Two upper flues furnish heated air at the top opening to cause complete combustion. The charging opening is closed by a slab.

Claim.—First, a pot A constructed with the opening F and flues D D or their equivalents, substantially as and for the purposes described.

Second, the flues H H or their equivalents, constructed and arranged substantially as and for the purpose described.

64,559.—E. F. OLDS, South Lyon, Mich.—*Field Roller.*—May 7, 1867.—The tongue is pivoted on a disk attached to the frame to avoid turning the roller at the end of the bout, and is rigidified by a lever pivoted to the tongue and held by a spring in a notch in the disk.

Claim.—First, the disk A, pole G, lever H, and spring I, as arranged in relation to a field roller, in the manner substantially as described.

Second, rollers D, spring E, and frame B, in combination with the disk F, pole G, lever H, and spring I, in the manner and for the purpose set forth.

64,560.—L. M. OSBORN, Hamilton, N. Y.—*Combined Wagon Brake and Dumping Device.*—May 7, 1867.—When the locking latch is detached from the reach and the rear wheels chocked, the horses may back the box over the rear axle to dump it. The outer ends of the toggle levers are pivoted to the brake blocks and jointed to the brake bar, so that a backward pressure on the joint in descending a hill applies the brakes to the wheels.

Claim.—First, a wagon which dumps itself by approximation of its front and rear wheels; the employment of a self-acting brake which is constructed substantially as described, and connected to the front section D' of the extensible reach by a locking latch or its equivalent, substantially as described.

Second, the transverse releasing lever g' in combination with the latch or hook g, and a self-acting brake, substantially as described.

Third, the combination of brake bar F, toggle or knee levers e e, pivoted blocks f, and brake shoes f' with an extensible reach D D' and a fastening g, substantially as described.

Fourth, the brace strap c applied to the front running gear by the king bolt b, and adapted for sustaining the same when backing, substantially as described.

Fifth, the sliding brace d and stops d' d² applied to the reach sections D D', substantially as described.

Sixth, the connecting rods P applied to the wagon body and front running gear, in conjunction with the rolling supports G G and the extensible reach D D', substantially as described.

64,561.—PHILIP A. PAGE, Palmer, Mass., assignor to himself, WM. BROOKS and ALBERT LOOMIS, same place.—*Die for Swaging Calks for Horse Shoes.*—May 7, 1867.—The die piece is inserted into a socket in the metallic block and bolted thereto.

Claim.—A toe calk die constructed with the piece B arranged in the block A, substantially as set forth.

64,562.—FRANÇOIS PETITDIDIER, Paris, France.—*Applying Designs in Relief and Brilliance to woven Fabrics.*—May 7, 1867.—Melt copal 6 lbs., and add linseed oil 3 lbs., heated to 270° Fah., after cooling add essence of turpentine 9 lbs. For printing 75 parts of the above are mixed with 25 parts ivory black.

Claim.—The application or production of designs upon and giving brilliancy to fabrics, by printing with resinous materials, substantially as herein specified.

64,563.—EDWARD PHIFER, Trenton, N. J.—*Cultivator.*—May 7, 1867.—The plow beams are adjusted laterally on the axle and the plows vertically by the hand lever and spring detent. The front ends of the drag bars are adjustable in the down hangers to vary the line of draft. The tongue can be adjusted laterally.

Claim.—First, a cultivator frame composed of a series of timbers shorter than the diameter of the wheels and arranged parallel to the tongue, substantially as described.

Second, the combination substantially in the manner described of a tongue laterally adjustable on the axle with a series of frame timbers of a length less than the diameter of the wheels, arranged parallel to the tongue and adjustable laterally on the main axle.

Third, the combination, substantially as described, of the tongue and short parallel frame timbers with a series of slotted adjusting plates attached to the front of the frame timbers and secured to the tongue.

Fourth, the combination, substantially in the manner described, of the parallel frame pieces arranged for adjustment in pairs with the slotted downhangers, front lifting rods, and drag bars, for the purpose of adjusting the front ends of the drag bars.

Fifth, the combination of the frame pieces, down hangers, drag bars, lifting rods, hand levers, and sector rack, when arranged, substantially as described, for the purpose of enabling the driver to control each pair of plows by a single lever.

Sixth, the arrangement of the sector rack, hand lever, and spring detent as described, whereby the catch acts both as a detent for the lever and as a guide to keep it parallel with the sector rack.

64,564.—LEONCE PICOT, Hoboken, N. J., assignor to WILHELMINE PICOT, same place.—*Hollow Articles of Rubber and other Flexible Materials.*—May 7, 1867.—The ball has a tube by which it is inflated; the end of the tube is turned down into a recess at its root to prevent the escape of air.

Claim.—The application to an India-rubber ball or other hollow article required to be distended by inflation, of a flexible tube in the manner as herein specified, so that the said ball or other article may be either inflated and distended or collapsed, as and for the purposes set forth.

64,565.—EDWIN R. POWELL, Cambridge, Vt.—*Attaching Thills to Vehicles.*—May 7, 1867.—The thill is pivoted in the chambered block, and is secured from rattling by a rubber spring in its rear, which is held in position by a projection from the cap. The hinged cap when raised is supported by a spring while the thill is being attached.

Claim.—First, an improved thill coupling formed by the combination of the chambered block A, spring D, and the pivoted plate or cap C, having projections c^1 c^2 and c^3 , formed upon its under side, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the India-rubber block spring E, or equivalent, with the chambered block A and cap or block c, substantially as herein shown and described and for the purpose set forth.

64,566.—SEYMOUR PRATT, Fayetteville, N. Y.—*Roofing.*—May 7, 1867.—Explained by the claim.

Claim.—A roofing composed of the tiles D, constructed as described, placed on a bed of cement C, laid on the boards or lathes B, substantially as herein shown and described.

64,567.—THOMAS F. PRESTON, Pawtucket, R. I.—*Power Hammer.*—May 7, 1867.—Improvement on the patent of Thomas Shaw, February 27, 1866. The hammer is suspended on a rod having a shoulder against which springs bear to prevent jar in either the up or down stroke. The guides are made in separate pieces so that they can be adjusted after wear.

Claim.—First, the connecting rods E and D, in combination with the springs e and f , shoulder d , and slotted hammer (or extension of the same) F, substantially as and for the purpose herein shown and described.

Second, the construction and arrangement of the adjustable guide C let into the guide brace G, and provided with a lip upon each end fitting over the upper and lower sides of said guide brace G, its center grooved to receive the sliding guide rail b in the hammer F, substantially as herein described and for the purpose specified.

64,568.—H. D. RICHARDSON, Northampton, Mass., assignor to himself and ROBERT RUSSELL, same place.—*Lock.*—May 7; antedated April 24, 1867.—The cylindrical case sets within the door and has a circular keyhole on each side. An interior cylinder may be revolved within the other, having one hole which may be brought into correspondence with either of the others being revolved by the square on the reverse end of the key.

Claim.—First, a lock constructed and arranged substantially as described so that the keyhole can be brought to either side of the door leaving no entrance to the lock on the other.

Second, the arrangement of the two cylinders B and K, with the keyholes e and g , in the manner and for the purpose substantially as described.

Third, the combination of cylinders B and K, rack C, pinion H, spring E, one or more tumblers a a and bolt A, in the manner and for the purpose substantially as set forth.

Fourth, a lock constructed and arranged substantially as described, so that the keyhole can be brought to either side of the door leaving no entrance to the lock on the other.

64,569.—ALFRED RIGNEY, New York, N. Y.—*Fire Escape.*—May 7, 1867.—The jointed ladder is wound on a reel, and as it is unwound it passes up between guides and rollers; sleeves are brought by springs over the joints to make them inflexible, pawls prevent retraction of the ladder.

Claim.—First, the flexible ladder H, arranged in a box or case A, so that it can be wound around a drum or roller or be straightened for use as may be desired, substantially as herein shown and described.

Second, the strap or bolt F, when arranged as described in combination with the flexible ladder H, all made and operating substantially as herein shown and described.

Third, the springs I I, when arranged as described in combination with the sleeves O and hinged side pieces n n , all made and operating substantially as and for the purpose herein shown and described.

Fourth, a fire escape made and operating substantially as herein shown and described.

64,570.—HENRY M. RITTER, Cincinnati, Ohio, assignor to M. GREENWOOD & Co., same place.—*Reversible Knob Latch.*—May 7, 1867.—The rectangular part of the latch is held in a similar socket of the case, and

may be withdrawn therefrom for reversal of the latch from left to right, or vice versa. The operating yoke of the latch has a forward projection which is thrown up to allow this reversal. One of the usual screws prevents this action when inserted, and must be removed to allow it.

Claim.—In the described combination with the hub B, guiding stump M, and the spring P, the reversible latch I J, adapted for retention to a right or left position by direct contact of its yoke C K, with one of the wood screws employed to fasten the lock to the door, substantially as set forth.

64,571.—HENRY M. RITTER, Cincinnati, Ohio, assignor to M. GREENWOOD & Co., same place.—*Reversible Knob Latch.*—May 7, 1867.—Explained by the claim and illustration.

Claim.—The reversible latch A D, whose reversible collar B occupies a corresponding socket C, and whose flat two-sided tail G is tangential to one of the screw holes in both positions of the latch, so as to render the latter irreversibly by the direct contact of the holding screw, substantially as described.

64,572.—MARK L. ROBERTS, Chatsworth, Ill.—*Rotary Knitting Machine.*—May 7, 1867.—The needle cylinder may revolve either way on a horizontal axis. A double cam serves when reversing to shift the link into either set of grooves, to operate the presser properly. The adjustment of the needle operator on the bar is effected by a worm, and the rack governs the length of throw of the needles as tight or loose work may be required. The same adjustment governs accordingly the amount of thread to be let off.

Claim.—First, actuating the needle operator through the bar W, to which it is attached, the bar being supported in suitable bearings and receiving its movement through the medium of a vertical slotted arm V, and a pin or stud U of the revolving wheel or disk T, or its equivalent, when the whole are arranged together substantially as and for the purpose described.

Second, the needle operator T, notched or toothed carrying bar W, and screw nuts A², when all are combined together substantially as and for the purpose described.

Third, the combination of the thread puller A³ with the looped upright Z, of the needle actuator Y, the whole operating substantially as described.

Fourth, the double cam way or groove H², for operating the yarn presser when connected with the same, substantially in the manner and for the purpose described.

64,573.—THOMAS ROBJOHN, New York, N. Y., assignor to the AMERICAN NEEDLE LOOM COMPANY.—*Loom.*—May 7, 1867.—The filling is carried through the shed by a reciprocating eye-pointed needle, and the loop of the warp locked at the selvage by the passage through it of a shuttle and its thread. The weft retractor swings freely on a pin; its shorter arm when thrown fully back by a projection rests in a notch on the needle guide, until the pull of the needle passing through the shed detaches it and draws the retractor forward, taking up yarn from the bobbin. The claim cites the other peculiarities.

Claim.—First, in combination with a needle for carrying the weft thread through the warp in a loom, a shuttle so applied and actuated as to operate in an arc of a circle parallel to the plane of the warp that in approaching to enter the loop of the weft yarn it moves nearly parallel with and close to the selvage of the web being woven, and afterwards gradually moves away from the warp so that in completing its movement at the same time as the needle completes its returning movement it pulls its yarn or thread tight in a direction transverse to the warp, substantially as and for the purpose herein specified.

Second, the weft retractor Z, applied to operate on the weft, substantially as and for the purpose herein described.

Third, the arrangement of the upright shaft M, and its crank and eccentric in relation with the warp whereby they work the needle holder and shuttle carrier at opposite sides of the warp by direct rod connections, substantially as herein specified.

64,574.—CHARLES F. RODRICK, Lynn, Mass.—*Car Coupling.*—May 7, 1867.—The upper and lower

spring hooks are presented in opposite directions, and shut coincidentally over the pin, one intervening between its counterpart fellows.

Claim.—In combination with the draw bar of a railway carriage, the spring latch bars pivoted to the draw bar, as described, and recessed at their outer ends in such manner that when they are brought together the tongue of the one shall fit in the grooves of the other, substantially as shown and set forth.

64,575.—ALEXANDER ROSS, Maine, N. Y., assignor to himself and JOHN FELL, New York, N. Y.—*Machine for Washing Hides.*—May 7, 1867.—The hollow cylinder is divided into a series of compartments for the reception of the hides. The cylinder is charged with a washing liquid.

Claim.—The wheel A for washing hides, closed at both ends, and having its sides open at various points, its interior divided into compartments B by close partitions C, having ribs D extending in the direction of their length, the said wheel provided with hollow journals through which the washing liquid is introduced, when all are constructed and arranged to operate substantially as herein shown and described.

64,576.—JOHN E. ROWLAND, Hagerstown, Md.—*Cultivator.*—May 7, 1867.—The main frame is supported on the wheels. The beams are V-shaped to brace the plough shanks, and are attached at their forward ends by double staples. The double-action stirrup lever adjusts the middle beams, and side levers adjust the side beams.

Claim.—The above-described cultivator, the beams C, levers N, and stirrup lever M, being all arranged and combined substantially in the manner and for the purposes set forth.

64,577.—B. S. SACKETT, Monroe, Wis.—*Machine for Forming Boilers.*—May 7, 1867.—The end of the metallic plate is attached to the catch on the "former," which has a groove around it to receive the wired edge; the plate is bent around till the edges join at the catch, where it is secured and soldered.

Claim.—First, the former A, when made substantially as herein shown and described and for the purpose set forth.

Second, the grooved and notched board, plank, or bench B, when made substantially as herein shown and described, in combination with the former A, as and for the purpose set forth.

Third, the combination of the clamps C with the former A, substantially as herein described and for the purpose set forth.

64,578.—MARK SAFFORD, Boston, Mass.—*Lamp Extinguisher.*—May 7, 1867.—The extinguisher is actuated by a cam applied to the wick-elevator shaft. The retrograde motion of the shaft in lowering the wick also attaches the extinguisher, which is removed by rotation of the shaft in projecting the wick for lighting.

Claim.—So applying the extinguisher to the burner that its movements shall be actuated by the wick-elevating shaft, and by the same act which raises and lowers the wick, substantially in the manner and for the purpose as described.

Also, the device for causing the above-described movement of the extinguisher, consisting of the finger *h* and cam *i* applied to the shafts *g* and *d*, the extinguisher being moved in one direction by the spring *j*, the whole being arranged and operating together in manner as above set forth and explained.

64,579.—ELNATHAN SAMPSON, Lansingburgh, N. Y., assignor to himself and EDWARD CHAMBERLIN, same place.—*Car Wheel.*—May 7, 1867.—The beveled part of the tread is run upon the outer rail of a curve by the centrifugal force, and its greater circumference enables it to traverse the necessarily longer side of the track without slipping.

Claim.—A railroad car wheel having the conical tread surface *c*, cast with the flat tread surface *d*, and with the guiding flange *f*, in the manner and for the purposes substantially as herein described and set forth.

64,580.—J. DAVID SHEETZ, Robeson, Pa., and REUBEN ADAMS, same place, assignors to themselves

and JOHN MCKNIGHT.—*Cultivator.*—May 7, 1867.—The coil spring teeth are attached to spring jointed standards, enabling them, after giving way to obstructions, to recover position. The standards connected by a pitman, crank, and cog wheel with the driving wheel. Levers, connected by bars with the thills and pivoted in front to the frame, regulate the depression and are secured by wedges in the eccentric rack bars.

Claim.—First, the arrangement of the frame A with its shafts G, arms I I, bars *b b*, and springs *a a*, with rakes *d*, when operated in the manner and for the purpose set forth.

Second, the elevation or depression of the frame with its cultivators by means of the bar *g* and levers *y* attached to the thill *e*, in the manner substantially as and for the purposes specified.

64,581.—JOHN G. SCHMIDT, Rochester, N. Y.—*Machine for Cutting Bung.*—May 7, 1867.—Improvement on his patent, December 11, 1866.—The steel safety plates are fitted to the outside edge of the circular plate and secured with screws. The steel gauge has a square frame to admit and guide the knife. An adjusting screw passing through the guide plate regulates the size of the bung.

Claim.—First, the safety plates *o o*, in connection with gauge *k*, screw *p*, and nuts *e e*, all for the purpose and in the manner herein described.

Second, the head *q* of a yielding centre *b*, with hole *m*, the holes *m m m* in mandrel *a*, and the pin *n*, all for the purpose and in the manner herein described.

64,582.—LOUIS SCHREIBER, New York, N. Y.—*Cornet, &c.*—May 7, 1867.—The water valve, of cylindrical form, is at the bottom of a down bend, between the mouth piece and tone valves. From these valves the main tube is in form of a circle, and extending backward the mouth piece is turned upward. The segmental rubber stops on the water-valve cylinder coming in contact with a pin to prevent over-rotation.

Claim.—The form given to the instrument, as herein described, by means of which the sound is discharged from the bell in an upward direction, while the weight of the instrument can rest on the shoulder of the performer, while the part to be held by the left hand and the keys are in front in position which will enable the performer to have an easy control thereof, as described.

Also, the rotating water valve and its case, in combination with and located at the lower part of the curved pipe between the mouth-piece tube and the tone-valve tube, as and for the purpose described.

Also, the india-rubber segment stops attached to the inner face of the cap plate of valve cases, in combination with the rotating valves, as and for the purpose described.

64,583.—CHARLES H. SCHUBEUS, Newark, N. J., assignor to SAMUEL LAGOWITZ and ISADORE LEHMAN, same place.—*Machine for Cutting Sheet Metal.*—May 7, 1867.—For cutting mouth frames for satchels, &c. The dies are formed in three sections, the middle one of which is removable to admit a shorter or longer section to be placed in, to vary the length. The edge of the lower cutter is convex so as to commence the cut at the center.

Claim.—The arrangement of the parts *a a' b*, formed as shown and secured to the tool holder C, in combination with the knife D, constructed and operating substantially as and for the purpose described.

64,584.—CHARLES H. SCHUBEUS, Newark, N. J., assignor to SAMUEL LAGOWITZ and ISADORE LEHMAN, same place.—*Metal Bending Press.*—May 7, 1867.—The follower has two guides working in the base plate and two in the yoke; it is also guided by ribs on the vertical legs of the yoke.

Claim.—The additional guide rods H, in combination with the guides D D in the yoke E, and with the base plate F, screw C, guides G G, and cross-head B of a press A, constructed and operating substantially as and for the purpose described.

64,585.—CHARLES H. SCHUBEUS, Newark, N. J., assignor to SAMUEL LAGOWITZ and ISADORE LEHMAN, same place.—*Bending Metal.*—May 7, 1867.—The

angle plates are clamped on the middle die by their flanges, which enter the grooves between the middle and side pieces; this convex die is forced down into the concave die, the flange entering the groove around the die.

Claim.—The punch A, composed of the side pieces or jaws *a c* and center pieces *b*, in combination with the die B, constructed and operating substantially as and for the purpose set forth.

64,586.—JUDSON SCHULTZ, Ellenville, N. Y.—*Dry House.*—May 7, 1867.—Explained by the claim and illustration.

Claim.—The arrangement in the dry house of the vertical partitions C, having slats F secured to their sides extending from the second floor D through the roof E, their upper ends forming chimneys M, having dampers N, the lower ends provided with the heat-regulating doors L and their front sides with doors K, opening upon the floors D G H, &c., extending across one side of the dry house, their inner ends meeting the inner edges of the partition C, substantially as herein set forth and for the purpose specified.

64,587.—GEORGE V. SHEFFIELD and JAMES F. COBURN, Hopkinton, Mass.—*Preparing Leather for Wear.*—May 7, 1867.—The wearing surface of the leather is filled with metallic pins of uniform diameter, which cut off flush with the surface of the leather.

Claim.—The improvement in preparing leather for wear, substantially as set forth.

64,588.—F. R. SMITH, Bennington, Vt.—*Blind Slot Fastening.*—May 7, 1867.—The slats are kept in any desired position by a cam in connection with the lower end of the vertical rod.

Claim.—The cam D, applied to the blind frame to serve as a fastening for the slats, substantially as herein shown and described.

64,589.—ROBERT SPONOUSE, Jersey Shore, Pa.—*Manufacture of Water-proof Leather.*—May 7, 1867.—Dry hides are three-fourths tanned in sweet liquor, one week in sour liquor, with daily handling; stuffed with tanners' oil, 4; flaxseed oil, 1; and tallow, 2 parts. After soaking they are placed in the vat, flesh side down, and left in the tan six weeks; treated while half dried with tanners' oil, 1 lb.; beeswax, 3 oz.; and castor oil, 4 oz.; blacked with lampblack; beef gaud and oil resulting from burning caoutchouc is applied.

Claim.—The composition specified in the process of tanning the leather and its application and use in the manufactured articles, substantially in the manner and for the purpose as herein described.

64,590.—LUMAN SQUIRE, Norwalk, Ohio.—*Thill Coupling.*—May 7, 1867.—The coupling bolt is kept in position by the two hooks of the spring, which is sufficiently elastic to be removable by hand to permit the withdrawal of the bolt.

Claim.—The spring arms *e e'*, in combination with the bolt E, provided with the shoulders *l*, semi-elliptic in its transverse section, when constructed and arranged as set forth.

64,591.—A. F. STAYMAN, Baltimore, Md.—*Preparing Smoking Tobacco.*—May 7, 1867.—Improvement on his patent, January 15, 1867. The tobacco is comminuted and then mixed with some mucilaginous liquid and passed through screens.

Claim.—First, the process herein described of preparing tobacco for smoking.

Second, as a new article of manufacture, the smoking material herein described, whether composed of tobacco proper, or partially of tobacco and partially of tobacco dust combined, when prepared substantially as set forth.

64,592.—H. STEVENS, Mount Vernon, Ohio.—*Double Shovel Plow.*—May 7, 1867.—The shovel stocks are attached to a horizontal brace, which is connected by supports with the handles.

Claim.—The combination of the shovel stocks B B with the horizontal brace C and the beam A, when the same are constructed in the form and manner for the purpose specified.

64,593.—G. SYMMES and T. W. HAYES, Brooklyn, N. Y.—*Steam Generator.*—May 7, 1867; antedated

April 26, 1867.—The fire box contains a series of inverted conical water vessels connected by pipes through the crown sheet to the steam and water space above, and through the side of the generator to the lower part of the annular water space.

Claim.—First, the arrangement within the fire box or chamber of one or more series of inverted cones forming steam generators and communicating with the body of the boiler, substantially as specified.

Second, the arrangement of generators in the fire box or chamber separately connected with the water space above or body of the boiler by pipes passing through the crown sheet of said chamber, and with the lower portion of the water jacket surrounding said fire box by pipes running through the jacket and down or around the outside thereof, essentially as shown and described.

64,594.—JOSEPH TATTERSALL, Indianapolis, Ind.—*Compound for Making Artificial Stone and for Coating Stone and Bricks, &c.*—May 7, 1867.—Used as stone or cement. River sand, 45; litharge, 1; bone ashes, 1; air-slaked lime, 1 part; mixed with linseed oil to proper consistence. For a finer material, white lead mixed with caoutchouc and pulverized earthenware may be added.

Claim.—The compound herein described, together with such variations as may be produced by varying the proportions of the ingredients named, substantially as and for the purposes set forth and described.

64,595.—GEORGE TEFFT, Salem, N. Y.—*Locomotive and other Wheels.*—May 7, 1867.—Wedge-shaped segments within suitable depressions of the rim are moved beneath the tire by transverse wedges to tighten said tire.

Claim.—The employment of the wedges C C C C, in combination with the keys D D D D, or their equivalents, operating in the manner and for the purposes substantially as herein fully described and set forth.

64,596.—ELLIS THAYER, Worcester, Mass.—*Paint and Varnish Brush.*—May 7, 1867.—An elastic packing ring is inserted between the bristles and the encircling ferrule.

Claim.—First, the combination with the brush handle, bristles, and ferrule for holding the same upon the handle of an elastic packing, interposed between the ferrule and bristles, substantially as and for the purposes set forth.

Second, in a brush as herein described, the combination with the bristles and ferrule of an interposed tube of rubber or other elastic material, extending down upon the bristles below the ferrule, as and for the purposes herein specified.

64,597.—JOHN H. THOMAS, Philadelphia, Pa.—*Window Frame.*—May 7, 1867.—The side pieces have corresponding semi-cylindrical cavities for the balance ropes and weights to work in, and are secured together by dowels.

Claim.—A side piece for a window frame, consisting of two sections or strips *a a'*, grooved and connected together, substantially as set forth for the purpose specified.

64,598.—CYRUS TUCKER, Bloomington, Ill.—*Alarm Lock for Tills.*—May 7, 1867.—The vertical divisions project upward, dividing it into a series of spaces of equal width, in which the pivoted tumblers work. The frame has a flange at each end, by which it is secured with screws to the back end of the drawer. The pivoted lever, which reaches forward alongside the drawer, connects with and detaches the tumblers.

Claim.—First, the series of tumblers *a*, having one end heavier than the other, and so pivoted as to cause them to tip, in combination with a supporting head H, arranged to hold them in a horizontal position, substantially as shown and described.

Second, the combination of the pivoted tumblers *a*, constructed as described, with the supports *u* and levers E, arranged for joint operation as herein described.

64,599.—J. S. VAN BUREN, South Troy, N. Y.—*Heating Stove.*—May 7, 1867.—The fire pot is situated between two air chambers, which receive radiated

heat therefrom, and they are further surrounded by flues, which conduct the calorific current to the chimney.

Claim.—First, the arrangement of the hot air chambers E' A' and J, in combination with the fire box B.

Second, the flue D surrounding the fire box, substantially as shown and described.

Third, the jacket C, constructed substantially as described, in combination with the furnace A and the flue D.

64,600.—JOSEPH B. VAN DEUSEN, New York, N. Y.—*Rotary Steam Engine.*—May 7, 1867.—The ends of the cylindrical part of the piston enter recesses in the case beyond that part of the chamber traversed by the reciprocating piston plate. The chamber is elliptical, its shorter diametric line striking between the parts.

Claim.—First, the revolving cylinder A, constructed so that its ends rotate within recesses in the side plates of the stationary chamber F, substantially as shown and described for the purposes specified.

Second, the arrangement of the ingress and egress ports in relation to the permanent abutment, and to the revolving cylinder, fitted with a single sliding piston for operation, substantially as set forth.

64,601.—PHILIP VERBECK, Nenah, Wis.—*Window Fastening.*—May 7, 1867.—Explained by the claim and illustration.

Claim.—The button C, pivoted to the sash, and having the two eccentric arms *c* and radial thumb piece *d*, constructed and operating in such a manner that when the point of contact of the arm *c'* with the jamb of the window frame is below the pivot *b*, the sash is held raised, and when the point of contact of the arm *c* is above said pivot, the sash is held down, as shown and described.

64,602.—WILLIAM VERMILYA, Dayton, Ohio.—*Composition for Invigorating Fruit and Forest Trees.*—May 7, 1867.—Sulphate of copper, 3 lbs.; sulphur, 1 lb.; saltpeter, 1 oz.; pulverized and mixed with iron filings, $\frac{1}{2}$ lb.; plugged in an auger hole near the root.

Claim.—The composition of matter formed by the mixture of the proportions of three pounds of sulphate of copper, one pound of sulphur, one ounce of saltpeter, and a half pound of iron filings, to be used as a tree invigorator and destroyer of vermin, which may be in and upon fruit and forest trees, as herein described.

64,603.—J. W. WALTERS, Tiffin, Ohio.—*Flour Bolt.*—May 7, 1867.—The hammers are hinged to the beam and firmly connected to longitudinal spring strips whose inner ends are attached to the radial arms; their outer ends are held back by the segment which is adjusted to cause a more or less considerable recoil blow on the slat.

Claim.—First, constructing the rod that actuates the hammer for a bolting reel, with a spring capacity in itself, for the purposes described and substantially as set forth.

Second, the combination of the stepped segment E, and the spring rod D, that actuates the hammer, with a four-bolting reel, substantially as described.

Third, the pivoted segment E, when constructed with steps *g*, upon its point of contact with the spring rod D, and made adjustable for the purpose described.

Fourth, the arrangement of the segment E, with its stepped ribs in the top of the bolting reel case, substantially in the manner and for the purpose described.

64,604.—CHRISTIAN WEITMAN, Hazelton, Iowa.—*Horse Shoe.*—May 7, 1867.—The heel calks are formed with eyes to fit over the rear ends of the shoe; the ends have notches made in their upper surfaces into which the eyes of the calks drop; they are fastened by a key.

Claim.—The securing of the heel calks to a horse shoe, in the manner substantially as herein shown and described.

64,605.—SETH WHEELER, Albany, N. Y.—*Permutation Lock.*—May 7, 1867.—The central shaft is connected to one of the permutation wheels and the sleeve prolongation of the dial to the other one. The

permutation wheels are adjustably connected to the tumblers, whose proper position allows the horizontal retraction of the bolt. For unlocking, a cylindrical key is placed over the dial and has a projection engaging studs on the dial plate and dial, and the index finger of the central shaft, rotating them into proper position.

Claim.—First, the permutation wheel in combination with a circular tumbler, an indicating dial, a sleeve, and a tooth or space for connecting the tumbler and dial, constructed and arranged substantially as and for the purposes specified.

Second, a movable stud or tooth, in combination with the dial or tumbler as specified, whereby the tumbler can be placed in a greater number of positions relatively to the dial than there are teeth in the gear, as set forth.

Third, in combination with a series of tumblers, as set forth, a key formed of a series of changeable or adjustable rings acting on studs or projections, as specified.

64,606.—N. H. WHISEMANN, Independence, Iowa.—*Sorghum Evaporator.*—May 7, 1867.—The vat is divided longitudinally by an upright partition, and the larger section is divided transversely, the compartments communicating by passages made alternately in opposite ends of the partitions. An end compartment in which the sirup is cooled has communication when desired with the rear end of the lower section, and the two main sections are connected together at their fore ends. The smaller side section is covered by an inclined strainer dripping outside, on which the scum is thrown.

Claim.—The arrangement of the sectional compartments *a*, openings *C'*, compartments *C*, and gates *E F*, in combination with the section *B* and strainer *G*, operating conjointly as and for the purposes set forth.

64,607.—JOHN S. WHITE, Boston, Mass.—*Paint Brush.*—May 7, 1867.—The metallic cap tube for securing the bristles is divided into sections for removal as the bristles wear.

Claim.—The improved paint brush, metallic cap tube *B*, made in sectional parts, united and readily separable, as and for the purpose as hereinbefore described.

64,608.—JOHN W. WILCOX, New York, N. Y.—*Slide for Fastening Envelopes, Pocket Books, &c.*—May 7, 1867.—The band passes through the slots of the plate which is attached to the envelope by clinches formed in making the slots.

Claim.—Constructing a metal slide *a*, with spurs or projections *d d*, at the ends of the slots *c c*, for securing envelopes, portmonnaies, or other similar articles, formed and attached in the manner substantially as herein described.

64,609.—A. A. WILDER, Detroit, Mich.—*Planing Machine.*—May 7, 1867; antedated March 5, 1867.—The board is passed edge up between cutters which plane the face, groove its two edges, and form beading and tongues at its center; the edges of the tongues are rounded so deeply as to divide the board longitudinally.

Claim.—First, the combining and arranging of cutters in a planing machine, in the manner substantially as shown and described, whereby lumber is prepared for flooring or ceiling by tonguing, grooving, and planing the same at one operation, and making two or more finished pieces of lumber out of one without the use of a saw.

Second, the self-adjusting feed-level wheels *E* and *E'*, when constructed and operating in the manner substantially as shown and described, and for the purpose set forth.

Third, the combination of the shield *r*, spring *s*, and roller *q*, constructed and operated in the manner substantially as shown and described, and for the purpose set forth.

64,610.—E. P. WILLETS, North Hempstead, N. Y., assignor to EDWARD RICHMOND.—*Rack for Whips.*—May 7, 1867.—The orifices in the wooden plates or stands have perforated rubber disks for holding whips, umbrellas, &c.

Claim.—First, a rack for holding and suspending whips and other articles, consisting of one or more plates of wood or of other suitable material, in which a series of orifices or perforations is formed, combined with a corresponding perforated sheet of rubber or other elastic substance, and for the purposes herein set forth.

Second, in a rack for suspending whips and other articles, as described, the combination with the perforated plates of wood or other suitable material, of a perforated sheet of vulcanized rubber or other elastic substance, interposed between the said plates under the arrangement herein specified, so that the whip or other article, when inserted in the orifice formed in the plate, shall be held by the elastic substance, substantially as set forth.

64,611.—JAMES A. WILLIS, Cherry Valley, N. Y.—*Medical Compound.*—May 7, 1867.—For cure of ring bone, &c. Mercury, 4 oz.; nitric acid, 2 oz.; caustic, 2 drachms; sulphuric acid, 2 oz. To be kept in a stoneware pot partly immersed in cold water to act as a condenser.

Claim.—The medical compounds, substantially as and for the purposes described.

64,612.—JOHN A. WILSON, Spencer, Mass.—*Mop Head.*—May 7, 1867.—The mop cloth is attached to an endless apron passing between pressing rolls.

Claim.—Securing the mop head H to the endless apron F, which passes around the upper roller E and lower roller G in the mop head A, as herein set forth for the purpose specified.

64,613.—THOMAS H. WINDLE, Westchester, Pa.—*Metal Socket Ferrule.*—The tines are braced by two lips with longitudinal bearings.

Claim.—In a cast metal socket ferrule for removable forks, drags, &c., the two lips a^2 and a^3 , with the upper and the lower separate longitudinal bearings, a^2 and a^3 , each of the latter being of the same width as the shank of the fork or drag, as set forth, for the purpose of supporting the fork, and allowing its shank to be loosened with greater facility and safety in case of its becoming rusted fast, as described.

64,614.—C. WISE and B. LOEFFLER, New York, N. Y.—*Beer and Mash Cooler.*—May 7, 1867.—The rotary vertical shaft has its fans and stirrers; the former cause a circulation of air, and the latter stir the contents of the shallow circular tub.

Claim.—A cooler for mash beer and other liquids, consisting of a circular stationary pan B, in combination with a revolving shaft D, to which the fan or fans K and stirrers H are adjustably secured, substantially as and for the purpose herein shown and described.

64,615.—DAVID WOLF, Lebanon, Pa.—*Harvester.*—May 7, 1867.—The jointed and hinged main platform is adapted for dumping, and when the segmental rear extension is attached, it is adapted for raking.

Claim.—The flanged extension part L, in combination with the hinged jointed platform H, substantially as and for the purposes described.

64,616.—GURDON G. WOLFE, Troy, N. Y.—*Wood Burning Stove.*—May 7, 1867.—The caloric currents pass from the fire chamber down forward pipes to the hollow base, then up backward pipes to the hollow top and chimney.

Claim.—First, the employment of the chamber H, divided by means of the partition K, containing the movable damper C, in combination with the rear or back column flues B, by means of which the direct and circuitous draft is had, in the manner substantially as herein described and set forth.

Second, the broad bottom flue D, in combination with the front column flues A, and with the rear or back column flues B, each being arranged in the manner substantially as herein described and set forth.

64,617.—M. S. RIDGWAY, Danville, and CHRISTOPHER LEWIS, Harrisburg, Pa.—*Heating and Puddling Furnace.*—May 7, 1867.—The water jacket is open above, giving free exit to steam, and the separate sections are connected by tubular bolts, allowing passage of water. The bridges contain water, and have ascending and descending steam and water pipes.

Claim.—First, the double-furnace plates for containing a body of water to preserve them and moderate the external heat, preventing the wear of bricks and the breaking of the plates by expansion or contraction, substantially as and for the purpose described.

Second, the stack, constructed, in whole or in part, of water plates, substantially as and for the purpose described.

Third, the door at the base of the stack for the purpose of allowing the heater or puddler to take out the cinder and other refuse, instead of destroying the brick, as is now the case, substantially as described.

Fourth, the water plates in the stock-hole frames, working door frames, and fire plate, either or all, substantially as and for the purpose set forth.

64,618.—WM. ALEXANDER, Union Valley, N. Y.—*Churn.*—May 14, 1867.—The dasher blades are placed in alternate rows through the supporting head attached to the shaft, which is vertically reciprocated by the operating lever.

Claim.—The dasher D E, constructed substantially in the manner herein shown and described and for the purpose set forth.

64,619.—DARWIN ALMY, Tiverton Four Corners, R. I.—*Plow.*—May 14, 1867.—The wheel has its bearings in links suspended from the beam, and is adjusted by a lever connected by a rod to the middle joint of the links.

Claim.—The arrangement of the lever D, the rod b, and the links c' and g, connected with the guide wheel E, for regulating the depth of the furrow of a plow, operating as herein described.

64,620.—CHARLES W. ATKESON, St. Louis, Mo.—*Well Boring and Drilling Machine.*—May 14, 1867.—The drill is fed to its work by unwinding it from the shaft without interfering with the action of the walking beam.

Claim.—The attachment of the chain drum J, gearing K L, and wheel M, to the walking beam, substantially as herein described and for the purpose specified.

64,621.—E. P. BANKS, Portland, Me.—*Cattle Tie.*—May 14, 1867.—The bow is pivoted at one end to the clamp, and at the other end passes over a projection. The swivel bolt has a hole for the attachment of the rope.

Claim.—First, the combination of the bolt d, clamp a, and bow b, when constructed as set forth in Fig. 1, for the purposes specified.

Second, the combination of the bolt d, clamp a, and bow b, when constructed as set forth in Fig. 3, and for the purposes specified.

64,622.—CHARLES BERCKHEMER, Cincinnati, Ohio.—*Vessel for Malting and Brewing.*—May 14, 1867.—Explained by the claim.

Claim.—A perforated bottom or other metallic portion of a brewer's or maltster's vessel, composed of cast or wrought iron electroplated, as set forth.

64,623.—REINHOLD BOEKLEN, Brooklyn, N. Y.—*Blotting Pad.*—May 14, 1867; antedated May 3, 1867.—The board is hollowed out above to increase its flexibility, and the blotter is secured by slides working on an inclined plane.

Claim.—First, the employment or use of a flexible board or bottom to the blotter, operated and for the purpose substantially as herein described.

Second, the employment of the slides D D, combined with the wedge-shaped ends of the blotter board A, operated and for the purpose substantially as herein shown.

64,624.—REINHOLD BOEKLEN, Brooklyn, N. Y.—*Paper File.*—May 14, 1867.—The spring hook closes on the usual stationary file hook; any invoice can be obtained by raising those above it on to the spring hook and removing the paper at the aperture made by the disconnection of the two hooks.

Claim.—First, the employment of one or more slides I, or flaps K, in combination with the file hooks, operated as and for the purpose substantially as herein shown.

Second, the construction and arrangement of the spring plates B, and its guide F, in combination with the back board A, operated in the manner and for the purposes substantially as herein described.

64,625.—BENJAMIN BOORMAN, Waukesha, Wis., assignor to himself and ISAAC LANE, same place.—*Flour Bolt.*—May 14, 1867.—The bars and strips are attached so as to fasten the bolting cloth on their inner surfaces to avoid the back flour held by internal projections.

Claim.—The strips *a*, of the bolting cloth E, secured to the parallel arms D of the revolving flour bolt A, by means of the strips *b*, in such a manner that the said strips *a* shall be flush with the inner surface of said slats D, as herein set forth, for the purpose specified.

64,626.—JAMES BRENNAN, New Haven, Conn.—*Carriage Shackle.*—May 14, 1867.—The bolt of the thill iron is clasped between two plates with corresponding semicircular recesses. The clamping screw is secured from turning by a strap through its eye.

Claim.—The combination of the two parts C D, hinged together at the rear, and secured at the front by a screw E, as and for the purpose specified.

64,627.—THOMAS and GEORGE B. BURDETT, Dansville, N. Y.—*Potato Digger.*—May 14, 1867.—The handle slides through holes in the cross-bar and axle, a stay bolt preventing its protruding too far. The axle serves as a fulcrum in raising the hill of tubers.

Claim.—The arrangement of the fork D, with the axle A, bar C² of the frame C, and wheels B, when all are constructed and operating as herein set forth.

64,628.—DAVID CARROLL, Union, Pa.—*Stump Extractor.*—May 14, 1867.—The frame is supported on shoes which act as runners for transportation. The chain winds over a drum on the sweep shaft and the portions approaching toward and receding from the drum run upon sprocket wheels which are geared together and run in different directions.

Claim.—First, the pulleys EG and I, in combination with the chains M and N, substantially as shown and described and for the purposes set forth.

Second, the castors and shoes, R R R, in combination with the derrick, substantially as shown and for the purposes set forth.

64,629.—J. E. CARVER, Bridgewater, Mass.—*Cotton Picker.*—May 14, 1867.—The tongue is armed with reflex spines, and directly above it in the box is an elastic plate similarly armed, which holds the fiber drawn into the box by the reciprocating action of the tongue.

Claim.—The reciprocating tongue B, one or more, placed within a box A, and armed with reflex spines or teeth, and used either with or without the toothed plate E, substantially as and for the purpose set forth.

64,630.—F. A. L. CASSIDY, Newnansville, Fla.—*Cotton Press.*—May 14, 1867.—A cylinder receives the binding hoops; the cotton is forced into the cylinder at successive charges, the ends of the hoops attached and the cotton forced out into the bag which is connected to the cylinder and hangs in a recess below it.

Claim.—First, the suspended slotted packing case or cylinder B, or equivalent, in combination with the frame A, substantially as herein shown and described.

Second, the combination of the ratchet bar D, spring E, and rods C, with the packing case B, substantially as herein shown and described.

Third, the combination of the piston head I, with the packing case B, and rods C, substantially as herein shown and described.

Fourth, the construction and arrangement of the bottom F, hinge G, and catch H, on the lower end of the packing cylinder B, as herein set forth.

64,631.—THOMAS G. CLIFFORD, Derby, Conn.—*Wagon Wheel Lock.*—May 14, 1867.—The inner ends of the hubs have plates with holes to receive the ends of bolts beneath the axles. The bolts are projected by spiral springs on the loosening of cords attached to their inner ends.

Claim.—The arrangements of the bolts I, in com-

bination with the plates F, and the shaft G, with its ratchet *h*, constructed and arranged to operate substantially in the manner herein set forth.

64,632.—GEORGE G. COCHRAN, Brooklyn, N. Y.—*Bedstead.*—May 14, 1867.—The posts are secured together by tension rods which have right and left screws worked by a sleeve nut which connects their ends.

Claim.—The rods, D D', at each side of the bedstead, provided at their inner ends with right and left screw threads, connected by nuts E, and attached to their outer ends to the posts A, by the hooks and eyes *c d*, and the knobs *e*, and hooks *f*, in combination with the tenons *b*, on the ends of the rails *c*, and the mortises *a*, in the posts A, substantially as and for the purpose set forth.

64,633.—FREDERICK COHLMIEER, Keek's Centre, N. Y.—*Sleigh Brake.*—May 14, 1867.—The slot in the draught bar slips back on the attachment bolt when the sleigh crowds the team, and the draught bar forces back the upper section of a double action lever to which it is attached which projects the dog on the lower end into the track.

Claim.—First, an improved sleigh brake formed by the combination of the draught bars F, supporting bar G, bent levers H, and dogs I, with each other, and with the frame and tongue of the sleigh, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the bar M, and levers N, with the draught bars F, and with the frame of the sleigh, substantially as herein shown and described and for the purpose set forth.

64,634.—D. L. COLUMBIA, R. V. STOCKING and C. W. WOODRUFF, Morrison, Ill.—*Spring for Vehicles.*—May 14, 1867.—Bent levers are pivoted to the axles at one end and to an arm pendent from the body in the mid-length; they are formed into a hook at the other end to receive the bight of the rubber loops which are attached to the body.

Claim.—First, suspending the bodies of vehicles upon bands of India-rubber, so applied that the action of the load shall take effect in the elongation of the springs, and it be raised by their contraction, substantially as described.

Second, the combination of the India-rubber bands H, standard D, and oscillating lever E, substantially as and for the purpose set forth.

64,635.—GEORGE B. F. COOPER, New Albany, Ind.—*Lock for Car Doors, &c.*—May 14, 1867.—The sliding bolt which prevents the retraction of the spring bolt is locked by a pawl, but retracted by a key.

Claim.—The catch bolt D, in combination with the sliding bolt B, operated by the thumb pawl *c*, to lock or secure the fastening without employing a key, arranged substantially as herein described.

64,636.—JOHN H. CRANE, Charlestown, Mass.—*Transporting Cars through Tunnels.*—May 14, 1867.—Sub-trucks constructed in jointed sections have tracks to receive the cars of a train and traverse the tunnel with their load; the upper tracks connect with the main car tracks at either end, and a hinged platform is let down to make the close rail connection.

Claim.—The method of transporting cars through tunnels by means of traversing cars having rails upon their platforms, which rails connect with the railway tracks at the opposite ends of the tunnel, substantially as set forth.

Also, making the cars *c* sectional and jointed, substantially as described.

Also, the hinged or swinging rail platform *h*, made to swing up from, or to be swung over upon the cars, substantially as described.

64,637.—HORACE CROFOOT, Oak Park, Ill., assignor to himself and T. W. V. P. MERCEREAU.—*Pressing Brick.*—May 14, 1867.—The mold plates are fixed and have flaring mouths. The upper and under plungers are operated by cams. The clay is carried to the mold by boxes sliding from the hopper to said mold and serving to force aside the previously pressed bricks which have been raised from the molds by the lower plungers.

Claim.—First, the fixed mold plate J and reciprocating plungers F I, when arranged to operate as shown, or in an equivalent manner, so that the clay, after being subjected to one pressure in the molds *f*, will be raised therein to their wider parts, and subjected to a gradual pressure by both sets of plungers, in order to expel the atmospheric air from the clay, substantially as described.

Second, providing the upper plunger F with convex faces *d*, when said plungers, thus constructed, are used in connection with molds *f*, having inclined sides, and also used with a set of lower plungers I, to raise the clay in the molds, after being subjected to one pressure, substantially as and for the purpose set forth.

64,638.—FRANCIS CRUIKSHANK, Edinburgh, Scotland.—*Coating for Iron Ships and other Structures.*—May 14, 1867.—Red oxide of mercury and white precipitate of mercury are added to rosin and rubber previously dissolved by the aid of heat in naphtha; pigment is added, if desired.

Claim.—The preparing of an improved anti-folding coating, with the mercurial compounds hereinbefore specified, and substantially in the manner hereinbefore described.

64,639.—FELIX MANUEL DAUNOY, New Orleans, La.—*Guard for Railway Cars.*—May 14, 1867.—The cylinder of caoutchouc is fastened perpendicularly before each wheel to fend off obstacles from the wheels.

Claim.—The application of a gum rubber drum in front of every wheel of a horse or steam car, as herein described.

64,640.—J. Q. A. DE HUFF, Summitville, Iowa.—*Car Truck.*—May 14, 1867.—The outer boxes are pivoted so as to turn in a horizontal plane, and the inner journals slide in segmental grooves to allow accommodation to curves. Spiral springs each side of the inner boxes tend to keep the axles in a transverse direction. Racks on these boxes engage segmental gear plates pivoted in the frame to keep the wheels of a given pair to the same angle.

Claim.—The arrangement of the double-clogged segments *e* hung in the cross-frame F, between the curved guides E, combined with the springs *d*, slot *c*, racks *g*, the boxes *b*, and the axle C, arranged and operating substantially as and for the purpose described.

64,641.—FREDERICK DICKINSON, Geneva, Ohio.—*Field Fence.*—May 14, 1867.—The rails enter notches in the stakes, which enter the ground or a block, and are bound together at the top, forming a zigzag fence.

Claim.—The special construction and arrangement of a fence for the purpose and in the manner set forth.

64,642.—JOHN V. DIXMORE, Milford, Mass., assignor to himself and MOSES HARRIS, same place.—*Car Wheel.*—May 14, 1867.—The tire is enclosed between flanges, and backed by elastic packing; it is so connected to the outer flange as to prevent independent rotation.

Claim.—The arrangement of the elastic packing or ring B, the inelastic tire C, the body A, the end supporters D E, and devices substantially as described, or their equivalents, for preventing the tire from slipping around on the elastic ring, and enabling such tire to vibrate and play in radial directions, as specified.

64,643.—Cancelled.

64,644.—D. DODGE, Rockford, Ill.—*Uterine Supporter.*—May 14, 1867.—The plate is secured in front of the abdomen, its lower edge supported by the os pubis. The bent tube which traverses the vagina and supports the pad is adjustable, and turns freely in a sleeve which is hinged to the plate.

Claim.—The sleeves D and C jointed to the pad, in combination with the tube B and springs H I, substantially as and for the purpose set forth.

64,645.—JAMES DOUGHERTY, Philadelphia, Pa.—*Cupola Furnace.*—May 14, 1867.—The tuyere openings are wider at the lower side than at the top, and additional tuyeres enter the furnace at their lower level to cause a greater amount of draft at the bottom. Below the boshes is an enlarged space, near whose upper end is a horizontal series of air holes throwing jets of air upon the fuel.

Claim.—First, a cupola or blast furnace, the interior of the lower portion of which is composed of the chamber G, with vertical walls, and above the latter the basin-like chamber F, constructed at the top, all substantially as specified.

Second, the combination with a cupola or blast furnace of a system of tuyeres having openings so arranged as to discharge a blast of greater volume below than above, as set forth.

Third, the air openings *w*, arranged in respect to the projections *m* and basin-like chambers F, as described.

64,646.—WILLIAM DOUGLAS and H. M. INGLER, Bellair, Ohio.—*Oil Cup for Machinery.*—May 14, 1867.—The motion of the crank throws a jet of oil through the small hole in the conical top of the cup, which runs down the top of the cone and lubricates the wrist pin.

Claim.—First, the cone feeder D, constructed and arranged substantially as described for the discharge of the oil upward by the motion of the engine crank.

Second, the arrangement substantially as herein described for oiling the wrist pin directly in combination with an upward feeding oil cup.

64,647.—JAMES C. DUNCAN, Olney, Ill.—*Plow.*—May 14, 1867.—The moldboard, sole, and landside are swaged from a single plate cut to form.

Claim.—First, a plow, embracing the moldboard A, landside B, border or sole C, and heel brace D, all being united in one and the same piece of metal which is cut and shaped substantially as described and represented.

Second, the slotted rest D', when formed in one piece with the plow, and employed for the support of the beam G, substantially as and for the purpose specified.

64,648.—JAMES C. DUNCAN, Olney, Ill., assignor to himself and J. B. ALEXANDER, Washington, D. C.—*Portable Fence.*—May 14, 1867.—The rails are supported on a triangular trestle, whose struts extend from the ground to gains on the sides of the vertical slats which enclose the boards.

Claim.—The supporting trestle, consisting of the battens C C, braces E E, pins D, rails A, and cross-tie F, combined substantially in the manner and for the purpose specified.

64,649.—JAMES C. DUSTAN, New Vernon, N. J.—*Liniment.*—May 14, 1867.—Composed of arnica, 7; alcohol, 15; beef gall, 4; camphor, 2; oil of organum, 2 parts.

Claim.—An improved liniment, composed of the several ingredients combined in the proportions and manner substantially as and for the purposes herein specified.

64,650.—JULIUS ELSON, Boston, Mass.—*Breach-loading Fire-arm.*—May 14, 1867.—When loaded, the breach block containing the needle rests against the cartridge end; the expeller catches are beneath its flange and the block is locked in place and pressed forward. The needle is struck by the hammer to discharge the cartridge. On elevating the hammer to half cock, the breach block is released and drawn down by the spiral spring against the lower projections of the shell extractor and throws it into action. The breach block is again elevated by cocking the gun.

Claim.—First, the combination as well as the arrangement of the advancer H and its cam *g*, or operative mechanism, with the hammer and the breach block applied to the barrel and stock, and with the mechanism, as described, for elevating or depressing the breach block C, and bolting and unbolting it with respect to the barrel, substantially in manner as specified.

Second, the combination, as well as the arrangement of mechanical parts or instrumentalities for elevating and depressing the breach block C, and bolting and unbolting it with respect to the barrel, in manner as set forth, such parts or instrumentalities consisting in the hammer E, its pin *f*, and arm *g*, the lever or arm *e*, stud *e*, spring D, the bolt F, and its operative mechanism, substantially as described.

64,651.—LOT P. EVANS, Springville, Pa.—*Cherry Seeder.*—May 14, 1867.—The two cylinders have V-grooves inclining backwardly from their midlength

and interlocking each with the other. The cherries are carried downward and outward, the pulp falling between the rollers and adjustable abutment pieces and the stones running out down the tubular supports.

Claim.—The cylinders *b b'* and the plates *d d'*, arranged and operating with respect to each other, substantially as herein specified and described.

64,652.—GILBERT J. FERRISS, Washington, D. C., assignor to himself and BYRON SYKES.—*Combination Tool.*—May 14, 1867.—The wrench, screw-driver, bradawl (or gimlet), and claw hammer are associated in one combination, as explained by the illustration.

Claim.—The tool, as above described, operating in the manner and for the purpose set forth.

64,653.—EDWARD FITZKI, Washington, D. C.—*Envelope.*—May 14, 1867.—One flap has a slit and the other incisions in its edges, which may be folded together, inserted through the former, and then spread out to make a fastening.

Claim.—The application of incisions in the envelope of any size, style or materials, as fully described as above.

64,654.—GEORGE FLOYD, Cincinnati, Ohio.—*Insulator.*—May 14, 1867.—An enlarged chamber in the insulator receives the hook heads of the split shank, which expands so as to retain the insulator in place, and may be contracted to permit its removal.

Claim.—The chambered insulator provided with ledges *H H'*, approached by a flaring aperture *F*, in the described combination with the two-parted and shouldered shank, the said shank and chamber being oblong in their horizontal section, all substantially as set forth.

64,655.—P. S. FOSTER, Richmond, Me.—*Road Scraper.*—May 14, 1867.—For scraping snow. The front part is widened to clear a track for the runner. The bottom is opened to discharge the load, a scraper operated by a crank assisting.

Claim.—First, an improved scraper *A*, having tilting or pivoted bottom board *a'* and being adjustably pivoted to the runners *B*, constructed and operating substantially as herein shown and described and for the purpose set forth.

Second, the combination of the inside scraper *G*, and pinted rods *g'* with the scraper *A*, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the crank-shaft *H* and ropes or chains *I* with the scraper *A* and inside scraper *G*, substantially as herein shown and described and for the purpose set forth.

64,656.—MOSES H. FREEMAN, Somerville, Mass.—*Pipe Wrench.*—May 14, 1867.—The jaws have transverse serrations; the moving one is elased to the shank and retained to any adjustment by a tooth which engages one of a series of notches on the shank, being held thereto by the spring.

Claim.—The combination as well as the arrangement of the clasp *D* and spring *H*, the tooth *a*, the series *C* of notches, the jaws *E A*, and the bar *B*.

Also, the combination as well as the arrangement of the lever *F* with the clasp *D*, the spring *H*, the tooth *a*, the series *C* of notches, the jaws *E A*, and the bar *B*, such bar being provided with a handle, and the whole being constructed so as to operate substantially as hereinbefore explained.

64,657.—ANDREW FRIBERG, Moline, Ill.—*Cultivator.*—May 14, 1867.—The lower end of the standard is rounded and the share is attached with a strap which allows side adjustment to throw the soil either way. A groove in the standard receives a projection of the share.

Claim.—Securing the share to the stock by means of the block *C* and stirrup *e*, when said parts are constructed and arranged substantially as herein shown and described.

64,658.—CHARLES R. GIBSON, Madison, Ind.—*Bench Vise.*—May 14, 1867.—The screw shank has a universal joint to accommodate it to vertical and transverse inclination in the moving jaw, the shank of which is swiveled at its foot. A conical pin tra-

verses the socket joint to render it stiff when desired.

Claim.—First, the combination of the jaws *A A'* with the universal jointed vise screws *B C D* and nut *F*, all constructed and arranged substantially as described.

Second, the combination of the jaws *A A'*, the stirrup *f f'*, block *G*, and pin *K*, all constructed and combined as set forth.

64,659.—JOSEPH GILBERT, Philadelphia, Pa.—*Fire-proof Ceiling and Roof.*—May 14, 1867.—The lower flanges of the girders supports the ends of curved plates which are corrugated in a direction transverse to their curve.

Claim.—First, a ceiling or roof composed of girders *A*, corrugated arched plates *B*, and socket bearers *d* adapted to the said girders and plates, the whole being constructed and arranged substantially as described.

Second, in combination with the above, the bricks or blocks *X X'*, applied in the manner and for the purpose described.

64,660.—JAMES E. GILLESPIE, Boston, Mass.—*Rod Cutter.*—May 14, 1867.—The rod is thrust through the openings in the opposite dies until it strikes the adjustable gauge. The movable die is then reciprocated by the lever *eam* and cuts off the length of rod. The movement of the gauge allows the severed portion to drop and the parts return to their normal position.

Claim.—A rod cutter, constructed and operated substantially as specified.

64,661.—C. C. GISH, Virden, Ill.—*Windmill.*—May 14, 1867.—The wings are forced outward by the action of the lever so as to catch the wind and rotate the wheel. The pump is operated from the wheel shaft through the medium of the eccentric end lever lifting the water into the receiver, whence it passes to the tank, the valve opening by the action of a float.

Claim.—First, a wind wheel, constructed substantially as shown, and provided with hinged wings *d* and rods *e*, sliding hubs *D E*, arranged in relation with water receiver *L* and loaded lever *G*, substantially as shown and described for the purpose specified.

Second, the float *P* in tank *Q*, the valve *N* in the water receiver *L*, and the lever *G*, all arranged to operate in connection with the wind wheel, substantially as described.

64,662.—WILLIS D. GOLD, Philadelphia, Pa., assignor to himself and PHILIPP FERMIER.—*Combined Hammer, Screw-driver, and Wrench.*—May 14, 1867.—One end forms a hammer, the other a screw-driver. One side of the shank has a series of square holes of varying size, and the other has flanges forming a tapering wrench.

Claim.—A combined hammer, screw-driver, and double wrench, having the characteristics and operating substantially as represented and described.

64,663.—J. H. GUILD, Rupert, Vt.—*Float Valve.*—May 14, 1867.—The liquid is fed through rubber pipes. When the water rises to a certain point it lifts a float which operates a system of levers to compress the rubber tube and stop the flow.

Claim.—The arrangement in the perforated vessel *A* of the float *B*, having the perforated or notched vertical rod *b* engaging with the pivoted oscillating lever *e* connected by the link *d* to the lever *e* pivoted to the opposite side of the vessel in such a manner that, as the float *B* is elevated by the water, the projection *f* upon said lever *e* presses against the elastic pipe *C*, effectually closing the same, substantially as described for the purpose specified.

64,664.—THOMAS G. HALL, New York, N. Y., assignor by mesne assignment to himself and E. HARREY GIFFORD, Brooklyn, N. Y.—*Nippers.*—May 14, 1867.—The movable jaw pivoted to the lugs is operated by the toe of the pivoted lever with which it is kept in contact by a spring. A set screw adjusts the inward pressure of the jaws.

Claim.—The lever *D*, handles *F* and *F'*, toe *b*, spring *f*, jaws *B C*, set screw *h*, constructed, arranged, and operating substantially as and for the purpose described.

64,665.—FREEMAN HANSON, Buxton, Me.—*Turn Table.*—May 14, 1867.—The bed is raised upon its base plate above the central stem by means of thrust screws which traverse the former and impinge upon the latter.

Claim.—The arrangement of the plate *c*, having its projections *f*, its part *h* and wheels *d*, plate *b* and projection *g*, all as and for the purposes described, when the said plate *c* is operated by means of the four screws *k*, in the manner herein set forth.

64,666.—JOHN K. HARRIS, Madison, Ind.—*Attaching and Detaching Horses, &c.*—May 14, 1867.—The reaction of the spring maintains the engagement until the bolt is withdrawn, when the inclined surface of the tongue forces the cross-bar off the lug and disengages the horse.

Claim.—First, the horse-hitching device, releasable by the driver, consisting essentially of the hooked plate *B*, self-engaging bolt *E* and buckle *R*, substantially as set forth.

Second, the buckle proper, consisting of the double tubular frame with the pair of spiral springs *P P'* and the draw-bar *O*, substantially as described.

64,667.—JAMES HATCH, Lynn, Mass.—*Apparatus for Destroying Insects on Trees.*—May 14, 1867; antedated May 1, 1867.—The tree is covered with a cloth and a smudge of smoke introduced through a pipe from a furnace to kill the insects.

Claim.—The fumigating furnace *c*, pan *d*, pipe *e*, and rack or cloth *b*, when used together in combination, substantially as and for the purpose specified.

64,668.—A. T. HEFLIN, Monmouth, Ill.—*Cultivator.*—May 7, 1867.—The pair of frames are pivoted in front to a wheeled carriage and have adjustable winged shovels.

Claim.—First, forming the shovels *I* with wings, the outer wing of each shovel being curved or turned up, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the pivoted bar *D* with the beam *G* and vertical bar *a'* of the frame *A*, substantially in the manner shown and described and for the purpose set forth.

64,669.—JOHN HIGBIE, Rondout, N. Y.—*Manufacture of Vinegar.*—May 14, 1867.—Five bushels of apples, boiled to a mass, are laid on a floor in a barrel, 3½ gallons are leached therefrom, and 1 gallon of molasses added.

Claim.—The improved process for the manufacture of vinegar from apples, substantially as shown and described.

64,670.—GEORGE A. HILL and CONRAD LOHNES, Springfield, Ohio, assignor to themselves and JAMES M. HARNER, Donnellsville, Ohio.—*Seed Planter.*—May 14, 1867.—The double-sided plow has adjustable shanks attached thereto. The seed wheel has on its inner side a series of holes to receive pins regulating the seed valves. Scrapers clean the wheels. The lever pivoted below the flooring has a quadrantal cam eccentrically attached to it, and which, pressing on the tongue, raises the plows out of the ground.

Claim.—First, the combination of the double-sided plow curving upwards from near the point to the heel, and the shovels *O*, adjustably attached thereto substantially as and for the purpose set forth.

Second, the combination of the wheel *D'*, adjustable pins *D'*, lever *E*, and spring *E'*, substantially as described.

Third, the combination of the lever *E*, valves *F* and *F'*, and pins *F''*, with the compound lever *G*, having curved slots *G'*, in the outer ends, substantially as set forth.

Fourth, the combination of the compound lever *G*, valves *F* and *F'*, connecting bar *H*, lever *J*, hook *I*, and driver's seat *K*, substantially as described.

Fifth, the combination of the driver's seat *K*, lever *P*, cam *Q*, and tongue *R*, substantially as set forth.

Sixth, the combination of the tongue *R*, attached to the rear of the frame and the brace *T*, attached to the front thereof, and constructed and arranged to operate substantially as set forth.

64,671.—WILLIAM H. H. HINDS, Groton, Mass.—*Flame Regulator and Extinguisher for Lamps.*—

May 14, 1867; antedated May 6, 1867.—Two crescent-shaped pieces of metal are hinged one on each side of the aperture of a lamp deflector to regulate the aperture. The chimney holder can be turned to the right or left and the lower points of the crescent-shaped pieces are attached thereto, so that by turning the chimney the flame can be regulated or extinguished.

Claim.—First, the attaching of two pieces of metal made to close together around or above the flame to a cap, to which cap is attached a collar or chimney holder, when a chimney is used in such a manner that the said two pieces of metal shall form the vertex or top, or a part of the vertex or top of said cap, as herein described and as shown in Figs. 1 and 2.

Second, the closing and opening of the said two pieces of metal by means of a collar or chimney holder, as herein described and as shown in Figs. 1 and 2.

64,672.—HEINRICH HIRZEL, Leipsic, Saxony.—*Apparatus for Producing Gas from Petroleum.*—May 14, 1867.—Petroleum is pumped in a continuous jet into a retort heated to a red heat, and thereby immediately converted into gas; it is conducted to a condenser, where it is cooled and purified, and thence led to the gas holder.

Claim.—First, the pumps *V* and feed pipes *Q*, feeding the petroleum in a continuous jet to the retorts *A*, in combination with said retorts, substantially as above set forth and described.

Second, the clockwork mechanism *N*, or its equivalent, for working the pumps *V*, in combination with said pumps, operating in the manner and for the purposes substantially as set forth and described.

Third, the wings *R*, regulating the clockwork mechanism *N*, in combination with said clockwork.

Fourth, the condenser *E*, combined with the connecting tube *F*, the latter setting into the hydraulic main *C*, where the bench consists of more than one retort; or where one only is employed, the condenser *E*, furnished at its bottom with an hydraulic main, substantially as set forth and described.

Fifth, the hydraulic main *C*, in combination with the excess pipe or discharging tube *O*, stand pipes *B*, bell valves *D*, and connecting tube *F*, or their respective equivalents, all substantially as set forth and described.

Sixth, the trapped tube *I*, in combination with the condenser *E* and cistern *G*, substantially as described.

64,673.—JAMES G. HOLMES, Charleston, S. C.—*Portable Water Closet.*—May 14, 1867.—The vessel for the feces is placed in a pail which contains a quantity of water. A cover is inverted over the inner vessel and its submerged edges form a stench trap.

Claim.—First, in a portable water closet constructed substantially as described, the use of an exterior upright vessel and of an interior inverted vessel, so arranged as to prevent the escape of any fetid odor by means of a water packing extending to the lower portion of the exterior vessel, substantially as described.

Second, as a new article of manufacture, a portable water closet which is rendered inodorous by means of a closed inverted vessel with its water packing which extends to or below the bottom of the vessel which is to contain the feces, substantially as and for the purpose described.

Third, in a portable water closet the rendering of the same effective by means of an external vessel, an internal inverted vessel packed with water, while the vessel to receive the feces is separate and distinct from either of the others, substantially as described.

64,674.—E. HULBERT, Atlanta, Ga.—*Express Money Envelope.*—May 14, 1867.—Explained by the claims and illustration.

Claim.—First, the improved express money envelope formed with additional flaps *b' b'' e' e''* upon the side edges of the end flaps *B* and *B'*, substantially as herein shown and described and for the purpose set forth.

Second, forming holes through the side flaps *D* and *E*, in such positions that when the said flaps are folded and pasted down, said holes may correspond with each other to allow the sealing material to come in contact with the end and side flaps at the same time, substantially as herein shown and described.

64,675.—LAFAYETTE KRAMER, Point Pleasant, Pa.—*Beehive.*—May 14, 1867.—Movable boxes are fitted in a case for double or single hives, and so connected that a swarm of bees can be driven from one box into another which is empty.

Claim.—In a double beehive the combination and arrangement of the case A with the hinged lid B, and hinged door C enclosing the shifting boxes 1 2 in pairs separated by the partitions a and connected with the surplus honey boxes D D' D'', substantially as and for the purposes herein described.

64,676.—WM. H. LANDBECK, Rochester, N. Y.—*Wrench.*—May 14, 1867.—The ratchet on the moving jaw shank engages a pivoted ratchet block which is released by swinging out the other shank, in which position the jaws may be adjusted.

Claim.—The oblong plate F and spring E, the whole arrangement in the manner and for the purpose substantially as herein described.

64,677.—SIMON M. LANDIS, Philadelphia, Pa.—*Hot and Cold Air Baths.*—May 14, 1867.—A watertight enclosure in which the patient may be treated with hot dry air or with vapor simultaneously with currents of electricity. A shower bath is combined therewith.

Claim.—First, the falling shutter a with slide c, as set forth.

Second, foot stool L and seat stool 11, lined with tin or zinc, as set forth, in combination with the bath room.

Third, slides 2 and b and double door E and D, as set forth.

Fourth, double inclined floors 6 6 and 7 7, as described and set forth.

64,678.—CHARLES LEAVITT, Cleveland, Ohio.—*Fruit Dryer.*—May 14, 1867.—The fruit is spread on slatted shelves slipped into the case. The calorific current from the furnace passes by a flue to the chimney; the heated air and the moisture from the fruit pass through the open flues above and escape at the corners, which are thus included in the circulation.

Claim.—The herein described arrangement of the channels or flues C C' and D, in combination with the pipes K and O, case A, for the purpose and in the manner set forth.

64,679.—JOSEPH C. and DELOS P. LEONARD, Union City, Mich.—*Hop Frame.*—May 14, 1867.—The horizontal wires are supported by posts and pivoted inclined poles. The braced inclined poles are attached to the wires by the open slots.

Claim.—Improved hop frame or trellises, constructed of inclined stakes or poles D D, supported by horizontal wires or chains A, stretched and secured as herein described, all substantially in the manner and for the purpose herein set forth.

64,680.—THOMAS C. LITTLE, Dixon, Ill.—*Steam Generator.*—May 14, 1867.—Water is injected by a force pump against the heated surfaces. The devices are explained in the claims and illustration.

Claim.—First, the inner shell B, placed concentrically within the outer shell A, having a flue J between them for the passage of the products of combustion from the fire chamber G, the inner shell B, provided with a circular plate suspended from the rod N, against which the water from the injection pipe C is thrown, substantially as described for the purpose specified.

Second, the combination and arrangement of the shells A B, injecting pipe c, connecting pipe D, fire box G, and circular plate suspended from the rod N, substantially as described for the purpose specified.

Third, the fire box, constructed as described.

Fourth, the arrangement of the arm a, the connecting rod c, and the crank b, by which the valve is operated, in combination with the pipes D and C, for the purposes set forth.

64,681.—CHARLES LUXTON, Hudson, N. J.—*Peat Machine.*—May 14, 1867.—The prepared clay or peat falls from the hopper on one side of the octagonal roller, is pressed by the lever, and carried away on an endless apron. The lever is connected to a wrist pin on a revolving wheel, and operates the roller by a pawl.

Claim.—The octagon roller, in combination with

the lever for compressing peat, fuel, or for making bricks.

64,682.—T. E. MARABLE and GREY UTLEY, Petersburg, Va.—*Alarm Gun.*—May 14, 1867.—Four radial guns have a common nipple; a vertical spring hammer is sustained by a pin when cocked, and tripped by upper radial arms, to which wires from various points are attached.

Claim.—The combination of the horizontal and radial barrels, when fired at the center by a single cap, and vertical hammer in the top of the box, arranged and operated as herein set forth.

64,683.—H. H. MASON and JOSEPH MESSINGER, Springfield, Vt.—*Mop Head.*—May 14, 1867.—The staff has a screw sleeve which engages a socket screw on the head. The cross-bar is depressed by the rotation of the screw to clamp the fibrous material.

Claim.—The connecting of the movable jaw D to the nut C by means of the right and left screw threads on the ends of the jaws D, fitting in right and left female or internal screw threads m, ears or projections e c on the nut C, substantially as shown and described.

64,684.—M. MCGILL and JOSEPH E. TYNAN, Paterson, N. J.—*Street-lamp Lighter.*—May 14, 1867.—The body of the lamp is hinged in the case, and swings laterally to expose the flame, for lighting street lamps, &c. Side wings attached to the base form partial protection from wind.

Claim.—A hand lantern, constructed as and for the purposes described.

64,685.—ALLEN N. MERRILL, Batavia, Ill.—*Kettle.*—May 14, 1867.—The handle is rigidly attached to the lid, which is pivoted at the rear end and opens in a horizontal plane. Its fore end, when shut, is engaged by a lip and retained by a gravitating slide bolt.

Claim.—The eccentric hinge E, the lip F, the slide bolt G, and the wood handle H, in combination with the cover B, the arms C D, and the kettle A, substantially as described.

64,686.—FREDERICK MEYER, Newark, N. J.—*Machine for Grinding Scale Pivots.*—May 14, 1867.—A set of emery wheels are arranged on a stationary frame. The scale beam or lever is laid upon a horizontally-sliding carriage, and fed to the emery wheels, which grind and polish the pivots.

Claim.—First, the construction and arrangement of the longitudinally-sliding carriage C, reciprocating carriage B, and carriage E, as herein set forth for the purpose specified.

Second, adjusting the scale pivots to be ground on both sides by means of the set screws or pins k l, secured to the arm i of the sliding carriage E and bar H upon the frame A, substantially as herein set forth.

64,687.—JAMES MEYER, JR., New York, N. Y.—*Knife Sharpener.*—May 14, 1867.—The pair of sharpening plates are ordinarily carried in the handle, but for use are clamped at the end of the handle by a thumb screw.

Claim.—First, the cutting plates E E, provided with longitudinal rounded edges, and connected by a sliding joint, substantially in the manner as and for the purpose set forth.

Second, the combination of the handle A with the two pairs of cutters E E F F, the clamp at one end of the handle and the recesses in the same to receive the cutters, with or without the strap G, substantially as and for the purpose specified.

64,688.—WM. H. MILLER, Philadelphia, Pa.—*Fibrous Packing for Steam Engines.*—May 14, 1867.—Explained by the claim and illustration.

Claim.—A packing consisting of a hemp, cotton, or other fibrous filling made into the form of a hurl or roving, and covered with a fibrous cover, substantially as described.

64,689.—THOMAS S. MINNISS, Meadville, Pa.—*Car Coupling.*—May 14, 1867.—The stop trips the coupling pin on entrance of the link and keeps the latter horizontal when inserted.

Claim.—A stop or hook that will hang on top of the drawhead and swing by its own gravity across

the pin hole, which, in combination with the pin when it is dislodged, will make a complete counterbalance to the projecting end of the link to hold it horizontal, being a catch, trigger, and weight combined in a single piece, constructed and operated as and for the purpose set forth.

64,690.—GEORGE FRED. MORSE, Portland, Me.—*Throttle Valve.*—May 14, 1867.—The valve is cylindrical and has steam ports on opposite sides. A groove on its upper side in combination with a screw in the case prevents rotation, and the steam is admitted to this groove to aid in balancing the valve.

Claim.—The arrangement of the partially-balanced sliding throttle valve in its casing by means of its cylindrical form and by having the steam openings on one side and the channel *d* on the other side of the valve open to the admission and pressure of the steam to more than balance the area of the ports, so that the valve shall be pressed against the steam openings in the seat, but with so slight a pressure as to cause but little friction and require but little force to move it.

64,691.—H. M. MYERS, Alleghany City, Pa.—*Manufacture of Shovels.*—May 14, 1867.—The steel blank is cast with tangs for handle straps and a recess for the socket.

Claim.—A blank for a shovel blade and handle straps, when said blank is cast of steel, substantially as herein described and for the purpose set forth.

64,692.—JOHN NEFF, Jr., Pultney, N. Y.—*Pruning Shears.*—May 14, 1867.—The spring tends to open the shears, and its roller runs in a groove of the handle opposite to the one to which it is attached.

Claim.—The lever *C* and spring *D*, when made and arranged substantially as specified and used for the purpose set forth.

64,693.—THOMAS L. OGIER, West Chester, Pa.—*Buckle.*—May 14, 1867.—The two frames are pivoted together; one end of the strap is lapped around one portion of the frame, the other end is passed over the serrated bar of its frame and is pinched between it and the serrated edge of the other frame.

Claim.—The combination of the two parts *a f*, pivoted to each other and furnished with the roughened surfaces *c i*, for catching and clamping a leather or other flexible strap, substantially as and for the purpose described.

64,694.—A. M. OLDS, New York, N. Y.—*Folding Seat.*—May 14, 1867; antedated May 5, 1867.—The three legs are attached by a combined sliding band, lugs on which run in grooves in the legs. Plugs attach the usual webbing seat.

Claim.—First, the combination of the legs *A A A*, band *E*, and rings *B B B*, arranged substantially as and for the purposes set forth.

Second, the combination of the legs *A A A*, plugs *L L L*, and seat *M*, substantially as and for the purposes described.

64,695.—E. A. F. OLMSTEAD, New York, N. Y.—*Sweeping Machine for Railroads.*—May 14, 1867.—The frame of the rotating brush is swung up by the levers operated by the hand screw.

Claim.—The construction and arrangement of the levers *L M* of the same length, their inner ends slotted and pivoted together and to the stirrup *O* working vertically in the slotted support *P*, and adjusted by means of the hand screw *Q*, said levers near their outer ends pivoted to the supporter *N*, upon the platform *A*, and their outer ends pivoted to the rod *R S*, attached to the ends of the shaft *K*, respectively, whereby the said shaft and broom *G* are raised and lowered, substantially as herein set forth for the purpose specified.

64,696.—WILLIAM ONIONS, St. Louis, Mo.—*Cotton-bale Tie.*—May 14, 1867.—One of the hoop ends has a bent, wedge-shaped piece which is run up through the slot in the cast-iron block and acts as a cam to retain the other end, which is also run through the slot.

Claim.—The metal block *A*, in combination with the wedge-shaped metal piece *B*, secured to the bale

hoop end *C*, arranged and operating substantially as and for the purpose set forth.

64,697.—H. S. PALMER, Norvell, Mich.—*Manure Distributor.*—May 14, 1867.—The arm, in combination with the cam pulley, operates the distributor. The cam pulley is adjustable to or from the fulcrum to regulate the discharge.

Claim.—First, the cam pulley *H*, the arm *I*, and the hinged board or frame *G*, when constructed and operating in the manner and for the purpose as herein specified.

Second, the cam pulley *H*, in combination with the arm *I*, when so constructed that the pulley can be moved nearer to or further from the fulcrum, whereby the discharge may be regulated by altering the stroke of the teeth *J*.

Third, the hooks *B B*, the braces *D D*, and the strap or chain *F*, in combination, when arranged and constructed as herein specified.

64,698.—WILLIAM PATTERSON, Lowell, Mass., assignor to GEORGE T. COMINS, same place.—*Clothes Pin.*—May 14, 1867.—The teeth are split to give more readily when required and avoid breaking.

Claim.—The arrangement of the split teeth *C C*, in combination with the body *B*, constructed and operating in the manner herein represented and described.

64,699.—MARTIN PECHMANN, New York, N. Y., assignor to himself and J. F. C. PICKHARDT, same place.—*Bedstead Fastening.*—May 14, 1867.—The nuts are made in screw plugs that can be inserted direct into an auger hole, avoiding the necessity for a square mortise, and enabling the nut to be withdrawn by a screw-driver.

Claim.—The combination of a cylindrical nut *B* with a screw *A*, substantially in the manner as and for the purpose specified.

64,700.—JOHN W. PHILLIPPI, Stahlstown, Pa.—*Wagon Brake.*—May 14, 1867.—The coupling pole is slotted to permit the passage of the king bolt, and the hind bolster is supported on a roller attached to it and the axle by straps; these enter grooves in the roller and permit its rolling to allow the axles to approach and put the brake in action by bars running to the bolster from the brake bar.

Claim.—First, the bolster *A*, arranged and combined with the grooved friction roller *B* and axle *C*, by means of bands *b' b' b' b*, substantially in the manner and for the purpose as herein set forth.

Second, the rods *F F* and rods *e e*, as arranged for combining the brakes with the bolster and axle, substantially in the manner and for the purpose as herein set forth.

Third, the construction of an elongated slot *f* in the coupling pole, in combination with the bolster and friction roller, substantially in the manner described.

Fourth, the check or stop, as arranged and combined with the coupling pole, substantially in the manner and for the purpose as herein set forth.

64,701.—THOMAS POULTNEY, Baltimore, Md., and SILAS CRISPIN, New York, N. Y., assignors to THOMAS POULTNEY.—*Breech-loading Fire-arm.*—May 14, 1867.—The portion of the barrel removed to allow the introduction of the cartridge is bent down and forms a reinforcing flange on the right side of the barrel. The guiding stud within this cavity directs the course of the cartridge shell on ejection.

Claim.—The horizontal reinforce lip or projection described on the breech piece receptacle of breech-loading fire-arms of the class specified, said reinforce being formed and located substantially in the manner and for the purpose set forth, and having to serve in combination with it a guiding stud *z*, or its equivalent in effect, also as explained, for the purpose explained.

64,702.—J. C. PRUDEN, Athens, Ohio.—*Composition for Pencils.*—May 14, 1867.—Composed of alum, 1 oz.; sorghum sugar, 1 oz.; gum arabic, $\frac{1}{2}$ oz., dissolved in water; nut galls, $\frac{1}{2}$ oz.; coloring matter is added.

Claim.—An indelible pencil formed of the ingredients hereinabove named, mixed in, or about, the proportions substantially as described.

64,703.—GEORGE PUSTKUCHEN, Hoboken, N. J.—*Apparatus for Impregnating Wood with Tar and other materials.*—May 14, 1867.—The cylinder for receiving the wood is centrally supported in the steam boiler. One end communicates with the tar boiler and the other with an air-pump.

Claim.—First, an apparatus for impregnating wood, that is made and operated substantially as herein shown and described.

Second, the application of an air-pump for the purpose of impregnating wood, when combined with the cylinder C and boiler B, substantially as and for the purpose herein shown and described.

64,704.—WILLIAM QUAYLE, Warsaw, Ill.—*Door Holder.*—May 14, 1867.—The spring rod is inserted within the edge of the door, to the lower end of which is attached a corrugated rubber roller; the spring rod is operated by a crank and the door held in any position.

Claim.—Holding a door in any desired position by raising and lowering the rod C and its attachments, substantially as herein shown and described.

64,705.—ALEXANDER RANDALL, Allegheny City, Pa.—*Can for holding White Lead and other materials.*—May 14, 1867.—The upper edge of the metallic can has a bead which is engaged by the groove of the lid.

Claim.—The groove D in flange C of the lid A, when used in combination with the bead *f* of the body B of the can or vessel, said flange, groove, and bead being constructed, arranged and operating in the manner and for the purpose herein described.

64,706.—LEMUEL READ, North Brookfield, N. Y.—*Planing Machine.*—May 14, 1867.—The frame which contains the cutting apparatus is moved longitudinally over the lumber, a pinion on the frame engaging a rack on the inside of the bed frame.

Claim.—In a rotary planing machine moving the cutters over the material operated on instead of the said material under the cutters, by means of the crank F, pinion I, and rack L, pinion K, and sliding frame C, constructed and operating in combination, substantially as described.

64,707.—JACOB REEDY, Toledo, Iowa.—*Plow.*—May 14, 1867.—The adjustably-attached guard protects the plants from clods. The pulverizer is ranged diagonally at the rear of the shovels.

Claim.—First, the guard C, adjustably attached to the beam or standard of a shovel plow, so as to operate substantially in the manner and for the purpose set forth.

Second, the pulverizer F, adjustably attached to the standards or beam, so as to operate in rear of the shovels of a plow, substantially in the manner and for the purpose set forth.

64,708.—ELIJAH BEKFOR, Mentor, Ohio.—*Potato Digger.*—May 14, 1867.—The tines are thrust beneath the hill of tubers, which is lifted on to the screen; the vibration of the latter separates the mold, and the tubers are discharged.

Claim.—First, the mode of supporting the fork as described, so that it can be operated in the peculiar manner set forth by means of the guide C C, notched head E, spring catches G G, perforated rail D, ratchet and pawls J L, and handle M, or by means equivalent thereto, as and for the purposes stated.

Second, supporting the guides C C and perforated rail D, which carries the said fork on the axle-tree A and wheels B B, whereby I am enabled to use said axle-tree as a fulcrum for raising the said fork, with its contents as set forth.

64,709.—JAMES A. ROOT, East Canaan, and I. N. BARTRAM, Sharon, Conn.—*Smelting Furnace.*—May 14, 1867.—The cylindrical hearth is constructed of cut stone. The blast pipes are extensible.

Claim.—First, the constructing of the hearth of a smelting furnace of cut stone, having their inner surfaces rounded, so as to form an interior of inverted conical shape, with a solid or single stone extending across the passage *l*, substantially in the manner as and for the purpose set forth.

Second, having the lower parts of the blast pipe B,

formed of sections *c*, arranged to slide one within the other, substantially as and for the purpose specified.

Third, the glasses *f* in the pipes B, in combination with the openings *d*, substantially as and for the purpose set forth.

64,710.—J. ROWLAND, Brooklyn, N. Y.—*Locking Apparatus for Ferry Boats.*—May 14, 1867.—The curved-hinged bars beneath the guards are kept elevated by chains, which pass around pulleys on a shaft within reach of the pilot. These bars are kept at a proper elevation to engage weighted pivoted catch hooks beneath the edge of the wharf, which attachments are freed by raising the curved bars.

Claim.—First, the hooks *f f*, arranged on the underside of the bridge B, and weighted at their inner ends, substantially as and for the purpose herein shown and described.

Second, the bars *a*, arranged at each end of the boat, below the deck, and operated by the shaft *b* and end chains *c*, substantially as and for the purpose herein shown and described.

64,711.—GEORGE B. SALMON, St. Paul, Minn.—*Carriage Clip.*—May 14, 1867.—A hook below the thill-iron engages a bolt in the shackle. The convex back of the hook fits in the concave recess of the clip, with an intervening rubber plate to prevent rattling.

Claim.—The combination of the thill-iron E, clip B, and rubber plate G and bolt *b*³, the whole constructed and operating substantially as described and for the purposes set forth.

64,712.—R. SANDERSON, Cleveland, Ohio.—*Steam Governor.*—May 14, 1867.—The valve consists of two disks upon a rock shaft, which is actuated by pawls pivoted to the upper arms of a tri-armed lever, whose lower arm is connected to the eccentric rod. These pawls engage the upper end of a lever attached to the rock shaft, and whose lower end has a pin actuated by springs to restore the lever to the vertical and cut-off position on release of the pawls, which is effected by a yoke actuated by the governor to effect it sooner or later. The valve may be retained in its open position by a screw, which engages the upper end of the spring lever.

Claim.—First, the arrangement of the valve seat E and valves G, when operating conjointly in the manner substantially as described.

Second, the springs J as arranged in combination with the lever I, rock shaft H, and steam valve or valves, for the purpose and in the manner as set forth.

Third, the screw P as arranged in combination with the lever I, shaft H, and valves G, as and for the purpose substantially as set forth.

64,713.—COLEMAN SELLERS, Philadelphia, Pa., assignor to WILLIAM SELLERS & Co., same place.—*Turn Table for Bridges.*—May 14, 1867.—The turn table has an outer and inner cylinder resting on rollers, and connected by oblique brace bolts projected radially.

Claim.—The combination of the central cylinder M, radial bolts K and L and the cylindrical curb H, or its equivalent, substantially as described for the purpose specified.

64,714.—BENJAMIN A. SHAFFER, Cass county, Ind.—*Making Draining Tiles.*—May 14, 1867.—The rolling lever forms the hollow of the tile, being attached to a revolving pivoted head piece at one end and operated by a hand crank at the other.

Claim.—The lever or roller, as substantially described above, for making and forming underground draining tile, the said lever or roller working in a sliding mold or in any other manner substantially in the same.

64,715.—N. H. SHAW, Holderness, N. H.—*Attaching Thrills to Vehicles.*—May 14, 1867.—The coupling is made in two sections fastened each to the axle clip; the ears of the sections receive the bearings of the thill-iron spindle.

Claim.—First, suspending the shaft to its coupling on carriage axle, between two bearings or ear pieces thereof susceptible of adjustment, substantially as described.

Second, a shaft coupling having that part of the same attached to the axle made in two parts or sections secured and hung together at one end and one upon the other, with the shaft strap or bar suspended by a center bolt between car pieces at their other ends, substantially as and for the purpose described.

Third, the conical-shaped bearings between the shaft strap or bar and the part of the coupling secured to the axle, substantially as described.

64,716.—THOMAS SHAW, Philadelphia, Pa.—*Steam Whistle*.—May 14, 1867.—The steam being forced into the tube is obstructed by the partition, causing the current to flow through apertures into annular recess intervening between the tubes, from which it finds vent over apertures in the tube, causing rapid synchronous vibrations in the air.

Claim.—The combination of tubes *a* and *g*, as set forth, in combination with the apertures *f*, for the purpose specified.

64,717.—DAVID SHIVE, Philadelphia, Pa.—*Sweat Leather for Hats*.—May 14, 1867; antedated May 9, 1867.—The supplementary sweat leather has a flapped edge made to extend about half an inch on the rim of the hat to retain its position without stitching.

Claim.—The application to a hat of the supplementary sweat leather *B*, constructed and operating substantially as and for the purpose described.

64,718.—G. SIMPSON and R. M. TAYLOR, Waterbury, Vt.—*Billiard Register*.—May 14, 1867.—The registry is kept by graduated dials with indicators automatically operated internally by the ratchet wheels and notched disk. The bell gives notice when the game is up.

Claim.—The arrangement of the two external dials with movable hands *A A'* to indicate the points tallied by each player and the bell to give notice when the game is up, in combination with the internal notched disk *D*, spring finger and pawl *e*, used by a series of ratchet wheels *H I J*, having numbers to register and indicate the games played, the same being operated in keeping the tally, substantially in the manner herein described for the purpose specified.

64,719.—RUSSELL J. SKINNER, Chicago, Ill., assignor to MANUEL TALCOTT, same place.—*Chandelier*.—May 14, 1867.—A series of grooves are made at intervals upon the rod so that the spring catch may sustain the chandelier at any required height. The annular cap is raised when the reservoir is to be filled. An enclosing tube extends to where the arms connect with the central support, being attached to an annular sleeve from which rods extend to support the globes.

Claim.—First, the combination and arrangement of the rod *L*, tube *J*, reservoir *A*, tubes *B*, and wick cups *C*, operating substantially as and for the purposes specified.

Second, the arrangement of the spring catch *b*, or its equivalent, with the tube *J* and rod *L*, when provided with one or more grooves *e*, substantially as and for the purposes set forth.

Third, the combination of the sleeve *G*, arms *F*, and globe-rest *E* with the case *I*, arranged and operating substantially as specified and shown.

Fourth, the combination of the spool *N*, movable section *O*, and elastic band *R*, substantially as and for the purposes specified.

Fifth, the arrangement of the cap *a* with the reservoir *A* and tube *I*, or its equivalent, operating as and for the purposes specified and shown.

64,720.—WILLIAM H. STANTON, Dunmore, Pa.—*Safety-valve Device*.—May 14, 1867.—Steam from the generator enters the upper end of a vertical cylinder to whose piston rod the safety-valve lever is connected; steam also enters a lower horizontal cylinder having a port connected with the upper one. Within the lower cylinder is a spring-valve plunger forced by extreme pressure to open the port and balance the steam pressure on the piston to allow the pressure beneath the safety-valve to open it.

Claim.—First, the combination of the piston *B* in the cylinder steam channel *C D*, opening into the clinder *a* above the piston, and at *b e* below the piston, piston *J*, spring *K*, and set screw *m*, substantially as described and for the purpose specified.

Second, the plunger *J*, the spring *K*, the channels *C D*, the apertures *a b e* and the set screw *m*, arranged and operating substantially as described in combination with the cylinder and the piston, for the purposes set forth.

64,721.—G. W. STOCKTON, Oquaka, Ill.—*Cultivator*.—May 14, 1867.—The forward ends of the plow beams are attached by a clevis to a swivel rod working in the bar above and are supported on wheels. The plows are regulated by handles braced to the rear ends of the beams. The double-tree attached to the rear end of the draft pole operates as an erener by its connections with the forward bar and the wheels.

Claim.—The swivel rods *G*, in combination with the joint or pivoted clevises *c*, the draft-evening device *K*, and bent bars *L*, arranged and operating substantially as described and for the purpose specified.

64,722.—EDWARD TANGYE, Brussels, Belgium.—*Apparatus for Welding Chain Links*.—May 14, 1867; antedated April 26, 1867.—The upper die is actuated by the plunger of a hydraulic press. The dies when closed cover the whole of the link operated upon except the interlocking portion. The dies are grooved to receive the end of the previously welded link.

Claim.—The improvements in tools for welding the links of welded iron chain and welded steel chain, hereinbefore described and illustrated in Figs. 1, 2, 3, and 4 of the accompanying drawings.

64,723.—FREDERICK W. TILTON, Bristol Station, Ill.—*Combined Seeder and Cultivator*.—May 14, 1867.—The roller supports the weight of the main part of the machine, and the bevel gear wheel thereon operates by its connections the adjustable seed box, from which the seed drops through the hollow teeth on the cultivator frame.

Claim.—First, the connected frames *B* and *C*, carrying the teeth *I* and roller *D*, in combination with the beam *N* and its connections, for adjusting the depth to which the teeth may operate, all substantially as and for the purpose herein set forth.

Second, in combination with the roller *D* and framing *B*, the gearing *D' E*, and universal joint *e*, provided with the lever *J* and spring *K*, for bringing the gearing into action with a yielding force, and allowing it to be thrown out of and into gear, substantially as and for the purpose herein specified.

Third, in combination with the roller, parts *D C*, the cultivator parts *B I* and the drilling mechanism *G M A*, with their several connections, adapted to operate conjointly, substantially in the manner and for the purpose herein set forth.

64,724.—CHARLES R. TOMPKINS, Rochester, N. Y.—*Step for Upright Shafts*.—May 14, 1867.—The inside brass sleeve has projections closely fitted in the shell, leaving spaces for the circulation of oil. The steel screw that supports the shaft is removable to clean out the sediment, and the cover for replenishing with oil.

Claim.—The inside sleeve *b* with its projections, and the oil chamber *d d'*, in combination with steel screw *g*, substantially as described.

64,725.—JOHN VAN, Cincinnati, Ohio.—*Cooking Range*.—May 14, 1867.—Beneath the boiler on the sides of the fire space are openings furnished with dampers and leading to the oven-heating flues to draw the flame laterally from beneath the boiler, to avoid singeing the meat and to make the drip available for heating the ovens.

Claim.—The arrangement of broiler or fire chamber *B*, having both descending and ascending valve-guarded communications *O P*, with the flues *K L M* of one or more elevated ovens *J J'*, at the discretion of the operator.

64,726.—THOMAS and JOHN WALSH and DAVID EVANS, Brownsville, Pa.—*Brick Machine*.—May 14, 1867.—The moistened clay is tempered by the pins on the shaft. The slides force charges of clay into the chamber, whence it is forced by a plunger into molds in a slide beneath. The latter is retracted, and the bricks are discharged by another plunger.

Claim.—First, the slotted and grooved plunger *I*, working in the chamber *J*, provided with the partitions *o*, in combination with the plungers *b* and the

slide N, provided with the molds *h*, all arranged substantially in the manner as and for the purpose set forth.

Second, the slides M, working through the hoppers K K, and in openings *d* in the sides of the chamber J, in combination with the rotary shafts L, provided with the pins *c*, substantially as and for the purpose specified.

Third, the combination and arrangement of the reciprocating slide N, provided with the openings or molds *h*, the plungers I *l*, chamber J, slides M, and hoppers K K, provided with the rotary shafts L, having pins *c* attached, all arranged substantially as and for the purpose set forth.

64,727.—G. A. WATKINS, Proctorsville, Vt.—*Seat Frame for Chairs.*—May 14, 1867.—The pieces of the chair seat frame are dowelled together, and the intersections united by angle plates to which the legs are attached by bolts.

Claim.—Securing the legs to the seat of the chair by means of the metallic corner pieces I, provided with the perforated extension plate K bent at right angles thereto, and forming nuts to receive a bolt passing through the leg of the chair, substantially as herein shown and described.

64,728.—HERMAN WOLF, Avon, Pa.—*Adjusting Screw for the Legs of Fanning Mills.*—May 14, 1867.—The pointed screw bolts equalize the legs and steady the mill on the floor.

Claim.—The construction and arrangement upon the legs of a fan mill or other machine of the bars D, with their ends bent at right angles and perforated to receive the adjustable pointed screw E, provided with the handle F, as herein set forth for the purpose specified.

64,729.—JULIUS WOOD, Smyrna, N. Y.—*Hay Unloader.*—May 14, 1867.—Three books and ropes are laid in the bed, the load piled on, and when moved to the barn or stack is rolled off the wagon by horsepower, operating through ropes, head piece, and pulleys.

Claim.—The combination of the hooks, ropes, and head piece, or their mechanical equivalent, as and for the purposes herein set forth.

64,730.—ISAAC F. WOODWARD, Philadelphia, Pa.—*Water Indicator for Boilers.*—May 14, 1867.—The float has a vertical tube ascending within an open-bottomed glass tube through which the rod head can be seen.

Claim.—A glass tube having a closed top and lower open end communicating with the steam space of a boiler in combination with an indicating rod arranged to slide in the tube and connected to or controlled by a float, all substantially as and for the purpose herein set forth.

64,731.—JOHN N. WOODWARD, Aurora, Ill., assignor to himself and THOMAS ARENSER, same place.—*Paint Brush.*—May 14, 1867.—A piece of flexible sheet metal is cut so as to have two eyes to go over the handle, and a band connected thereto to envelop the upper end of the brush.

Claim.—The band A, with eyes, tongues and slots, as described, for attachment adjustably to the outside of paint brushes, substantially in the manner set forth.

64,732.—W. T. WYLIE, New Castle, Pa.—*Shaving Brush.*—May 14, 1867.—The saponaceous material is contained in the hollow handle and expressed therefrom by the screw piston so as to be disseminated among the bristles.

Claim.—The arrangement of the case C, piston E, screw I, nut E, and cap G, as and for the purpose described.

64,733.—J. S. ALLEN and O. GILLMOR, Norwich, Conn.—*Claw for Drawing Nails.*—May 14, 1867.—The tongs have down turned jaws and a fulcrum block.

Claim.—The combination of the pivoted fulcrum piece C with the gripping jaws formed upon the two levers A B, substantially as herein set forth for the purpose specified.

64,734.—N. AMES, Saugus Centre, Mass., and J. E. GOWAN, Stoneham, Mass., assignors to A. B. ELY, Newton, Mass.—*Eyeletting Machine.*—May 14, 1867.—The material is fed upon a sliding table, the holes punched and the eyelets inserted and headed. Cannot be briefly described other than substantially in the words of the claims.

Claim.—First, the combination of a vertically reciprocating puncher and header, each acting independently of the other, with a heading seat confined to and reciprocating in the same vertical plane, all arranged and operating so as to act at the same fixed points, substantially as described.

Second, supplying the eyelets from a common hopper to the heading seat or holding point by means of the endless belt and groove, substantially as described.

Third, the combination of a horizontally reciprocating supporting table with a vertically reciprocating puncher, header, and heading seat, all arranged and operated in relation to the same fixed point, substantially as described.

Fourth, the work feeding device, constructed and arranged with an eyeletting machine, substantially as described.

Fifth, the adjustable gauge, in combination with the reciprocating table for regulating the setting lines of eyelets, substantially as described.

Sixth, punching the holes by the vertically reciprocating movement of the puncher in connection with the punching table, furnishing the eyelets, and inserting and heading the same by the vertically reciprocating action of the heading seat, at the same fixed point, automatically, substantially as described.

Seventh, the reciprocating punching table and heading seat, so combined, arranged, and operated as to alternately occupy the same place for punching the holes and heading the eyelets at the same fixed point, substantially as herein described.

64,735.—CALVIN BAKER, Weymouth, Mass.—*Pump.*—May 14, 1867.—The induction valve has its seat on the side of the barrel, which surmounts a close chamber in which sand and earthy particles are collected.

Claim.—The combination as well as the arrangement of the chamber H, the pump barrel A, the induction conduit G, the valve E, and the box B, the whole being made to operate substantially as described.

64,736.—C. L. W. BAKER and L. S. HILLS, Hartford, Conn., assignors to LESTER S. HILLS and GEORGE D. JEWETT.—*Shoe-brush.*—May 14, 1867.—The tubes and grooved plug regulate the amount of blacking distributed among the bristles of the brush.

Claim.—The stopper *k*, with the tube or tubes *h*, brushes *e e'*, and receptacle *c*, substantially as and for the purpose described.

64,737.—ROYAL M. BASSETT, Derby, Conn., assignor to himself and THEO. S. BASSETT, same place.—*Rolling Mill.*—May 14, 1867.—The lower box rests upon and is vertically adjusted by a wedge beneath, which is moved in its seat by a screw shaft whose hand wheel rises above the pit.

Claim.—The employment, in combination with the box of the lower roll, of the adjusting wedge L, inclined seat K, screw shaft P, and hand wheel S, or its equivalent, the whole to operate as specified for the purpose set forth.

64,738.—W. W. BATCHELDER, New York, N. Y.—*Lighting Gas.*—May 14, 1867.—The fuze is made highly inflammable by treatment with collodion and phosphorus dissolved in bi-sulphide of carbon, and is enclosed in an annular case which fits upon the gas-burner. It is coiled upon a friction sleeve which encircles the part of the case over the burner, and is fed out through a tube by a rotary spindle, in the top of which is a pin that strikes and ignites the fuze.

Claim.—First, the mode or process herein described of rendering a cord or tape combustible and inflammable by friction, substantially as set forth.

Second, the cord or tape coated with the ingredients and in the manner herein specified.

Third, the application to and combination with a gas burner of otherwise ordinary or suitable construction, of a device composed of the following elements, viz:

1. A receptacle for the fuze or igniting cord.

2. A tube through which the fuze is conveyed from the receptacle to within igniting distance of the gas issuing from the burner.

3. A friction device to ignite the fuze at the end of the tube.

4. A feeding mechanism to supply the fuze to be burned.

Fourth, the fuze receptacle made annular so that it may be mounted upon the burner, substantially as set forth.

Fifth, the combination with the receptacle and tube containing and conveying the fuze, as described, of a friction device operated by a rotary spindle, substantially in the manner and for the purposes set forth.

Sixth, the combination with a rotary spindle carrying the friction device of an endless screw and feed rack, under the arrangement described, so that by rotating the spindle the said rack shall be revolved and effect the feed of the fuze, substantially as herein shown and specified.

Seventh, in combination with the fuze receptacle and the feed and friction device, the device herein shown and described, or the equivalent thereof for checking the retraction or backward movement of the fuze.

64,739.—WM. W. BATES, Chicago, Ill.—*Hang-ing Center Boards of Vessels.*—May 14, 1867.—The center board is pinned to a metallic frame instead of to the side of the case as is usual, and the frame is hinged within the case.

Claim.—The suspending the center boards of vessels by means of the frame B, in combination with the plates D, constructed and arranged substantially as described.

64,740.—CHARLES P. BELL, Nashua, N. H.—*Window-blind Fastener.*—May 14, 1867.—The hollow cast-iron tube inserted in the bottom of the blind encloses the spring projector of the thumb latch, automatically fastening the blind when it is closed; the thumb piece detaches the catch.

Claim.—The stem B, provided with a thumb piece upon its side and a catch upon its lower end when used in combination with the socket or tube A, provided with an opening or slot in its side to receive the thumb piece, and with a coiled spring C, which surrounds the stem, as and for the purpose herein specified.

64,741.—JONAS BERGER, Knoxville, Ill.—*Melodeon.*—May 14, 1867.—Five different qualities of tone are produced in a reed instrument by a double set of reeds and four swells actuated by a series of levers. The double bellows is arranged perpendicularly, and the keys united by diagonal couplings.

Claim.—In the construction of an upright melodeon, arranging four swells and springs with the double reed boxes and bellows, and combining therewith the double series of levers, as arranged for operating the swells, substantially in the manner and for the purpose as herein set forth.

64,742.—A. W. BROWNE, Brooklyn, N. Y.—*But-ton.*—May 14, 1867.—The ends of the stem have hooks, which point in opposite directions and pass through slots in the button head, and are turned to embrace the bridge.

Claim.—The fastening device consisting of the retainer B, the ends of its stem or shank being provided with hooks S, projecting inwardly or toward each other, in combination with the plate or button head A, which is provided with the bridge or eye I, substantially as described.

64,743.—SAMUEL BRYAN, Jefferson, Wis.—*Corn-stalk Cutter.*—May 14, 1867.—The reel bends the stalks backward against the knives, and, as they are cut, throws them over on to the cradle. When a bundle is gathered the machine is stopped, the bundle is drawn together by the cord from the crank-shaft, and is then bound by cord from the spool.

Claim.—First, the frame, consisting of the bars A and U mounted on the wheels B, with the curved axle O, and knives K, arranged as shown and described.

Second, the swinging frame G, arranged to receive and hold the cut stalks, as set forth.

Third, in combination with the swinging frame G

the windlass Y, with its cord *a*, arranged substantially as set forth, for compressing the bundles for binding.

64,744.—CHARLES W. CARDOT, Fredonia, N. Y.—*Harvester.*—May 14, 1867.—The combined shoe and gear frame is journaled to the axle of the driving wheels, which support the crank shaft and gearing.

Claim.—In a two-wheeled machine, a compound gear frame and shoe, composed of the parts *c*¹ *c*² and *c*³ *c*⁴ *c*⁵, and hinged to the axle of the driving-wheels, the whole being constructed, arranged, and operated in the manner substantially as set forth.

64,745.—CHARLES W. CARDOT, Fredonia, N. Y.—*Attaching the Draft Pole to Mowing Machines.*—May 14, 1867.—The gear frame and shoe are journaled to the axle of a two-wheeled machine, and have the point of attachment of the draft between the axle and the shoe.

Claim.—In a two-wheeled machine having a gear frame shoe constructed as herein described and journaled to the axle of the driving-wheels, the attachment of the draft pole to such frame at a point or points between the axle and shoe, for the purpose and substantially as described.

64,746.—CHARLES W. CARDOT, Fredonia, N. Y.—*Draft Pole for Mowing Machines.*—May 14, 1867.—The draft pole has a movable sleeve in combination with a sliding rod, pulley, and chain, so arranged that the backing of the team will cause the finger bar to be elevated.

Claim.—A draft pole having a removable push-back iron or sleeve C, in combination with the sliding rod B, pulley D, and chain *b*¹, constructed, arranged, and operating substantially as herein described.

64,747.—ANDREW CARSON, Memphis, Tenn.—*Plough.*—May 14, 1867.—The adjustable cutter travels ahead of the shovel to cut the roots, and has brace-rods above and below the beam. The projection of the cutter is regulated by notches therein, which engage the diagonal band.

Claim.—First, the herein-described construction of the shovel A, with the steel laid on the front side, and its turned up edges B in combination with its center C. Second, the diagonal band D, constructed as described and shown.

Third, the center C with its notches.

Fourth, the braces E and F, in their relation to the beam H and standard I, all arranged as and for the purposes specified.

64,748.—O. B. COLCORD, Greenville, Ill.—*Field Roller.*—May 14, 1867.—Each roller has a separate frame pivoted by axles on its side beams, to allow an independent vertical or longitudinal play to accommodate itself to irregularities in the ground. The adjustable ballast box slides in slots, and is secured by set screws.

Claim.—First, the combination and arrangement of the frame A with the oscillating frames B' B', substantially as described and set forth.

Second, the adjustable device C c, C², for the purpose of changing the ballast box forward or backward, substantially as described.

64,749.—J. C. COUNTS, Cross Roads, Ohio.—*Fruit Gatherer.*—May 14, 1867.—The fingers are attached to a long pole and provided with a jaw to seize the fruit, and a bag or receptacle for holding it when picked.

Claim.—An apparatus for gathering fruit, constructed with the parts A B C D and E respectively, constructed and arranged substantially as set forth.

64,750.—JACOB G. CROCKETT, Portsmouth, N. H., assignor to himself, JOHN J. FLANDERS and JOHN W. HAYES.—*Balance Valve for Steam Engines.*—May 14, 1867.—Explained by the claims and illustration.

Claim.—First, the arrangement of two valves on the same shaft, so that the shaft shall hold the valves against the pressure of the steam, and relieve the valve seats from the pressure of the valves, substantially as herein set forth.

Second, the devices described for traversing one of the valves on the shaft to adjust both to their seats, substantially as described.

64,751.—JOHN B. DECK, Martinsburg, W. Va.—*Repairing Railroad Rails.*—May 14, 1867.—The anvil has recesses to receive the dies. The dies are hinged together at their lower ends, and each pair thus constituted is attached to the end of a lifter.

Claim.—The anvil A, with its recesses and grooves combined with the dies B B', lifters C C', and levers D D'. Arranged and operating substantially as and for the purpose set forth, and this whether the anvil be furnished with one or more pairs of dies with lifters and levers, as described.

64,752.—HENRY L. DICKENSON, East Berlin, Conn.—*Measure and Funnel Combined.*—May 14, 1867.—The measure stands on legs and has a shallow, inverted conical bottom, with a central valve, kept closed by its gravity. A spiral spring on the valve stem is connected to a funnel tube which is placed in the mouth of the jug, raising the valve and discharging the liquid.

Claim.—The combination of the measure A and nozzle C with the valve G, sleeve C', and spring E, substantially as and for the purpose described.

64,753.—HENRY EVERDELL, New York, N. Y.—*Envelope.*—May 14, 1867.—One wing of the back is slit so as to make a strap, beneath which the tongue of the other wing is slipped; the latter has a bow knot resembling a fastening.

Claim.—The envelope, constructed substantially as described with a flap and tongue, the latter fitting through an incision in a closed wing or portion of the back, and the tongue or flap and wing into which it fits being embossed and provided with a bow or knot to give a secured aspect to the envelope while it is left free to open, yet protected against flaring open, substantially as specified.

64,754.—GEORGE FEIGHTNER, Wooster, Ohio.—*Machine for Making Wagon Clips.*—May 14, 1867.—The end of the blank is split to form the base of the clip, the ends are turned out and worked to form; the heated blank is then clamped between the die blocks while it is completed with the hammer.

Claim.—The stationary die G and movable dies C F, in combination with the die box B, constructed as and for the purpose set forth.

64,755.—HENRY FESSLER and ISAAC E. BETZ, Canton, Ohio.—*Combined Hoe and Hand Planter.*—May 14, 1867.—The cylinder is partially revolved, causing the recess of the plug to pass within it and fill with seed; by turning the cylinder back again till the recess corresponds with the opening, the grain drops out.

Claim.—The cylinder E, as constructed and used in combination with the plug C, with its set screw and seed recess, and handle D and A, as and for the purpose specified.

64,756.—FERDINAND FISHER, Cambridge, Mass.—*Steam Heating and Ventilating Apparatus.*—May 14, 1867.—The steam is exhausted through a drum containing pipes through which air is driven by a blower.

Claim.—The apparatus above described, for utilizing exhaust steam for the purpose of heating and for ventilating apartments or buildings, consisting of the tubular drum A, with its induction and eduction pipes d e, and the blower or blast apparatus B, combined and operating as set forth and explained.

64,757.—GEO. B. GARLINGHOUSE, North Madison, Ind.—*Knuckle Joint.*—May 14, 1867.—The curved edges of the adjacent pieces roll upon each other, segment cogs preserving the relation and links preventing separation.

Claim.—A knuckle joint, provided with cylindrical terminations adapted to roll upon each other, and held in place by racks and links, or their equivalents, substantially as set forth.

64,758.—DAVID GATES, Captina P. O., Ohio.—*Churn.*—May 14, 1867.—The dasher is supported by three rods, and is kept in position by a rod or stand-ard rising from the bottom of the churn.

Claim.—The combination of the radial dashers G with the center tube M, between the posts P P P and cross braces J and L, when constructed, arranged and

operated as herein described and for the purposes set forth.

64,759.—E. GRATTON, Williamstown, Mich.—*Feed Rack.*—May 14, 1867.—The hay rack has a sheltering roof with a perforated bottom and receptacle for hay seed. A small trough with divisional staples is provided for small stock, and a larger one which may be reversed and discharged into the former.

Claim.—First, the combination of troughs O and H, constructed and operating in the manner and for the purpose herein set forth. Second, the receptacle F, constructed as and for the purpose described.

Third, the troughs O and H, in combination with the adjustable sides C and rack bars n, and the perforated bottom F, the whole constructed, arranged and operating as and for the purpose herein specified.

64,760.—WM. GRIFFETH, North East, Pa.—*Propagating Grape Vines from Single Buds in the Open Field.*—May 14, 1867.—The short cuttings are set in the ground with the buds even with the surface; this is covered with unfermenting mulch, which is removed at a later period.

Claim.—The mode of propagating grape vines, substantially as set forth, in open field culture, by covering single bud cuttings with a cold mulch, applied in sufficient depth to keep down the temperature of the bud, and thereby retard its sprouting until the roots have been adequately developed.

64,761.—LUTHER HALL, Boston, Mass., assignor to ALFRED B. ELY, same place.—*Eyeletting Machine.*—May 14, 1867.—The article is placed beneath the presser and punch; the punch and set are respectively over the place to be punched and over the lower eyelet, and are depressed. The operation of the wheel and the cams brings the set on the pin which rises to meet it, and the eyelet is inserted and headed down, and after the parts are withdrawn the material is fed for a repetition of the operation.

Claim.—First, the laterally-sliding head or carrier, in combination with the punch and set, constructed, arranged, and operating in the manner and for the purpose substantially as described.

Second, the head or carrier so constructed and operated as to allow the punch and set to be alternately depressed by the same lever, substantially as described.

Third, so constructing the mechanism that the punching table and setting bed shall reciprocate laterally, alternately occupy the same place, the holes be punched, and the eyelets set at the same time, in the manner substantially as described.

Fourth, feeding the material forward after the eyelet is set and away from the setting point, by means of the solid pointed setting bed, under an arrangement and combination of parts substantially as described.

Fifth, the constantly-pressing spring-presser foot, in combination with the feeding mechanism as described, stripping the material as it is eyeleted from the constant grasp of the table and the foot, under an arrangement of parts as set forth.

Sixth, the hopper for holding the eyelets, in combination with agitating devices as described, and the adjustable chute provided with the enlarged receptacle or disk at its lower end, constructed and arranged as and for the purpose set forth.

Seventh, the setting die, so constructed and operating as to pick up the eyelets from the enlarged receptacle in the chute by adhesion, and present them to the place of insertion, substantially as described.

Eighth, the combination of the levers V and F and pin S, operating in the manner and for the purpose set forth.

Ninth, the striking lever, so constructed and arranged as to cause the set to be forced into the eye of the chute and pick up the eyelet while the punch is making the hole for its reception, substantially as described.

Tenth, the combination of plates Q and R, arranged and operated as described.

Eleventh, punching the holes, supplying, inserting, and setting the eyelets, adjustably spacing the distances, and feeding forward the work by means of devices, so combined as to effect these objects auto-

matically, when constructed, arranged, and operated in the manner described.

64,762.—JOHN LUKE HANLY, San Francisco, Cal.—*Anchor Stock.*—May 14, 1867.—The flange on the stock passes through the key seat in the shank; the stock is then partially rotated and a spline key is driven through a seat in the shoulder and the key seat of the shank.

Claim.—An anchor stock C, in combination with the permanent flange C and removable key D, substantially as and for the purpose herein set forth.

64,763.—HENRY HANNEN, Philadelphia, Pa., assignor to S. A. HANNEN and S. W. GREENE, same place.—*Manufacture of Carbonate of Lead.*—May 14, 1867.—The lead in fine plates or shavings is placed on perforated trays in the chamber and treated alternately with dilute acetic and carbonic acids, the whole being kept warm by a steam coil.

Claim.—First, the manufacture of carbonate of lead by the action upon metallic lead or oxide of lead of water, acetic acid, and carbonic acid gas, when the said fluids are brought in contact with the lead, substantially as described.

Second, subjecting the lead to the action of carbonic acid gas under a pressure, substantially as and for the purpose set forth.

Third, subjecting the lead, during the process of its conversion into a carbonate, to the action of chlorine, for the purpose specified.

64,764.—ANDREW HARTMAN, Canton, Ohio.—*Railroad Switch.*—May 14, 1867; antedated May 5, 1867.—The switch is connected to two L-shaped levers, by which the cars act upon it to change the connection, a foot being let down from the car for that purpose. A spring throws the main track in connection after the passage of the cars. The switch may be fixed to either adjustment, but may be tripped and the connecting spring thrown in operation by the passing engine.

Claim.—In an automatic switch the arrangement of the plate *b* with tumbler *g*, weight *m*, trigger *n*, and spring *s*, operated by the shoe *q* and eccentric *C*, connected to the railroad car and rail respectively, when used in combination with the plate *E*, levers *D D'*, connected by the rods *d*, and operating in the manner substantially as specified.

64,765.—JOSEPH HAWKINS, West Windsor, N. J.—*Hinged Gun Rest.*—May 14, 1867.—The jointed rod is hinged to a sliding piece beneath the barrel and is let down for a rest.

Claim.—The slide *F* and jointed rod *G* in combination with the plate *D* beneath the barrel *B* of a firearm, the whole being constructed and arranged as described.

64,766.—EDWARD HEATON, New Haven, Conn., assignor to C. B. WHITTESEY, same place.—*Suspensory Bandage.*—May 14, 1867.—The pouch is attached to the strap which is buckled around the body, and small straps attached to the bottom of the pouch pass to the rear and are attached to the back portions of the strap.

Claim.—The combination of the pouch *A*, having the opening *C* protected in the manner described, with the body piece curved, formed, and attached thereto, as shown and described, and the straps *D* and *E*, also curved, formed, and attached to the said body piece, as set forth, the whole constructed and arranged in the manner herein specified.

64,767.—ROBERT HOWDON, Cincinnati, Ohio, assignor to CRANE, BREED & CO., same place.—*Securing Wood to Metal.*—May 14, 1867.—Metal is poured into the divaricating or spreading holes which are made in the objects to be united, and assumes a shape which opposes retraction.

Claim.—Securing wooden or like objects to metallic surfaces, &c., by casting Babbitt or other metal of easy fusion into flaring or branching holes *C D*, and otherwise, as herein shown and described.

64,768.—JOHN S. HULL, Cincinnati, Ohio.—*Lamp.*—May 14, 1867.—A packing cap covers the end of the piston of the air pump. The valve rod extends

through the lamp reservoir so as to place the adjusting device in the base of the lamp.

Claim.—The cap *B*, as applied to the condensing pump *A*, and in combination therewith, for the purpose herein specified.

Also, the extension of the valve rod through the lamp reservoir, and the arrangement of the valve-adjusting device connected therewith in the base of the lamp, as herein set forth.

64,769.—JOHN S. HULL, Cincinnati, Ohio.—*Generator for Vapor Lamps.*—May 14, 1867.—The oil enters by a lateral pipe and is conducted in a circuitous course through the jaws so as to be vaporized; it then issues into the lower part of the stem, passes up, and is ignited between the jaws.

Claim.—First, the chamber *B* of a gas generator, when constructed with lips *I I'* projecting above the point of ignition and in immediate contact with the flame, the oil being conducted through them in tubes *C* and *C'*, substantially as set forth.

Second, in combination with the opening *M* through the chamber *B* connecting with the internal chambers *G*, the adjustable collar *K*, for regulating the supply of atmospheric air, substantially as and for the purpose set forth.

Third, the chamber *B*, when constructed with pipes *C C'*, lips *I I'*, and openings *B²* and *M*, arranged substantially as and for the purpose set forth.

Fourth, the receiving chamber *D* formed in the boss *L*, with its induction and ejection openings, when the flow of gas through the same is regulated by a valve *E*, substantially as set forth.

64,770.—ANDREW JOHNSON and W. H. ELLIOTT, Bloomington, Ill.—*Motive Power.*—May 14, 1867.—Within the rim of the partially submerged wheel is a series of air-tight expansible bags, which are in turn filled with air as they reach the lowest point in their revolution, and the air from which is allowed to exhaust as they leave the water.

Claim.—The motive power which is constructed and operated substantially as herein described.

64,771.—F. KEEFER, Greenfield, Ind.—*Hand Plow.*—May 14, 1867.—The plow shank is adjusted to the depth required. The operator holds the handles and pushes against the concave segment of the driving bar. The roller follows the plow.

Claim.—First, the arrangement of the beams *A*, the wheel *B*, roller *G*, and shank *H*, provided with the brace *J* and point *I*, as and for the purpose set forth.

Second, the hinged brace *E*, in combination with the standard *C* and beams *A*, as and for the purpose specified.

64,772.—SOLOMON KEPNER, Pottstown, Pa.—*Device for Cleaning Stables.*—May 14, 1867.—The fork is forced under the manure and secured by the rod and hooks. The horse is attached to the ring in front.

Claim.—The fork *A* and hooks *B B*, and combination of fork and hooks, for the purpose herein set forth.

64,773.—K. P. KIDDER, Burlington, Vt.—*Beehive.*—May 14, 1867.—The comb frames within the lower hive have their top bars fluted beneath. The slotted pendants have strips attached to their lower ends. The drone trap attached in front of the entrance has openings admitting all the bees but allowing escape to workers only.

Claim.—First, the arrangement of the frames having bars constructed as described, with the support slotted as described, and with the bottom strips *e e* substantially as herein set forth.

Second, the box or trap *G*, in combination with the tube or passage *H* and body *A*, whereby the drones are allowed to pass out, but not to return to the hive, and are caught and separated from the worker bee, so that they may be destroyed, substantially as set forth.

64,774.—J. A. KISSELL and N. BLICKENSUFFER, Chicago, Ill.—*Lightning Conductor.*—May 14, 1867.—A flattened bar with solid ribs.

Claim.—A lightning conductor, consisting of a strip of copper, having the ribs *a* formed solid therewith, as herein shown and described.

64,775.—J. P. THEODORE LANG, Washington, D. C.—*Steam-engine Governor.*—May 14, 1867.—The arm guides are curved tangentially upward, sufficiently to impinge upon one part of the ball arms in all positions, and this part has an anti-friction roller. The steam passes through the vertical slots of an upright cylinder, and a sleeve slides on the cylinder to regulate the passage of steam. The cylinder and sleeve are within a steam drum, and a sleeve is adjustably connected to a lever passing through a stuffing box and actuated by the governor.

Claim.—First, the combination and arrangement of the curved slotted guides H H, collar h, arms d, friction rollers d', springs f f, weights E E, collar F, friction rollers g g, loose collar d, rods i, collar k, constructed, arranged, and operating in the manner substantially as shown and described and for the purpose set forth.

Second, the combination of the valve M and cover L with the governor, substantially as set forth.

64,776.—W. H. LAUBACH, Philadelphia, Pa.—*Apparatus for Carbureting Gas.*—May 14, 1867.—The gas enters the central part of a curved passage formed by a volute-shaped plate within a chamber containing hydrocarbon. The gas passes through a cylinder whose upper end has a hole closed by a valve attached to the float; when the float is raised to a certain height the valve closes to stop the flow of gas.

Claim.—First, the carbureting vessel B, in combination with the regulator A, substantially as described.

Second, the combination of regulator A, and hydrocarbon vessel B, substantially as described.

64,777.—JAMES B. LYONS, Litchfield, Conn.—*Apparatus for making Peat Charcoal.*—May 14, 1867.—The cast-iron retort revolves on anti-friction rollers at the ends of the furnace. A pipe extends axially from the retort to the fire box of the furnace and discharges the combustible gases into said fire box to assist in heating the retort.

Claim.—First, a revolving cylinder, constructed and arranged as herein described, for making charcoal or coke directly from the crude or bog peat, substantially as herein set forth.

Second, constructing a furnace with cast-iron ends and a fire box, in and over which is a revolving cylinder made of boiler iron, fitted and supported on friction rollers, to enable it to be easily turned to change the position of the material.

Third, the pipe h, as arranged for conducting the gas from the cylinder A into the fire box C, to supply feed for operating, substantially as and for the purposes specified.

Fourth, the flanged heads a a, with semicircular openings b and sliding covers c, in combination with revolving cylinder R, friction rollers e e, and fire box C, as constructed for converting crude peat into charcoal and coke, substantially as described.

Fifth, the gas pipe h', the bulk or vessel m, stop cock n, in combination with the furnace C and cylinder A, all arranged and operating substantially in the manner as and for the purposes herein set forth.

Sixth, the mode of constructing the double arches supporting the brick on ribbed curved bars so as to leave a longitudinal flue the whole length of the furnace, for saving the heat from the flame generated from the gas in the cylinder, as set forth.

64,778.—JOHN MARSHALL, Fond du Lac, Wis.—*Brick Machine.*—May 14, 1867.—The fixed molds are covered by a wedge-shaped sliding piece when the plungers are in operation. The plungers are raised to compress the bricks by toggle levers, and after the removal of the cover, which is started by a claw lever, the bricks are raised from the molds by a direct-acting lever.

Claim.—First, in combination with the mold the wedge-shaped cover working in corresponding wedge-shaped grooves, in order to bind the cover home to the mold during the pressing, then to facilitate the removal of the cover, substantially as set forth.

Second, in combination with the lever b and the follower, the swinging fulcrum I, for preventing the side strain and consequent binding of the follower, substantially as described.

Third, the follower D, working in the mold, in combination with the sliding cover S, and operated by

the knuckle-joint lever F G, operated substantially as shown and described.

Fourth, The lever R, provided with the hook F for releasing the cover S, substantially as set forth.

64,779.—W. W. MANGHLIN, Baltimore, Md.—*Machine for Making Door and Window Frames.*—May 14, 1867.—Rotary cutters for cutting the grooves in framings for windows and doors are combined with saws for joggng or tenoning and mitering said frames.

Claim.—First, the saw table B, provided with the adjustable gauge, as described, in combination with the circular saw b, and one or more grooving cutters, constructed, arranged, and operating substantially as and for the purpose set forth.

Second, the miter stand or table, provided with the adjustable gauge F, in combination with the vertically adjustable miter saw b', arranged and operating as set forth.

64,780.—EDWARD MAYER, Philadelphia, Pa.—*Boot and Shoe.*—May 14, 1867.—The edge of the insole is skived off and turned up with the "upper," and a narrow strip of leather is laid around over the junction between the "upper" and the outer sole and through-stitched to both.

Claim.—Extending the side and front edges of the insole of a boot or shoe upward around the inner side of the upper, substantially as and for the purpose described.

Also, the application of the band F over the joint formed between and by the upper and the outside sole of a boot or shoe, substantially as and for the purpose described.

64,781.—GEORGE MCALLISTER, San Francisco, Cal., assignor to himself and CHARLES B. WHITE, same place.—*Low-water Indicator.*—May 14, 1867.—The hollow steam-tight case has a central hub and a sector space, occupied by the arm of a float, which rises and falls with the changes of level of the water in the boiler. An indicator on the same axis moves with the float.

Claim.—A water gauge, composed of the float f, arm d, parts or case A B and C, and passages D D, constructed substantially as and for the purpose described.

64,782.—G. B. McDONALD, New Albany, Ind., assignor to J. BRAGDON & Co.—*Making Buckles.*—May 14, 1867.—Applicable to cotton-bale ties. The plate has two longitudinal ridges, which in use are put to the under side.

Claim.—Making buckles by first rolling the metal bar to the shape represented in Fig. 2, and afterward dividing and punching the same, all as described.

64,783.—JOSHUA MERRILL, Boston, Mass.—*Metal Beam.*—May 14, 1867.—The water contained in the beam is vaporized by fire to assist in extinguishing the same.

Claim.—The hollow metal beam, made water-tight and suitable to contain a body of water within it, and provided with suitable apertures for the introduction of water, substantially as hereinbefore described and substantially for the purpose hereinbefore set forth.

Also, in combination with said hollow metal beam, constructed with suitable apertures for the introduction of water and the escape of steam, a body of water contained within said beam, substantially as described for the purposes set forth.

64,784.—ABRAHAM MICHELbacher, New York, N. Y.—*Peat-gathering Machine.*—May 14, 1867.—The peat is raised by the scraper, and thrown by the revolving buckets into the receptacle. The bucket shaft has gear connection to a ground wheel.

Claim.—First, the combination of the scraper F, the rotating buckets E and the receptacle C, with a suitable carriage, substantially as and for the purpose specified.

Second, the scraper F, pivoted in rear of the rotating buckets E, and furnished with handles n, whereby the said scraper may be made to operate at a greater or less depth, substantially as herein set forth.

Third, the receptacle C, suspended on pivots in

front of the rotating buckets E, and constructed with an end board F, hinged at its upper edge, substantially as and for the purpose specified.

64,785.—WILLIAM MILLER, Cincinnati, Ohio.—*Hoisting Machine.*—May 14, 1867.—The hoisting rope is attached to a bar, which vertically traverses the head bar of the platform, and is attached to the middle of a spring whose ends rest against the under side of the bar. The breaking of the rope relieves the spring, which draws down the bar, and drives out two sliding catch-bolts to which it is connected, and which engage ratchets on the slide bars of the platform. Two spring catches above the upper floor, arrest the descent of the platform, when the rope is broken by failure to stop the platform at the extreme point of elevation.

Claim.—First, the combination of rod H, levers P and pawls N N, jointed substantially as described, with the racks O O and a spring L, substantially as and for the purpose set forth.

Second, the catches S S and spring X X, or their equivalents, for the purpose of affording an automatic stop for the platform, (to which they are not attached when the safety apparatus fails to act,) as described.

64,786.—W. H. and G. W. MILLER, West Meriden, Conn.—*Breech-loading Fire-arm.*—May 14, 1867.—The devices refer to the mode of constructing the breech piece, vibrating it in locking and unlocking and securing it to the end face of the chamber of the barrel.

Claim.—First, the construction of the breech piece with the central elongated slot, combined with the cross head and mortise in the case, for the purposes and operating in the manner described.

Second, the combination of the breech piece cylinder pinion D, and cylinder E, toothed and geared together and operating in the manner and for the purposes described, by means of the lever or arm F.

Third, the combination of the elongated slot with the mortise or recess in the shell of the case, whereby the exact amount of upward and downward movement of the breech piece is regulated by the length of the slot, so that the cross head is brought home in the mortise or lifted out at the instant required.

64,787.—C. H. MITCHELL, Bristow Station, Ky.—*Medical Compound.*—May 14, 1867.—For cure of dysentery: Extract of hyoscyamus niger, 4 grains; camphor, $\frac{1}{2}$ grain; sulphate morphia, $\frac{1}{2}$ grain; essence cinnamon, 5 drops.

Claim.—The compound made of the aforesaid remedies for curing disease as specified.

64,788.—GEORGE MOSMAN, Chicopee, Mass.—*Carpet Stretcher.*—May 14, 1867.—The spring jaws hold the carpet tack.

Claim.—The spring-holding jaws *d d*, formed in one piece of metal, in combination with the plate *k*, substantially as and for the purpose described.

64,789.—JOSIAH OADHOUTD, St. Anthony's Falls, Minn.—*Corn Harvester.*—May 14, 1867.—The reel presents the standing stalks to the cutters and throws them after cutting on the pivoted bars, the oblique bars serving as guides. The pivoted bars are periodically tilted to discharge the stalks in heaps.

Claim.—The frame A, with its oblique guides G G, reel F*, constructed as set forth, cutters E E attached to the bars D D, each side of the thiills C C, and the pivoted arms *g g g*, for dropping the corn, when constructed, arranged and operating in the manner substantially as and for the purpose herein specified.

64,790.—NELSON PALMER, Auburn, N. Y., assignor to himself, SIDNEY W. PALMER, and J. FOREMAN PALMER, same place.—*Bench Plane.*—May 14, 1867.—The throat through which the bit projects is of variable size as required by the pitch of the bit.

Claim.—First, the combination with the movable section or plate for adjusting the size of the throat of a recessed bed and frame formed in the plane stock in front of the bit and parallel to the face of the plane, so as to enclose the said section on three sides and form the ways in which it slides for purposes of adjustment, substantially as shown and set forth.

Second, the bed for supporting the heel of the bit

formed of lead or other suitable plastic material as specified, run between the said heel and the back of the throat so as to form an accurately fitting and solid bed for bit close to its cutting edge, substantially as herein set forth.

Third, the method of and means herein described for adjusting the bit longitudinally so that it shall project more or less from the face of the plane, that is to say, connecting the bit with an eccentric mound in the bed of the bit, the eccentric being operated substantially as herein shown and set forth.

Fourth, the mechanism for maintaining the parallelism of the edge of the bit with the face of the plane, the same consisting of the combination with the bit and bed in which it is supported of a bar capable of sliding laterally in the bed as described, and connected with the bit under such an arrangement that it shall cause the edge of the bit to be tilted or inclined toward one side or the other, substantially as set forth.

Fifth, the combination of the transverse sliding bar provided with jaws and projecting arm or spur as described, with a cam or spiral grooved shaft and actuating lever or equivalent means, substantially as herein shown and set forth.

Sixth, the combination with the tilting or movable bed and bit which it supports of the toggle-jointed and reversible lever and holding pins in the side of the stock, substantially as herein shown and described.

Seventh, the combination with the movable bed and toggle-jointed lever of an adjustable bearing for the said lever, substantially as set forth and described.

Eighth, the adjustable cap herein described, the same consisting of an upper and a lower plate or section connected by an eccentric rod or disk whereby the lower section may be adjusted in its proper relation to the cutting edge of the bit, substantially as shown and described.

Ninth, the combination with the movable section for adjusting the size of the throat, of the knob for securing the same, under the arrangement herein described, so that the said knob shall not only serve to adjust and hold the said section in place, but shall also be a handle for giving the movement of the plane, substantially as set forth.

64,791.—D. J. POWERS and H. B. STEVENS, Madison, Wis., assignors by mesne assignments to BUFFALO AGRICULTURAL MACHINE WORKS.—*Horse Power.*—May 14, 1867.—The cogs of the master-wheel gear into two pinions on shafts whose inner pinions mesh into the cogs of a loose inner wheel. One of the shafts is continued beyond the frame for the attachment of the tumbling rod. The flanges on the wheels form gauges of depth in meshing.

Claim.—First, the driver's platform D, when resting on a central fixed pivot C, substantially as and for the purpose herein specified.

Second, the transferring shaft and wheel G and H, turning around the central pivot C, for the purpose specified.

Third, the flanges *m* and *p p*, respectively on the master-wheel B, and pinions *f g*, substantially as and for the purpose herein set forth.

Fourth, the combination and arrangement of the master-wheel B, fixed pivot C, driver's platform D, and transferring shaft and wheel G and H, as herein described.

64,792.—ARTHUR PRENTISS, Prentiss Vale, Pa.—*Hoe.*—May 14, 1867.—The blank for the braced hoe is cut out of steel plate in a shape to waste no material.

Claim.—As a new article of manufacture, a hoe for garden or other use, cut, formed, and otherwise constructed as described and shown.

64,793.—ARTHUR PRENTISS, Prentiss Vale, Pa.—*Inhaler.*—May 14, 1867.—Grooves are formed in the stoppers so that when partially drawn the air may find vent; when a larger amount is required the stopper may be wholly withdrawn. The sponge is inserted while dry.

Claim.—An inhaler, when formed and its various parts arranged, substantially as described and for the purposes set forth.

64,794.—ARTHUR PRENTISS, Prentiss Vale, Pa.—*Carriage Wheel.*—May 14, 1867.—The spokes enter

sockets between which and an under plate the curved metallic felloe plate is clamped. The edges of this plate enter grooves in the tire which may be covered with an outer one.

Claim.—The wheel rim or felloe when swaged or otherwise formed into suitable shape of sheet metal, either in one or many pieces in combination with the grooved tire B, either when this grooved tire B is made the principal tire or used in connection with the supplemental one, as shown in Fig. 1.

64,795.—ARTHUR PRENTISS, Otto, Pa.—*Carriage Wheel.*—May 14, 1867.—The spokes enter sockets, and the felloe ends half sockets of a metallic piece. The felloe ends abut against plates.

Claim.—First, the combination and use of the socket A, when provided with the small socket E and the flange B, all in one piece, with the pin or screw *i*, and the felly and spoke of a wheel, substantially as described and for the purposes set forth.

Second, the spoke socket and joint clasp composed of the socket A, flange B, extended sides C C, and connecting plate D, all of one piece of malleable iron or its equivalent, for the purpose shown.

64,796.—JOHN RADDIN, LYNN, Mass.—*Car Wheel.*—May 14, 1867.—Between the metallic hub and the web, or the ring in which the inner ends of the spokes terminate, is a cushion of rubber to confer resiliency upon the wheel and lessen the effect of shocks.

Claim.—Arranging the elastic rubber ring or cushion so as to operate within a space as described, formed between the hub and the web, or its equivalent, and side flanges of a wheel.

64,797.—ADAM R. REESE, Phillipsburg, N. J.—*Harvester.*—May 14, 1867.—The toothed shaft in front of the platform turns up as the platform moves back to raise the lodged grain. The toothed cut-off is hinged to the reel shaft and adjusted automatically. Two fingers are pivoted to the outer slot of the platform, and when the latter moves back they are thrown into an upright position by a stop upon the track clearer, to keep the grain from scattering. The automatic discharging platform moves at intervals adjustable by the operator.

Claim.—First, the fingers *h* pivoted to the bar *b*, operating in combination with the clearer S, substantially as and for the purpose specified.

Second, the shaft K, provided with fingers *d*, and arranged to operate in connection with the grain platform, substantially as and for the purposes specified.

Third, the grain supporting bar T, provided with the oblique teeth *t*, and raised and lowered automatically from the grain platform, substantially as and for the purpose set forth.

Fourth, in combination with a harvesting machine an automatic gavel regulator, so constructed that it can be set so as to make the gavels at such different regular distances apart as desired, substantially as set forth.

64,798.—MARTIN C. REMINGTON, Auburn, N. Y.—*Barley Fork.*—May 14, 1867.—The tines and handle are attached to the metallic socket head, which is braced by a wire bow secured to the handle.

Claim.—The metallic head A as constructed with its arch D, and raised socket E to receive a straight handle in combination with a bail or bow B, and brace G, operating in the manner as and for the purposes herein set forth.

64,799.—STEPHEN R. ROSCOE, Obion county, Tenn.—*Sofa Bedstead.*—May 14, 1867.—When the upper seat of the double-seated spring sofa is turned back it revolves in its own frame, furnishing a spring cushioned surface for a bed.

Claim.—The revolving lower cushion or seat of the sofa secured in its position, as described in combination with the movable position of the frame passing out of the way and beneath the cushions or seats, as herein substantially described.

64,800.—JOSEPH MARIE RYO CATELEAU, Paris, France.—*Spindle for Spinning Machines.*—May 14, 1867.—A pin of a sleeve upon the spindle traverses a longitudinal groove of the spindle. This sleeve has vertical reciprocating movement by a pivoted lever whose free end is raised by a rotating heart-shaped

cam, from which it may be disconnected by a hand lever. The pin mentioned traverses a helicoidal groove in a sleeve connected to the motive pulley. When the vertical movement takes place, the flyer, which is connected to the sleeve, will have independent motion in relation to the spindle to wind the yarn on the bobbin.

Claim.—First, the method of effecting the automatic retardment of the rotation of the spindle which carries the bobbin, substantially as shown and set forth.

Second, the combination with the spindle which carries the bobbin of the reciprocating tube, and helicoidal inclined planes under such an arrangement that the reciprocating movement of the said tube shall effect the automatic retarding of the rotation of the bobbins, substantially as herein shown and described.

64,801.—JOHN F. W. SCHULTZ, Moline, Ill.—*Wagon Brake.*—May 14, 1867.—The brakes are simultaneously pressed against all the wheels, the levers being operated in conjunction with the chain and pulleys attached to both axles.

Claim.—The arrangement and combination of the levers D C P, bar G, rod T, lever H, when the whole is operated in connection with pulleys I J, and chain H, substantially as set forth.

64,802.—GEORGE W. SIZER, Springfield, Wis.—*Gate.*—May 14, 1867.—The gate is attached directly to the post, and the scarfs cut to correspond with the string of the gate so that the bars may pass each other in folding.

Claim.—Attaching the rear ends of the gate bars B B B and B' directly to the part A, with no other frame work, and connecting them at the front ends by cross-bar *b*, and in combination with slotted part A', the whole constructed substantially as described and operating as and for the purpose set forth.

64,803.—WILLIAM E. SKINNER, Milford, Mich.—*Butter Worker.*—May 14, 1867.—The compound motion of the paddle, the rotary motion of the butter bowl, and the adjustable sides of the butter box facilitate the separation of the buttermilk.

Claim.—Giving the paddle of the butter worker a compound motion in imitation of the motion given to the paddle by a dairy woman, substantially as set forth by the devices described, or their equivalents.

Also, in combination with the paddle having the compound motion above claimed, giving the butter bowl a rotary motion, substantially as described.

Also, in combination with the butter worker, the press box with movable sides hinged to its base, substantially as described.

Also, in combination with the press box above claimed, the traversing follower, substantially as described.

64,804.—GEORGE SMITH, Providence, R. I.—*Lamp Burner.*—May 14, 1867.—The ignition holes of the burner are closed by a spring slide after being used.

Claim.—First, the application of a spring to the slide or valve *h* which is used for closing the opening through a lamp burner, substantially as described.

Second, the relative arrangement of the laterally movable spring slide *a* with respect to the wick spur button D, substantially as described.

64,805.—C. SPARKS, DOWNERS GROVE, Ill.—*Compound for Welding Steel.*—May 14, 1867.—Composed of coppers, 2 oz.; salt-peter, 1 oz.; sal-ammoniac, $\frac{1}{2}$ oz.; salt, 6 oz.; sul soda, 2 oz.; sand, 3 lbs.; wood ashes, 1 lb. To be well pulverized and used as a flux.

Claim.—The above described compound for welding steel.

64,806.—SOLOMON STEVENS, New Carlisle, Ind.—*Beehive.*—May 14, 1867.—The comb frames are removable out of the hive without disturbing the honey boxes.

Claim.—First, the grooved strips *d d* in combination with the comb frames *e e*, substantially as arranged for the purpose and in the manner specified.

Also, the box *f* and tube *g*, combined, arranged, and operating in the manner and for the purpose set forth.

64,807.—OTTO STIETZ, New York, N. Y.—*Making Glass Letters, Numbers, &c.*—May 14, 1867.—The apparent relief to the gilt face of the letters on the plain surface of the glass is accomplished by etching in the face of the letter on the reverse side of the glass, and allowing the metallic leaf laid thereon to overlap.

Claim.—A letter formed upon the reverse side of a piece of glass by means of etching in the face of the letter and covering it with a surface of metal or foiling, lapping upon the unetched portion, thereby producing an appearance of relief, substantially as described.

64,808.—HORATIO N. TAFT, Sag Harbor, N. Y.—*Door Fastener.*—May 14, 1867.—The pointed catch fastens between the door and the jamb, and has a slot by which the bolted door-holding plate is attached.

Claim.—A combination portable door fastener, constructed, combined, and operating substantially as herein shown and described.

64,809.—JOHN H. TEAHL, Eberly's Mills, Pa.—*Bush for Spindles for Grinding Mills.*—May 14, 1867.—The frustal, inverted, pyramidal bush-block has a funnel-shaped opening through which the spindle passes, surrounded by frustal, conoidal anti-friction rollers, whose journals enter slots in triangular top and bottom plates which are connected together.

Claim.—The above-described mill bush, consisting of the funnel-shaped metal box D, having conical friction rollers revolving therein and carrying the spindle within the frame that holds the rollers, when constructed and operating substantially as described.

64,810.—D. D. TEMPLETON, New York, N. Y.—*Garbage Box.*—May 14, 1867.—The box is to be set below the level of the pavement. The lid opens in two directions, but is not detachable, and the upper portion forms a stepping block, &c.

Claim.—First, the lid A, constructed substantially as described.

Second, the angular groove E, in combination with the box W and lid A, substantially as described.

Third, the trap door L, in combination with the box K, communicating with the cellar and supporting the receptacles B, substantially as represented and described.

Fourth, the combination of the garbage and ash box, substantially as described.

64,811.—E. S. TORREY, New York, N. Y.—*Weather Strip.*—May 14, 1867.—The weather strip is made of hard and soft rubber, the latter strip being inserted in and cemented to the former.

Claim.—The combination of the strip of soft India-rubber, or its equivalent, with a strip or molding of hard rubber, or its equivalent, substantially as and for the purposes herein set forth.

64,812.—TIMOTHY TUFTS, Somerville, Mass., assignor to CHARLES C. BEERS and PERSON DAVIS.—*Brick-molding Machine.*—May 14, 1867.—From the pug mill the clay enters a chamber from which it is expelled by a plunger through spouts which extend to the bottoms of the molds; the latter are raised up to receive the clay and descend while being filled. When the molds are filled and in their lower position they are driven out from under the spouts or conveyers and another mold box placed in position.

Claim.—The combination of one or more tubular conveyors C with the expressing chamber B, its plunger E, and mold D, to operate substantially as specified.

Also, the combination and arrangement of the covering plate K with the carriage H, one or more tubular conveyors C, the expressing chamber and its plunger, the whole being provided with mechanism for operating them, substantially as specified.

Also, the combination of the mold-lifting and depressing mechanisms with one or more tubular conveyors C, the expressing chamber, and its plunger, to operate with the mold, as specified.

Also, the combination of the mold operative carriage H with one or more tubular conveyors C, the expressing chamber B, and its plunger applied to the mixing reservoir and provided with mechanism for operating them, substantially as specified.

Also, the combination of the scraper S with one or

more conveyors C, the expressing chamber B, and its plunger E, to operate with the mold, substantially as set forth.

64,813.—LEONHARDT UITTING, Philadelphia, Pa., assignor to C. LIEBRICH, same place.—*Trunk Lock.*—May 14, 1867.—The spring bolt and tumblers are constructed and operated so that a self-fastening catch and a lock bolt are combined.

Claim.—The spring bolt E and tumbler I, or its equivalent, constructed and operating substantially as described, so that a self-fastening device and an ordinary locking bolt operated by a key may be combined in one lock.

64,814.—C. PH. WAGNER, New York, N. Y.—*Cotton and Hay Press.*—May 14, 1867.—The follower is connected by rods to the radial arms of the segments, which are actuated by a vertical screw. The screw is geared to a shaft, which is clutched to rotate it in either direction.

Claim.—First, the combination of the vertical screw C with the segments D D, provided with radial arms E pivoted by double toggle joints F F' to opposite sides or ends of the platen, operating so as to give to it a variable velocity and action, substantially as specified.

Second, the side braces M fitting into shoes o at their base, and gearing with open hook ends of a cross-bar L to the lower, the baling box at top, essentially as shown and described.

64,815.—M. J. WELLMAN, New York, N. Y.—*Shield for Protecting Water Backs in Ranges and Stoves.*—May 14, 1867.—A movable metallic shield is interposed between the fire and water back and adjusted to shut off heat from the latter.

Claim.—The metallic plate between the water back and the fire and forming the back of the fireplace and protecting the water back at all times, so constructed and arranged as to rest against the water back when the water back is to be heated, and to be moved forward and permit a current of air to pass up between the said water back and the fire when the heat of the fire is to be excluded therefrom, as and for the purposes herein set forth.

64,816.—NORMAN W. WHEELER, Brooklyn, N. Y.—*Ventilating Skylight.*—May 14, 1867.—The frame bolted to the desk has lights of heavy corrugated glass fitted in rubber packing. The hood ventilator occupies the center of the roof and is turned from above or below by a rod attached thereto. A drip pan is secured to the rod to collect rain or spray that may be driven into the hood, which is carried from thence by vent pipes to the deck.

Claim.—First, the combination of the hood a, frame B B, and glasses E E E, or their equivalents, as set forth.

Second, the combination of the hood a, pan pipes i i j j, and frame B B, or their equivalents, substantially as set forth.

Third, the combination of the trunk r and glasses S S S with the above, substantially as set forth.

Fourth, the combination of the pipes o o o o and lighted frame B B, or their equivalents, substantially as set forth.

64,817.—HENRY WHITALL, Woodbury, N. J.—*Machine for Grinding the Cutters of Harvesters.*—May 14, 1867.—The frame has a winch and grinding disk, and is adjustable to bring the latter in contact with the cutters and to give the necessary feed to the same.

Claim.—First, a portable machine adapted to grind the cutters of mowing and reaping machines, when arranged and operating in the manner substantially as described.

Second, in combination with a machine constructed substantially as described, the clamp P, when arranged for joint action with the said machine, as and for the purpose described.

64,818.—WILLIAM N. WHITELEY, Jr., Springfield, Ohio.—*Harvester.*—May 14, 1867.—The coupling arm is actuated by a lever to raise or lower the frame in relation to the bearing wheels. The frame has a backwardly projecting tubular stud, on which the coupling arm of the cutter is mounted and through

which passes the crank shaft of the actuating cutter. This coupling arm is adjustable by a screw and screw gear wheel to regulate the cutter bar. The coupling arm is held on the stud by a projecting catch attached to the frame and taking over a flange upon the arm.

Claim.—First, the coupling arm J, in combination with the circular plate H, substantially as and for the purpose set forth.

Second, the coupling arm J, constructed to clasp the sector plate H at three points, so as not to depend upon the pinion shaft for its center of motion.

Third, the coupling arm M, mounted and moving upon the horizontal axle stud K, through which passes the cutter's crank shaft, substantially as and for the purpose set forth.

Fourth, the hook U, in combination with the flange V on the hub of M, substantially as and for the purpose set forth.

64,819.—WILLIAM N. WHITELEY, Jr., Springfield, Ohio.—*Harvester Rake.*—May 14, 1867.—The cutting apparatus is hinged to the frame. The drag bar, through the cutting apparatus is attached, is made hollow so that the reel-driving shaft may pass through it. The rake may be thrown out of gear when not on the platform.

Claim.—First, in combination with a harvesting machine, having two adjustable wheels, a hinged cutting apparatus and a raking and reeling mechanism mounted on the inner end of said cutting apparatus, rotating about a vertical shaft F and counter shaft D, with their bevel gear connections, for the purpose of driving the said reel and rake by a train of gearings from the main pinion shaft, and so that the movements of the reel and rake may at all times conform to the position of the finger bar, substantially as set forth.

Second, in combination with a harvesting machine having two wheels and a hinged cutting apparatus, the tubular drag bar I, rigidly secured to the frame of the machine and forming the center upon which the cutting apparatus vibrates, so that the axis of the reel and rake's driving shaft may be coincident with the axis upon which the cutting apparatus vibrates, substantially as set forth.

Third, the collar T, provided with the notch Q, in combination with the stop plate E' and clutch lever A', substantially as and for the purpose set forth.

Fourth, the clutch lever A', in combination with connecting rod B' and head lever C, constructed and arranged as set forth.

64,820.—JOHN G. WILKINSON, Quincy, Ohio.—*Vehicle.*—May 14, 1867.—The lever extends above the bed of the vehicle and is operated by the occupant, the alternating motion of the lever causing the rocking of the shaft which actuates the rear axle, inducing the forward motion of the wagon. The rods alternate with each other, causing a continuous action of the axle.

Claim.—First, the arrangement of the rocker shaft F with its divided lever H, rods G G and crank axle B with the frame D, in the manner substantially as and for the purposes herein specified.

Second, the rocker shaft F, when constructed in the manner as herein set forth.

64,821.—JOSEPH P. WOODBURY, Boston, Mass.—*Locomotive Truck and Engine.*—May 14, 1867.—Each truck is free to swivel and vibrate independently of the other and of the main carriage. A separate pair of vertical cylinders and gears is attached to each truck, and swivels with the truck of the main carriage and the horizontal boiler. The latter has a steam dome at each end connecting by pipes with the respective cylinders. Each wheel is a driver and is able to adjust itself to the irregularities of the track, enabling the locomotive to traverse curves of short radius.

Claim.—First, a locomotive engine constructed with horizontal boiler resting entirely on trucks, which have free lateral oscillation independently of the boiler, these trucks being provided with vertical frames, as shown and described for the purpose set forth.

Second, the vertically-acting cylinders, in combination with a frame which oscillates rotatively with the truck independently of the boiler.

Third, the combination and arrangement of the pipes J, the pipe F, exhaust pipe Y, cap P, and pipes H.

Fourth, the combination of the circular series of radial rollers *a* with the concentric rings as shown in Fig. 5, holding the axes of the same and the horizontal boiler and truck.

Fifth, the combination of the operating rod *z*, toggle joint U and reverse handle N, as shown in Figs. 1 and 3.

Sixth, the combination and arrangement of the arms *f f*, the journal boxes *g g* of the driving wheels and journal box S, as shown in Fig. 8.

Seventh, the rod *x* with swivel connections, in combination with the throttle 7 of the forward engine.

Eighth, the swivel plate or yoke *p p*, in combination with the engine frame and steam dome.

Ninth, the combination as well as the arrangement of the pipe F and its adjunct with the dome D, as shown in Fig. 9.

64,822.—S. SAYRE WOODRUFF, Brooklyn, N. Y.—*Baby Carriage.*—May 14, 1867.—The tongue is pivoted near the rear axle and projects forward or backward to enable the attendant to pull or push the vehicle.

Claim.—First, the combination of the pivoted reversible tongue or shafts with the body of the carriage, substantially as herein set forth for the purpose specified.

Second, the combination of the pivoted reversible tongue or shafts, constructed with elastic sides as set forth, with the ears or stops *d* and *e*, formed upon the body of the carriage, substantially as and for the purpose specified.

64,823.—JOSEPH B. WORSHAM, Hibernia, Mo.—*Tobacco Belting Knife.*—May 14, 1867.—Two handles connected by a spring bow have a pair of parallel recessed knives on each jaw with connecting transverse knives. The stalk is grasped below the leaves and the tool oscillated to remove a ring of bark.

Claim.—The belting knife or implement constructed and used substantially as herein shown and described.

64,824.—GEORGE S. YINGLING and SAMUEL F. POORMAN, Tiffin, Ohio.—*Apparatus for Washing and Cooling in Brewing.*—May 14, 1867.—Arms are attached at intervals to the vertical shaft, and shovels at its lower end. The shovels are braced by rods to the upper part of the shaft.

Claim.—First, the use of the adjustable bars D D, provided at their lower ends with the shovels G G, which are used in connection with the shovels G G, as and for the purpose set forth.

Second, the arrangement of the shaft A with its bars B E and D, its rounds C C, and the shovels G and F, the several parts being constructed and used as and for the purpose herein specified.

64,825.—JOHN H. EDWARD, Mendota, Ill.—*Measuring Funnel.*—May 14, 1867.—The pipe of the funnel is closed by the valve. Rising vertically from the valve is the rod with its gauge flanges, which indicate quantity.

Claim.—The combination of the valve B, rod C, lever E, and slotted handle F, said parts being so constructed and arranged that the lever E, when the valve is closed, shall form a spring, by the tension of which the parts are held firmly in position, substantially as set forth.

64,826.—CHARLES APPLE, Hoboken, N. J.—*Device for Holding Cigars.*—May 21, 1867.—The two semi-cylindrical shells are hinged at one side and are locked by a spring catch.

Claim.—As an improved article of manufacture, a cigar holder, consisting of a combination of the shells A B with the cutter *d*, the latter either being attached to one of the shells or being part of the same, all made and operating substantially as and for the purpose herein shown and described.

64,827.—GEORGE ATKINS, Sharon, Pa.—*Line Kilm.*—May 21, 1867.—The bosh of the kilm is formed in the shape of a truncated cone based on an inverted cone having two tiers of furnaces extending into the body of the kilm. The upper chamber provides room for expansion.

Claim.—The arrangement of the linekilm formed of the chambers A B D, and heated by furnaces C C,

at different levels inside the kiln, operating substantially as and for the purpose herein described.

64,828.—GEORGE H. AYLWORTH, Brighton, Ill.—*Hay Press.*—May 21, 1867.—The follower has side projections which pass through the slots in the box, and have nuts engaged by screws whose actuating pinions are turned by a common wheel.

Claim.—A hay press, consisting of a box *a*, and the sliding partition *k*, operated by means of the screws *c b*, the whole constructed and arranged as herein shown and described.

64,829.—FRANCIS BAKER, New York, N. Y.—*Carriage Window Frame.*—May 21, 1867.—The window is pivoted to side bars whose lower ends are pivoted to blocks which slide in grooves within the casing.

Claim.—A carriage window frame swiveled or pivoted to uprights *F*, arranged to move in and through the carriage body, and bent springs *K* or *L*, hooks or catches *N*, and studs *I*, substantially as and for the purpose described.

64,830.—ROBERT BARCLAY, Buffalo, N. Y.—*Sewing Machine.*—May 21, 1867.—The presser-foot receives oscillation simultaneously with the feed wheel, by a cam acting on a spring dog which connects with the presser-foot, and which is adjustable by a set screw to regulate the feed to agree with the speed of the wheel. The cam is mounted on the end of the needle-actuating shaft, and acts in conjunction with another cam to operate the take-up mechanism.

Claim.—First, the sliding rod *q*, situated between the needle slide and tension device *t*, in combination with the needle-operating shaft *E* and cam *r*, the whole arranged and operating as and for the purpose specified.

Second, the combination and arrangement of the adjustable pivoted dog *m*, slide *o*, and lever *G*, in combination with the presser-foot *D*, constructed and operating substantially as and for the purpose set forth.

64,831.—JOHN A. BASSETT, Salem, Mass.—*Liquid for Carbureting Gases.*—May 21, 1867.—The light hydrocarbons of petroleum are combined with the light hydrocarbons of resin, wood, shale, or peat; nine parts of the former to one of the latter.

Claim.—The hydrocarbon liquid for carbureting gases, produced by the combination and process described substantially in the foregoing specification.

64,832.—ALFRED BRIDGES, Newton, Mass.—*Peat Machine.*—May 21, 1867.—The mold bottom is fixed, and the sides consist of a sleeve raised by a double lever; the plunger is kept in position on its lever by a spring.

Claim.—First, the arrangement of the sleeve *C*, passing over stock *D*, in the manner and for the purpose described herein.

Second, the adjusting plunger *E*, by means of projection *d* and spring *C*, or its equivalent, as above specified.

64,833.—JAMES S. BROTHERS, Duncannon, Pa.—*Railway Switch.*—May 21, 1867.—The rocker shaft is connected to pivoted sections of rails at the place of convergence, and a single centrally pivoted piece at the intersection of the inner rails of the two tracks.

Claim.—The construction of the chair *K*, with the adjustable frog *G*, when arranged, combined, and operated as herein described and for the purpose set forth.

64,834.—SAMUEL C. BRUCE, New York, N. Y.—*Quartz Mill.*—May 21, 1867.—The ore passes from the hopper into the first cylinder, the beaters on the shaft forming a partial vacuum. The beaters strike the ore which is carried by the peripheral force of the current through the connecting passage into the second chamber, through which it receives the same treatment, and passes to the connecting pipe, which deposits it in the dust chamber.

Claim.—First, the revolving wheels *C* and *D*, with velocities varying in some regular ratio, so that wheel *D* shall always revolve faster than, and in the same direction as wheel *C*, and for the purpose described.

Second, the arrangement of wheels *C* and *D*, re-

volving in the same direction, in separate but communicating cases *A* and *B*, and so constructing said cases and arranging them with reference to said wheels and their shafts that the external air can enter at aperture *E*, only in the periphery of the case *A*, substantially as and for the purpose described.

64,835.—BENJAMIN N. BUTCHER, Philadelphia, Pa.—*Saw Set.*—May 21, 1867.—The metallic bed piece is attached to the wooden block. The edges of the top face are bearded at different angles to adjust the set. The guides are attached and adjusted to the bed piece by screws. The saw is clamped by set screws passing through one of the guide pieces. The rod between the guides carries the sets, which lie on the point of the teeth and are struck with a hammer.

Claim.—The combination of the bed plate *A*, with beveled edges of different angles of inclination, and the reversible and adjustable guide pieces *E* and *E'*, set screws *F* and *G*, and sets *C B*, substantially as and for the purpose set forth.

64,836.—JAMES A. CAMPBELL, Stow, Ohio.—*Cane and Sorghum Stripper.*—May 21, 1867.—The top is removed by a rotary cutter and the blades stripped between a fixed lower stripper and a movable one above; the stalk is drawn through between two grooved rollers.

Claim.—First, the rollers *G H*, arranged substantially as shown and described in connection with the stationary cutter or stripper *L*, and the yielding or pressure cutter or stripper *M*, having the lever *N* and spring *O* applied to it, substantially as and for the purpose set forth.

Second, the rotary topping cutter *Q*, attached to wheel *R*, in connection with the coacave plate *S*, all arranged to operate in connection with the stripping device, substantially as shown and described.

Third, the combination of the endless leaf and top-discharging apron *B*, with the leaf-stripping and stalk-topping mechanism, substantially as and for the purpose herein set forth.

64,837.—JAMES F. CAMPBELL and CORNELIUS TINNEY, Williamsburg, N. Y.—*Portable Seat for Drivers upon Cars.*—May 21, 1867.—The supporting rod is hinged to an upright attached by a hook on its upper end to the dashboard; the seat resting on the rod is secured by a perforated strap to a pin on the top of the hooked standards.

Claim.—The upright or staff *B*, with hook at one end, and provided with a rod *E*, having seat *G* and strap *H*, substantially as and for the purpose described.

64,838.—HORACE S. CARLEY, Cambridgeport, Mass.—*Bottle Stopper.*—May 21, 1867.—The stopper is secured to a strip of metal, which slides between ears, secured to the band surrounding the neck of the bottle. The stopper is held in the bottle by a yoke.

Claim.—The slide *F*, carrying stopper, in combination with the swiveled loop *E*, in which it moves, substantially as and for the purpose described.

Also, in combination with the above the swinging clasp *I*, substantially as described for the purpose set forth.

64,839.—ELISHA A. CHACE, Rosemond, Ill.—*Wheel Plow.*—May 21, 1867.—The beam of an ordinary plow is pivoted to the frame, which is hinged to the carriage; the latter carries a driver's seat and plow, and is adjustable by a lever in proximity to the seat.

Claim.—A wheel plow having the stationary frame *A*, pivoted frame *F E' F'*, plow beam *D* and elevating devices *G G' G''*, arranged to operate substantially as and for the purpose described.

64,840.—GEORGE F. CLEMONS, Springfield, Mass.—*Cloth Guide for Sewing Machines.*—May 21, 1867.—The guide plate is attached beneath the lower limb of the elastic sheet metal, whose upper end is attached to a gauge plate, the lower portion resting on the goods, and by its pressure keeping the edge of the latter to the face plate of the gauge.

Claim.—First, in a cloth guide for sewing machines the employment with a cloth gauge of a rigid guide plate, adapted to bear upon the cloth in front of the sewing needle, and extend across the line of seam

being sowed, and having elastic and adjustable pressure given to it, in such a manner as that it shall press more upon the cloth outside the seam than inside thereof, and thereby guide the cloth towards the gauge face.

Second, the elastic plate *b*, either with or without the rigid guide plate *a*, combined with the pressure plate *e*, screw *f* and gauge *c*, substantially as described and for the purposes set forth.

Third, the rigid guide plate *h*, combined with the elastic plate *i*, screws *j j*, rigid plate *k*, and gauge *l*, all with or without the link *n*, substantially as described and for the purposes set forth.

64,841.—NEIL CLIFFORD and A. N. BELL, Brooklyn, N. Y.—*Deodorizer for Privy Seats.*—May 21, 1867.—Explained by the claim.

Claim.—The combination with the seat of a privy, water-closet, or other similar place of whatever name called, of a receptacle or vessel for the reception and holding of any suitable deodorizer or disinfectant, whether in the form of a liquid or powder, when such vessel or receptacle is so constructed and connected with the seat board that by the depression or upward movement of the seat, or both, the said disinfectant or deodorizer will be discharged into the vault of the privy, &c., substantially as and for the purpose described.

64,842.—JOSEPH M. COALE, Baltimore, Md.—*Locomotive Engine.*—May 21, 1867.—The part of the boiler end through which the tubes pass is separated from the smoke chamber by a plate, traversed by tubes, similar to those in the boiler. The chamber within this plate serves to receive the air and heat the same to prevent chilling the tubes.

Claim.—In combination with locomotives and other similar boilers the additional sheet *d* and flues *f*, for the purpose of preventing the cold air from chilling the ends of the flues proper, substantially as and for purpose set forth.

64,843.—JOHN COCHRANE, Wall Township, N. J.—*Railroad Rail Fastening.*—May 21, 1867; ante-dated May 13, 1867.—A cleat plate has claws to enter the tie and prevent splitting, and a groove to receive the edge of the rail base.

Claim.—First, the combination of a screw bolt or wood screw spike with a cleat that has a bearing upon the top and at the edge of the rail flange, and also upon the cross tie, and so constructed or formed that it can be removed from the flange of the rail upon slackening up the screw bolt or wood screw spike by which it is secured to the cross tie, substantially as herein described.

Second, the heel spurs of the cleat for entering into the timber or cross tie, so as to hold against the lateral thrusts upon the rails, as caused by the action of the wheels of passing trains, in combination with the screw bolt or wood-screw spike fastening of such cleat, substantially as herein described.

Third, the peculiar construction of the cleat, by reason of which it may be made by pressure or percussion from flat iron bar complete in all its parts, without necessarily altering the thickness of the material in any of such parts, substantially as herein described.

64,844.—S. M. COLBURN, Ansonia, Conn., assignor to himself and SYLVESTER COLBURN, same place.—*Steam Generator.*—May 21, 1867.—A plate to collect the sediment is placed a short distance above the bottom of the boiler; the spaces above and below communicate around the edges of the plate.

Claim.—The plate *B*, constructed and arranged within the boiler, so as to form a chamber *C*, communicating with the boiler by means of openings or perforations *a*, substantially as and for the purpose set forth.

64,845.—JOSEPH H. CONNELLY, Wheeling, W. Va.—*Manufacture of Gas.*—May 21, 1867.—The object is to dispense with the lime purifier, commonly used, while still producing gas free from sulphuretted hydrogen.

Claim.—First, the use of lime obtained from burnt limestone or oyster shells, damped or slaked with water, salt, or salt-peter solution, introduced into the

retort as described, in the proportion mentioned, for the purpose of whitening and desulphurizing the gas, as set forth.

Second, the use of lime prepared as stated, in combination with coal and residuum oils, introduced as described for the purpose specified.

Third, the combination of lime, prepared as stated, and cinders, coke, coal, or wood, with residuum oil alone, for the purposes mentioned.

Fourth, the use of residuum oil alone, in combination with lime, for the production of inflammable gas, desulphurized and whitened in the manner set forth.

64,846.—ROBERT CREUZBAUR, New York, N. Y.—*Steering Vessels.*—May 21, 1867.—The steering screw rotates within a transverse water way near one end of the hull. It is turned by a steam engine, and by a lever. The shaft extending to the upper deck may be clutched to rotate the screw in either direction.

Claim.—First, in combination with a steering screw, or its equivalent, arranged within a pipe or water way extending transversely through the hull of a vessel, a means which will enable the pilot to give a right or left motion to said screw, or to stop or start it at pleasure without stopping or reversing the motion of the driving power, substantially as described.

Second, the combination of a steering screw or its equivalent, arranged within a water way extending transversely across the hull of a vessel, with a means which will enable the pilot from the pilot-house to stop, start, or reverse the motion of an engine, which is used for rotating said screw, substantially as described.

Third, in combination with a steering screw, arranged to operate substantially as described, the employment of an engine for rotating the screw, and a means for rotating the screw when the engine is in operation, substantially as described.

Fourth, providing for disconnecting the capstan shaft *F* from the screw shaft *d*¹, when this latter shaft is connected to and driven by the engine shaft *d*², substantially as described.

Fifth, the combination of the capstan or capstans upon shaft *F* with the gearing *E f f'*, clutch *g*, lever *G'*, shaft *d'*, and with an extension *d*² of shaft *d*, clutch *W* *W'* and a driving engine, substantially as described.

64,847.—GEORGE W. D'ACUNHA, New York, N. Y.—*Keeper for Door Locks.*—May 21, 1867.—The keeper has a flange to project along the jamb, and another flange to project along the casing. It is cast in one piece.

Claim.—An improved catch or nosing for door locks formed with a flange *d*¹, to project along or be let into the jamb, and with a flange *d*² to project along the casing, said flanges being cast solid with and forming an integral part of the side catch, substantially as herein shown and described and for the purpose set forth.

64,848.—LEOPOLD DELACE, Springfield, Ill.—*Hay Loader.*—May 21, 1867.—The machine is attached by a chain to the side of a wagon. The platform revolves, the sets of teeth rake and discharge the hay and act as receivers alternately. The fork has a continuous movement.

Claim.—First, the revolving platform and raking device *D*, composed of the frame *a*, fitted in the main frame *A* and provided with the bars *E*, having teeth *F* attached, all arranged substantially as and for the purpose specified.

Second, the raking and pitching fork *S* attached to a carriage *P*, operated by an endless chain *Q* and arranged with ways or guides *j j*, on a suitable framing or support, substantially as and for the purpose set forth.

Third, the swinging or pendant frame *T* in combination with the lever *I*, bar *H*, and clutch pulley *G*, arranged to operate in connection with the revolving platform and raking device substantially as and for the purpose specified.

Fourth, the two pulleys *G G'* connected by a clutch, and arranged as shown to operate respectively the revolving platform and raking device, and the raking and pitching fork substantially as shown and described.

64,849.—WILLIAM H. DOANE, GERRITT V. ORTON, and WILLIAM E. LONDON, Cincinnati, Ohio, assignors to J. A. FAY & Co.—*Planing Machine.*—May 21, 1867.—The cutters are held in grooves in collars sliding on the rectangular part of the spindle, the set screws traversing slots and engaging the spindle. The cutters have break irons similar to those of a hand plane. An adjustable guard covers the spindle head.

Claim.—The combination of the adjustable break irons *k' k'* with the cutters *k k*, and the removable collars *h h*, all constructed and arranged in the manner and for the purpose described.

Second, the application of the shield *G* to a post *m*, which is allowed to revolve around the cutter head substantially as described.

Third, sustaining the safety shield *G* upon the table to *A*, by means which will admit of said shield being moved around the axis of the cutterhead, and also adjusted vertically substantially as described.

64,850.—JAMES W. DREW, Stockbridge, Mich., assignor to himself and JOSEPH N. TOWNSON.—*Wheel Vehicle.*—May 31, 1867; antedated May 16, 1867.—The axles rotate with the wheels and butt against friction wheels. The crooked sway bar attached to the tongue is braced by pivoted cross bars hinged to the front axles, which have guides connecting them with the rear axles.

Claim.—The crooked sway bar *H* and the cross bars *I* and *J*, in combination with the axle *C C* and the axle guides *G G*, the whole constructed and operating in the manner and for the purpose herein described.

64,851.—CHARLES M. ALBURGER, Philadelphia, Pa., assignor to GEORGE R. KIRK, same place.—*Cock.*—May 21, 1867.—The follower has elastic and metallic packing upon its lower end, and a flanged thimble spiral spring and elastic packing near its upper end. The thimble covers the spiral spring to prevent its cutting the packing.

Claim.—The follower *A*, having its metallic packing *E*, and elastic packing *e*, in combination with the spring *D*, flanged thimble *F*, packing *E* and spigot *C*, substantially as described for the purpose specified.

64,852.—JAMES A. EHLE, Green Bush, Wis.—*Converting Rectilinear into Rotary Motion.*—May 21, 1867.—The walking beam receives a reciprocating motion from the engines, operates the sliding carriages and their hooks, which engage with those attached to the corners of triangular or polygonal disks, and rotate the shafts to which the latter are attached.

Claim.—First, converting rectilinear motion into rotary motion by the use of polygons, substantially as described.

Second, the balanced lever *B*, the connecting rods *C C*, the carriages *D* and the guides *E*, substantially as described and for the purposes herein set forth.

Third, the pins *f*, forming hooks upon the triangles *E* and the bar *b*, in combination substantially as shown and described.

Fourth, the cam wheel *L*, in combination with the triangle *E* and the gear wheels *H* and *k*, substantially as herein shown and described.

64,853.—PERRY FENLASON, Cincinnati, Ohio.—*Portable Roofing Boiler and Furnace.*—May 21, 1867.—The furnace, boiler and other incidentals, are mounted on a spring dray for convenient transportation.

Claim.—The boiler *B*, in combination with the spring dray *A*, or its equivalent, constructed substantially as above described and for the purpose set forth.

64,854.—B. L. FETHEROLF, Tamaqua, Pa., assignor to himself and J. M. HADESTY, same place.—*Attachment to Stoves for Generating Gas.*—May 21, 1867.—Petroleum is supplied in graduated quantity to the retort in the stove; the gas generated passes to the reservoir and thence to the burners.

Claim.—The hollow metallic block *A*, fitted within the fire chamber of a stove so as to constitute both a gas generator and a lining or fire brick, substantially as described.

64,855.—P. G. FINN, Erie, Pa.—*Putting Up Oils in Casks, &c.*—May 21, 1867.—Preparatory to being

placed in barrels the oil is heated to 110° Fahrenheit, and is then sealed up.

Claim.—The barreling and hermetically sealing of coal oil in a heated and expanded state, substantially as and for the purpose set forth.

64,856.—DANIEL FOBES, Boston, Mass.; assignor to FOBES, HAYWARD & COMPANY, same place.—*Edible Composition.*—May 21, 1867.—Roasted coffee, tea seeds, and cocoa are ground together and made into a beverage or confection.

Claim.—The edible composition as made of the materials in the manner and for the purpose substantially as described.

64,857.—GEORGE F. FOLSOM, Roxbury, Mass.; assignor to himself and CHARLES F. PEASE, same place.—*Extension Table.*—May 21, 1867.—The main leaves are attached to the frames which are supported on legs, and have folding leaves capable of support by brackets. When the end frames are extended, middle leaves are raised by cams to supply the hiatus.

Claim.—The combination as well as the arrangement of an auxiliary leaf *E*, and mechanism, (viz. its rods *k*, elevators *H*, and their counter cams, or the equivalents thereof,) for operating it as described, with two leg frames, and their main leaves *D D*, one of such leg frames being constructed with a space or recess arranged below the main leaf, and for the reception of the auxiliary leaf when the table is closed as described.

Also, the combination as well as the arrangement of two auxiliary leaves *E E*, and mechanism for operating them as described, with the three frames *A B C*, and their main leaves *D D*, arranged together as specified.

Also, the combination as well as the arrangement of two turning leaves *F F*, two main leaves *D D*, three of the frames *A B C*, as described, two auxiliary leaves *E E*, and mechanism, (viz. its rods *k*, elevators *H*, and their counter cams or the equivalent thereof,) for operating such leaf or leaves *E*, as described.

Also, the peculiar mechanism in combination applied to each turning leaf, and for operating each of the auxiliary leaves, such being the slide rods *k k*, and the elevators and their counter cams, or their equivalents, as set forth.

Also, the combination as well as the arrangement of one turning leaf *F*, two main leaves *D D*, two leg frames, one auxiliary leaf *E*, and mechanism, (viz. its rods *k*, elevators *H*, and their counter cams, or the equivalents thereof,) for operating such leaf, as described.

64,858.—WILLIAM GALLADAY, Shelbygan Falls, Wis.—*Mechanical Movement.*—May 21, 1867.—A longitudinally reciprocating rod operates two pawls, which alternately engage the opposite sides of a ratchet wheel to rotate the same.

Claim.—The combination of the arms *C D* and pawls *E F*, with the ratchet wheel *A*, as and for the purpose set forth.

Also, connecting the arms *C* and *D*, at their inner ends, so as to be operated by one connecting rod, substantially as shown and described.

64,859.—ERNST GESSNER, Auc, Saxony.—*Gig Mill.*—May 21, 1867.—A series of rotating disks with cards act in conjunction with guide rollers, so that the cloth is acted on in every part, to raise a nap.

Claim.—First, the construction and arrangement of the revolving disks *D*, in the adjustable frame *C*, substantially as described, for the purpose specified.

Second, the arms *O O'*, with toothed segments, in combination with the rollers *N'*, and disks *D*, constructed and operating substantially as and for the purpose set forth.

64,860.—ROBERT D. GREEN, Columbia, Mo.—*Gate.*—May 21, 1867.—The bed piece on which the anti-friction rollers work is detached from the posts. Cleaners attached to the bottom bar clear the track for the rollers.

Claim.—The solid bed-sill or track-log laid in the ground, and detached from the gate post, and on which the gate rests, plain on upper surface with groove or rail as denoted by letters *H*, also pin fastener at top of post, as shown by letter *G*; also the

track cleaners, marked D D, fastened to under part of bottom rail of the gate in front of each wheel, and designed, as the gate moves, to remove from track all obstructions to the wheels C C; also guide posts E E, used to prevent the gate from running off the track when open.

Also, in combination with the posts of the main gate, represented by letters H D D C E E, letters patent for extended top and bottom rails or slats, to be used at pleasure in forming a gap moving the gate forward on the wheels C C, so that the gap thus formed will admit the passage of small stock, and at the same time exclude large stock.

64,861.—CHRISTIAN H. and JOSEPH H. HARNLY, Penn township, Pa.—*Manure Drag*.—May 21, 1867.—The fork is pivoted in the frame and is invertible to allow the ready discharge of its load when the trigger is pulled. It is used in cleaning stables.

Claim.—The arrangement of the fork drag A A' A'' A''', with its spring and lever F E, clamp rod D, and armed fork head C B, runners G, all combined and operating substantially in the manner specified.

Also, in combination with the fork-drag, figure 1, and its ring O and hook K, the rake-drag, figure 2, when used in connection with said fork-drag, in the manner and for the purpose set forth.

64,862.—CHARLES T. HARVEY, Tarrytown, N. Y.—*Propelling cars, &c.*—May 21, 1867.—The car is propelled by cables attached by clutches to the car; the clutches are actuated to catch or release the rope, to govern the motion of the car.

Claim.—First, the combination of the sliding pulley Q, with the series of teeth on the axle, by which the said pulley is made fast to the axle, and with the springs I I' of the guide rod D, for the purpose of stopping the motion of a car, substantially as shown.

Second, the combinations of the parts a and b, composing both a fast and loose pulley, with the springs I I', and the axle A, for the purpose of starting the car, substantially as shown.

Third, the use in cars or other objects which are moved by propelling cables, of clutches or arms, whose faces that receive the impulse of such cables are plain, substantially as shown.

Fourth, so arranging the guide rod D and cable clutch or arm C that they are compelled to rotate together, while the latter is allowed to have a longitudinal movement on the former, substantially as set forth.

Fifth, the combination of anti-friction rollers z with the cable clutch or arm C, to obviate or prevent friction during the movements of said clutch, substantially as set forth.

Sixth, the supplementary springs I' for strengthening and aiding the main spring I, and so arranging and connecting them between the sides of spring I and the frame of the car that they are not displaced or injured by any vertical motions of the car body, substantially as set forth.

Seventh, the application to a car of bent arms X, to hold the car down, or prevent it from being displaced from the track, substantially as shown.

Eighth, the combination of the pendulous roller q with the disk p and loose pulley b, substantially as described.

Ninth, the combination of the bar M and cam O with the lever J that operates the cable clutch or arm C, substantially as described.

64,863.—H. H. HATHEWAY, Clockville, N. Y.—*Hoarse Hay Fork*.—May 21, 1867.—The tines are attached to the handle in a ferrule consisting of two semi-cylindrical pieces clamped together. The wings of the bail swing on the outer tines. The draft rope is attached to the bail and the line of draught is adjusted by a hinged brace regulated by a pendent cord, draught upon which bends the brace and the hay is discharged.

Claim.—First, the manner of securing the tines C to the handle by combining with each other the caps b and b', bolts and nuts a a, ring e, and handle A, substantially as shown and operating in the manner described.

Second, the adjustable bail D in combination with the rings d, keys d', and brace E, substantially as and for the purpose herein shown and described.

64,864.—B. S. and E. H. HAVILAND, Fort Dodge, Iowa.—*Beehive*.—May 21, 1867.—Perforated partitions permit the circulation of air and heat through the several compartments of the hive. Slides cut off of either compartment from those adjoining, when required.

Claim.—The arrangement in the bee-box of the perforated partitions b and adjustable partitions D, whereby the communication between the several compartments C may be opened or closed, substantially as described, for the purpose specified.

64,865.—THOMPSON HERSEE, Jr., Buffalo, N. Y.—*Attaching Thills to Vehicles*.—May 21, 1867.—Explained by the claim and illustration.

Claim.—A thill coupling composed of a clip A so constructed as to have a chamber in its front part to receive a piece of India-rubber or elastic substance C, and also to receive the cross-head e of the thill iron D, the front plate c of the chamber being notched or forked at its upper end, and the top plate a of the clip over the chamber having an aperture made in it to allow the cross-head of the thill iron to pass into the chamber with a projection f to serve as a guard to prevent the casual rising of the cross-head e, substantially as shown and described.

64,866.—B. T. HENRY, New Haven, Conn.—*Carriage Spring*.—May 21, 1867.—The spring is strengthened by longitudinal ribs tapering toward the end.

Claim.—An elliptic spring having one or more ribs d formed upon its surface, substantially as and for the purpose set forth.

64,867.—FREDERICK HESS, Baltimore, Md.—*Fastening for Shirt Collars*.—May 21, 1867.—Explained by the claim and illustration.

Claim.—The fastener, composed of a plate with an eye on each side of it, one for holding an elastic loop to fasten the collar to the shirt, the other to hold a ring to secure the fastening to the collar as described.

64,868.—JACOB HOLLINGER, Millersburg, Ohio.—*Cultivator*.—May 21, 1867.—The salient bends of the curved beam serve as points of attachment for the standards which are adjustable on the beam and braces.

Claim.—The curved beam A, as arranged in combination with the adjustable standards B and braces E H, for the purpose and in the manner substantially as set forth.

64,869.—J. W. HOLLINGSWORTH, Salem, Indiana.—*Animal Trap*.—May 21, 1867.—Improvement on his patent, Oct. 16, 1866.—The spring eccentric is freed by the weight of the animal, which trips the doors and releases the division drop-gate between the compartments; the animal by passing under this gate resets the trap.

Claim.—First, the shaft E bearing the spring G, eccentric D and double crank H, to which are connected the rods I pivoted to wings J, in combination with the rocking plate L supporting the pivoted levers M provided with stops m', constructed and operating in the manner and for the purpose specified.

Second, the stops m' in combination with the levers M, pivoted to the rocking plate L, arranged relatively with the shouldered eccentric D, operating substantially as described and for the purpose specified.

Third, the rod P provided at one end with a catch fitting into notch in the end board F, and connected at the end by rod O' to lift gate O, operated by the shouldered eccentric D, and arranged relatively with the working parts of the trap herein described, substantially as and for the purpose specified.

64,870.—WILLIAM E. HOUSTON, Birmingham, Conn., assignor to himself, GEO. W. HUBBELL, and J. R. LATTIN, same place.—*Hoop Skirt*.—May 21, 1867.—The hoops are passed through the transverse pockets, having a central part in which one set of the filling threads is left unwoven on the outside, for the attachment of the hoop by a metallic clasp, which does not run through the tape, and which can be therefore attached while the skirt is on the form.

Claim.—First, securing the hoops to the tape by a clasp or other device, enclosing the tape upon the hoop without extending through the tape, substantially as herein set forth.

Second, the combination of the cord-band or other material inserted in or attached to the tape with the hoops when the hoops are attached thereto, substantially as specified.

64,871.—WILLIAM E. HOUSTON, assignor to himself, GEORGE W. HUBBELL, and JOHN R. LATTIN, Birmingham, Conn.—*Clasp for Hoop Skirts.*—May 21, 1867.—Explained by the claim and illustration.

Claim.—Securing the two ends of hoops by a clasp corrugated thereon diagonally and at reverse angles upon opposite sides, substantially as described.

64,872.—WILLIAM E. HOUSTON, Birmingham, Conn., assignor to himself, GEORGE W. HUBBELL, and JOHN R. LATTIN, same place.—*Tape of Hoop Skirts.*—May 21, 1867.—This relates to the vertical tapes of the "tabs." The longitudinal pocket is on the edge of the tape.

Claim.—A tape formed with a longitudinal pocket C, combined with transverse pockets B, substantially in the manner herein set forth as an improved article of manufacture.

64,873.—WILLIAM E. HOUSTON, Birmingham, Conn., assignor to himself, GEORGE W. HUBBELL, and JOHN R. LATTIN, same place.—*Tape of Hoop Skirts.*—May 21, 1867.—The transverse pockets have central portions in which one set of the filling threads runs through without weaving.

Claim.—The tape formed with the thread spaces C, in combination with the pockets B B, substantially as and for the purpose specified as an improved article of manufacture.

64,874.—EDWARD HOWARD, Boston, Mass.—*Making Balance Wheels for Watches, &c.*—May 21, 1867.—The steel rod is polished, heated, coated with a strong solution of borax, and inserted into a brass tube polished inside; it is then placed in a crucible and the brass melted, attaching it closely to the steel. The crucible is broken, and the brass-coated rod is sawn up into disks or wheel blanks.

Claim.—The process or mode of making a series of balance-wheel disks or buttons by the use of the crucible, the brass tube, and the steel rod, substantially as herein described and for the purpose specified.

64,875.—S. TERRY HUDSON, Success, N. Y.—*Sugar Cone Stripper.*—May 21, 1867.—The lap-jaws are closed by reversible springs and have a swivel spring guard plate that works on their face. The standard is driven into the ground in the vicinity of the cane or the mill.

Claim.—First, the double pairs of springs B B, having lap-jaws *c* c for opening by each other and varying the spaces C C, and combination with the swivel guard plate *d* attached to the spring D and the stand A, all arranged and operating substantially as and for the purpose herein described.

Second, the shifting spring E in combination with the springs B B, arranged and operating as and for the purpose herein set forth.

Third, the movable stand A, provided with the point *h* or its equivalent, and the head F, in combination with the spud *a*, arranged as and for the purpose herein specified.

64,876.—GEORGE R. HUGHES, Centralia, Mo.—*Washing Machine.*—May 21, 1867.—The tub bottom and under side of the disk are corrugated. The disk is lowered onto the clothes, and has rotation and slight vertical movement by the vertical oscillation of the operating lever.

Claim.—The cylinder or drum E, the bent lever C, the lever J, the ratchet and pawl C, for tightening the cord on the cylinder or drum F, the shaft E, the cords H and K, and the disk D, constructed, arranged, and operating substantially as described in combination with the frame A.

64,877.—D. H. HULL, Plantsville, Conn.—*Seed Planter.*—May 21, 1867.—The seed hoppers are carried on a rear frame, hinged to the main frame, and adjusted vertically by a chain passing over a sheave and turned around an adjustable shaft.

Claim.—First, the device for operating the slides *jj* of a seed planter, consisting of the lugs *m* on the slides, connecting rods O, crank shaft C, pinion *b*, and

internal gear or driving wheel F, all combined with each other and made and operating substantially as herein shown and described.

Second, the device for raising and lowering the hinged frame H, which consists of the chains K passing over the pulley *e* on the stationary arm N, shaft L, and ratchet-wheel and pawl *h* *i*, all made and operating substantially as herein shown and described.

Third, the frame H, when it is provided with the seeding boxes, and when it is hinged to the main axle A, substantially in the manner and for the purpose herein shown and described.

64,878.—JAMES M. HUME, Colchester, Ill., assignor to himself and C. F. HOYT, same place.—*Cultivator.*—May 21, 1867.—The double tree is pivoted on a vertical post of the frame, which has a brace plate to the tongue. The ends of the double tree are connected to the upper ends of levers, pivoted to the frame, and to the lower ends of said levers the single trees are connected.

Claim.—The adjustable levers B, arranged in combination with the frame A, beams K, links L, bar G, and single tree M, as and for the purpose substantially as described.

64,879.—RALPH S. JENNINGS, New York, N. Y., assignor to himself and N. G. Kellogg, same place.—*Envelope.*—May 21, 1867.—The corners under the top flap are closed by counter folds, which form continuous parts of the central folds, the ends of which are united by clinched rivets.

Claim.—First, in constructing flat envelopes cutting and folding the same to form corner wings E E at the ends thereof, in combination with the eyelet seals *e* *e'*, substantially in the manner and for the purpose herein described.

Second, fastening central flaps C C of an envelope with the double metal spars *d* *d*, or their equivalents, as and for the purpose herein specified.

64,880.—A. W. JOHNSON and GEORGE THOMPSON, New York, N. Y.—*Permutation Lock.*—May 21, 1867.—The tumbler disks are connected by sleeves to enter disks lettered on their edges. The inner disks have each a notch, whose coincidence allows the spring pawl to enter them, when a partial rotation of the disks draws back the bolt.

Claim.—The adjustable tubes O, of unequal length, fitting over each other, their outer ends provided with teeth *c*, which fit into corresponding teeth in the flange *d* of the graduated adjustable rings Q, fitting one within the other, the said tubes provided upon their inner ends with notched disks M, the notches in the outer ring being bevelled upon one side, when all are constructed and arranged as described and operating from the yoked-shaped bolt G, provided with the spring pawl V, substantially as described for the purpose specified.

64,881.—W. B. JONES, Franklin, Ky.—*Motive Power.*—May 21, 1867.—The power applied to the crank shaft revolves the heavy frustum, whose cogged wheel runs upon the rim of the inclined wheel and gives motion thereto.

Claim.—The combination of the inclined wheel or frame A, cylinder C, and lever shaft E, when arranged together so as to operate together, substantially in the manner and for the purpose described.

64,882.—PETER KECK, Zanesville, Ohio.—*Pruning Shears.*—May 21, 1867.—The hand levers are pivoted together; one of them projects forward to form the concave jaw, and the other is pivoted to the sliding plate of the concave-edged cutter.

Claim.—First, the mode of attachment of the blades of a pair of shears composed of three levers, substantially as shown and described.

Second, the combination of a convex-edged cutting blade, with the mode of attachment of the blades of a pair of shears, composed of three levers, substantially as shown and described.

64,883.—JOHN W. KINGSBURY, New Bedford, Mass.—*Horseshoe Machine.*—May 21, 1867.—The die is changeable for varying sizes of shoes, and is reciprocated, pressing the blank between rollers, which conform it to the shape of the die. The heels are pressed in and thickened by a pair of jaws forced

against the shoe by friction rollers, and the toe flattened by pressure against a stationary block.

Claim.—First, the slotted arm E, in combination with the sliding frame F and die G, whereby the movement of said die is initiated, substantially as herein shown and described.

Second, the adjustable rollers H, having upper and lower plates of different diameters and thickness, in combination with the slotted plates g, all as herein shown and described.

Third, the combination of the adjustable block M, or its equivalent with the reciprocating die G, for the purpose of flattening the toe of the shoe, substantially as set forth.

Fourth, the combination of the reciprocating die G, adjustable rollers H, clamping jaws I, for the purpose of forming horseshoes, all made and operating as herein shown and described.

Fifth, the adjustable block M, or its equivalent, in combination with the reciprocating die G and clamping jaws I, for the purpose of flattening the toe of the shoe, all as set forth.

Sixth, the device for operating the jaws I, consisting of the cam o on shaft C, rod n, block L, rollers m n, plates l and springs q q, all made and operating substantially as set forth.

64,884.—A. LEE, St. Paul, Minn.—*Heating Stove.*—May 21, 1867.—The deflector throws back on to the horizontal and vertical open-ended air cylinders the heat that would otherwise escape up the chimney.

Claim.—The deflector E and the vertical cylinder D, in combination with the air cylinders B and C, as and for the purposes specified.

64,885.—W. and C. LEFFINGWELL, Clarksburg, Ohio.—*Hog Holder.*—May 21, 1867.—One of the side pieces is hinged, and they are adjustable in distance by the upper transverse pieces, which have slats attached to prevent the upward escape of the hog.

Claim.—First, the device for holding hogs for the purpose of wiring, ringing, or snouting, or for slaughtering or otherwise operating upon them, adjustable to the size of the hog, in manner and by the appliances, substantially as described.

Second, the hinged side D', when combined with the hinged roofing E E F F, or their respective equivalents, substantially as described.

Third, the inclined slat H, or its equivalent, when combined with a box or trough, having its front opening contracted by the slats G G', or by an equivalent construction, substantially as described.

Fourth, the tail-gate I, or its equivalent, when combined with a box or trough having its front opening contracted by the slats G G', or by an equivalent construction, substantially as described.

64,886.—HENRY LITTLE, Middletown, N. Y.—*Device for Elevating Ice.*—May 21, 1867.—The spiral band slides beneath the block of ice, pressing it against the stationary bearing, and elevating it to the upper platform.

Claim.—The rotary screw elevator, in combination with the bearing, arranged to operate in the manner substantially as and for the purpose set forth.

64,887.—JOHN LITTLE, Newburg, N. Y.—*Desulphurizing Iron Ore.*—May 21, 1867.—The ore is placed on movable plates, and when heated to redness, is then dumped into water by means of the tackle. When removed from water, it is crushed before passing to the cupola.

Claim.—First, the mode of desulphurizing iron ore by heating it in a furnace to red-hot temperature, and throwing it then into cold water, substantially as set forth.

Second, the combination of processes for desulphurizing iron ore, and preparing it for direct use in cupolas by heating, cooling in cold water, crushing between rollers, washing and mixing with fluxes for the reduction, to clean iron in cupolas.

Third, the furnace A, in combination with the movable plates S' S' and the hoisting gears M' M', for moving these plates with the ore, substantially as set forth and as shown in the drawing.

64,888.—JOHN M. LONG, Hamilton, Ohio.—*Harvester Rake.*—May 21, 1867.—The shaft is set at an angle of 45°, and rotates in bearings on a post at the

angle of the quadrant platform. At its upper end is a disk, with angularly projecting reel arms. Upon the shaft is sleeved a disk, in whose outer projections the shaft of the rake-head is journaled, being governed by a spring on the shaft, a stop-pin on the disk, and a projection on the bearing post of the main shaft.

Claim.—The rake head I attached to a shaft H on a disk G, having an inclined axis, and arranged with a spring J, to operate in the manner substantially as and for the purpose specified.

Second, the sleeve F, placed loosely on the shaft C, in connection with the clutch L, when said parts are used in connection with the rake and beaters, in the manner substantially as and for the purpose set forth.

64,889.—Cancelled.

64,890.—W. H. MAYO, Hillsburgh, Nova Scotia.—*Car Coupling.*—May 21, 1867.—One draw-head has a pivoted hook which engages over a shoulder in the other draw-head. It is locked in place by a latch connected to a spring lever which may be moved back to free the hook from the shoulder and latch.

Claim.—The drawhook B, connected by a pin a to one draw-head A, in combination with the box D, attached to the other draw-head C, and provided at its front part with an inclined bottom e, the bent plate E, lever F, connected with plate e, and with an arm i by a rod k and the spring g, all arranged to operate substantially in the manner as and for the purpose herein set forth.

64,891.—T. A. McFARLAND, Meadville, Pa.—*Can Opener.*—May 21, 1867.—The pointed beveled edge cutters cut a circular hole into a can.

Claim.—As a new article of manufacture, the can opener consisting of the handle A and cutters C, constructed, arranged, and operating as described, for the purpose of cutting out a disk or plug at a single blow, as set forth.

64,892.—LLOYD MIFFLIN, Germantown, P.—*Solar Chronometer.*—May 21, 1867.—Of the two semi-circular arcs, which are brazed together at their mid-length and at right angles to each other, one represents the equator and is graduated for a time scale; the other arc represents the meridian and supports the bearings of the frame in which the gnomon is placed. The gnomon is a metallic plate with an opening equal in length to the distance between the points corresponding with the extreme declination north and south.

Claim.—A gnomon so formed as to throw the shadow backward when the sun is fast, and forward when it is slow, to an extent equal in each case, to its variation from mean or clock time, so that the shadow of the gnomon will always cross the time-scale at a point indicating the mean time, substantially as described.

Also, correcting the variation from mean or clock-time by the use of the sun's motion in his declination, north or south.

64,893.—WARREN P. MILLER, New York, N. Y.—*Grindstone.*—May 21, 1867.—The blocks are attached to a metallic disk forming a ring of grinding material, the face of which is used for grinding saws, &c.

Claim.—First, the mode of securing the blocks B to the disk A, by means of the flange a, and keys C, all made and operating substantially as herein shown and described.

Second, the grooves d d', when arranged in the grinding surface, substantially in the manner and for the purpose herein shown and described.

Third, constructing grindstones by combining the shaft D and the disk A with the stones B, keys C, all made and operating substantially as and for the purpose herein shown and described.

64,894.—FRANCIS E. MILLS, San Francisco, Cal.—*Door Indicator.*—May 21, 1867.—An aperture is made in the door and fitted with glass, behind which are tablets for conveying announcements. A semi-circular opening communicates with the letter-box inside.

Claim.—First, the reversible box b, provided with the lettered cover c having the hole h and revolving

disk P, said box containing a series of letters or blank disks S S, adapted to be placed in the sink *t*, in the reverse end of said box, substantially as described for the purpose specified.

Second, the reverse box *b*, in combination with the door glass plate *A*, having circular opening *B*, and semicircular opening *D*, substantially as described for the purpose specified.

64,895.—THOMAS and THOMAS H. MITCHELL, Albany, N. Y.—*Steam Generator.*—May 21, 1867.—The water is thrown into the boiler in jets and flashes into steam. The boiler rotates in the furnace. The water is received through one of the trunnions, and the steam passes out through the other.

Claim.—The generator mounted so as to rotate on a horizontal or nearly horizontal axis, and within a furnace, substantially as described, in combination with the pipe or pipes for supplying and jetting the water, substantially as and for the purpose set forth.

Also, the combination of the generator rotating within the furnace, the steam-pipe and steam-chest, and the pipe for supplying and jetting the water within the generator, substantially as and for the purpose set forth.

Also, the combination of the generator rotating within the furnace, the pipe for supplying and jetting the water, the steam-pipe and steam-chest, and the blow-off pipe substantially as and for the purpose set forth.

Also, the steam-pipe attached to and rotating with the generator, and provided with apertures, when combined with the steam-chest and stuffing-box, so that while rotating, it will discharge the steam into the stationary chest, substantially as and for the purpose set forth.

64,896.—JOHN MORGAN, jr., Wheeling, W. Va.—*Bolt and Rivet Machine.*—May 21, 1867.—The bar is thrust into the hole of the reciprocating carrier and is brought in contact with a cutter to remove the blank; the carrier brings the blank to the die and the heading die is brought down while the rod is in contact with the rivet.

Claim.—First, the construction and arrangement of the solid die *x'*, follower *U*, header *N*, and cams *D* *E* *F* and *I*, upon the shaft *B*, substantially as herein shown and described for the purpose specified.

Second, the carrier *W*, knife *10*, and shield *16*, combined, arranged, and operating in the manner and for the purpose specified.

Third, the solid die *x'*, for forming the under side of the head of the rivet concave, as herein set forth for the purpose specified.

64,897.—GEORGE A. MOSS, New York, N. Y.—*Box for Blueing and other Powders.*—May 21, 1867.—The box is formed by boring a hole into a block of wood and covering it with foil. The box is covered with a sheet of foil, which is punctured by a pin to allow the powder to escape gradually, when shaken.

Claim.—A box for powders, of the class specified, constructed of wood and provided with a cover of foil, or its equivalent, substantially as shown and described.

64,898.—JOHN H. J. O'NEIL, New Haven, Conn.—*Car Coupling.*—May 21, 1867.—The draw-head is supported in a yoke allowing vertical movement, and retained at its rear end by a bolt extending through a vertical slot of a bracket. Spiral springs on the bolt each side of the bracket hold it in position. The mouth-ring is hinged and may be depressed to allow coupling to a low car, a spring beneath raising it when free. In coupling, the link forces around a tumbler-catch which is held by a pawl. For uncoupling the pawl is raised by a treadle.

Claim.—First, the combination of the hook *F*, the pawl *I*, and lever *N*, when constructed and arranged so as to operate substantially in the manner herein set forth.

Second, the head *C*, constructed so as to be depressed, independent of the case *B*, substantially as set forth.

Third, the arrangement of the lugs *f*, or in combination with the frame *R*, operating so as to relieve the spring, substantially as herein set forth.

64,899.—ABRAHAM W. OVERBAUGH, New York, N. Y.—*Portable Blacking Case.*—May 21, 1867; an-

tated May 16, 1867.—A book-formed case has hinged supports; inside are a hinged foot-rest and cavities for blacking-box and brushes.

Claim.—First, the arrangement and combination of blacking and polishing utensils, in the manner described, so that the case, when unfolded, forms a stand or bench.

Second, also the feet, combined with the devices, in the manner so as to form an even surface when closed.

64,900.—ARTHUR PAGET, Loughborough, England.—*Knitting Machine.*—May 21, 1867.—Cannot be briefly described other than in substantially the words of the claims.

Claim.—First, the method of and arrangement for retaining each sinker in position by a spring, which also assists the action of the sinker when sinking the thread.

Second, the combination of the bars *C* *D* and the sinkers *C*, when the whole are constructed and operate in connection with each other, as set forth.

Third, the arrangement for drawing across the incline or other equivalent, first in one direction and then in the other, by a double grooved pulley revolving with the main shaft, and by cords or chains and weights or catch-blocks, so arranged as to draw across once during a part of each revolution.

Fourth, the method of suspending the action of the drawing-across motion by the employment of an incline or cam-piece, so arranged that when required it can be made to lift a hinged incline piece, or other mechanical equivalent, and thus prevent the catch-block entering the notch in the drawing-across pulley, by which the said catch-block would otherwise be carried round.

Fifth, the method of producing a selvedge in any part of the width of the frame by the employment of an incline or other mechanical equivalent attached to and traversing with the incline for actuating the sinkers or their equivalents, by which first-mentioned incline the thread layer or thread layers is or are made to descend and pass between the needles at the end of each course.

Sixth, the plates *E'* of steel or other hard metal, in combination with the bar *E*, as described.

Seventh, the method of alternately-knitting web and narrowing or widening the same, or making changes in the knitting; by moving endwise in the direction of their axes the set of cams or levers employed in knitting the web, and another set or sets of cams or levers employed in effecting the narrowing, widening or changes in the knitting.

Eighth, the method of producing by a self-acting motion, in which cams, inclines, or levers can be used, the before-mentioned endwise movements of the cams or levers, which said self-acting motion can be (without arresting the revolution of the cams) brought into operation by hand, or by tappets, or holes, in an endless chain, belt, drum, or pulley.

Ninth, each of the foregoing methods or arrangements in combination with any or all of the other methods or arrangements.

64,901.—ISAAC PEDRICK, Bridgeton, N. J.—*Bedstead.*—May 21, 1867.—The frame which supports the slats has corner holes to receive one end of a double hook, whose other end engages a metal loop on the post. The slats are held together by cords, which pass around the ends of the corner hooks, and are so lapped as to allow their insertion.

Claim.—First, the frame *E* *F* *G* *H* *K*, and hooks *I*, or their equivalents, in combination with each other and with the posts *D*, substantially in the manner herein shown and described and for the purpose set forth.

Second, the post sockets *C*, in combination with the posts *D*, rails *A* and *B*, and frame *E* *F* *G* *H* *K*, substantially as herein shown and described and for the purpose set forth.

Third, stringing the slats *L* upon or connecting them with a cord or tape *M*, substantially in the manner herein shown and described and for the purpose set forth.

64,902.—HENRY H. PEMBER, New York, N. Y.—*Card Holder.*—May 21, 1867.—For attachment to a trunk to receive the direction card. Explained by claim.

Claim.—The card holder, consisting of rectangular

piece of metal B, having a flange *a* along the edges of the two ends and its lower side D, the upper side left open and provided near its center with the catch E, and perforated ear-pieces F F, when all are constructed of one piece of metal, as herein set forth.

64,903.—CHARLES H. PERKINS and RICHARD W. COMSTOCK, Providence, R. I.—*Machine for Swaging Horseshoe Blanks.*—May 21, 1867.—The shoe is first swaged between a fixed straight bar and a plate oscillating upon an adjustable pivot and actuated by reciprocating levers. The blank is bent around the former in its passage between pressure rollers.

Claim.—The combination of the vibrating swaging bar C, operating as described with the stationary bar A, for swaging the heels or horseshoe blanks, substantially as described.

64,904.—BACCHUS PERRY and AARON CORNISH, Lee, N. Y.—*Bolt Holder.*—May 21, 1867.—The bolt shank is held between the forked jaw and the adjustable toothed head of the other jaw. The jaws are retained in position by a ratchet and link at their free ends.

Claim.—The bolt holder, constructed and operating substantially in the manner and for the purpose herein described.

64,905.—BENJAMIN F. PORTER, Manchester, N. H.—*Colander Boiler.*—May 21, 1867.—The colander is used in a common boiler, and its bottom is adjustable vertically by pins, which occupy Z-shaped slots.

Claim.—First, the perforated boiler A, with double L-shaped slots *a*, resting wires *b*, and movable bottom constructed as described, and operating in the manner as and for the purpose specified.

Second, the divider E, in combination with a colander boiler of any kind, when constructed and used substantially as described for the purposes specified.

64,906.—L. O. ROCKWOOD, Ottawa, Ill.—*Gang Plow.*—May 21, 1867.—The plow beams are connected by slide plates, by which their distance is regulated.

Claim.—The adjustable extension joint, Fig. 4, constructed substantially as and for the purpose described in the foregoing specification.

64,907.—COLUMBUS A. ROSE, Columbus, Ga.—*Trunk.*—May 21, 1867.—The trunk is divided in a plane oblique to its sides, and the sections are hinged together and furnished with fastenings. The smaller section being swung up on the base exposes the lids of the compartments in both portions.

Claim.—A trunk provided with a triangular-hinged portion B and internal doors or lids E, capable of being employed as shelves, substantially as described.

64,908.—DUANE A. ROSS, Newport, N. Y.—*Skate Fastening.*—May 21, 1867.—The side clamps are on the ends of segmental-sliding plates contracted by a screw over whose shank the heel-clamping screw is sleeved. Each screw is turned by its thumb knob at the rear.

Claim.—First, the combination of the screw-rods *a b* with the sole and heel-clamps and with the thumb nuts *e k*, for the purpose of fastening or detaching the skate to or from the boot or shoe, substantially as described.

Second, incasing the screw-rods, nuts, and curved arms, substantially as herein described, to prevent them from injury by snow, ice, water, or other causes, substantially as described.

Third, hinging the clamp-plates *n* to the clamp-arms *d* for the purpose of adapting the clamping surface to the varied shapes or tapers of the heels of boots or shoes, substantially as described.

64,909.—J. G. ROUX, Raymond, Miss.—*Cotton and Hay Press.*—May 21, 1867.—The pivoted braces rest in cavities of the nuts upon the right and left hand-screws, which are geared to the same motive wheel and operate to draw in the lower ends of the braces and raise the follower.

Claim.—The independent screws B, having the same pitch but reverse motion, having pinions E on their inner ends, operated by the same pinion D, operating in combination with the nuts G and braces F, substantially as described for the purpose specified.

64,910.—CHARLES A. SCHAEFER, Chicago, Ill., assignor to himself, FRITZ FRILLMAN, WILLIAM WOLFF, and JOHN SCHACHTSCHOBER, same place.—*Hanging and Locking Sash.*—May 21, 1867.—The rack upon the stile has geared connection to the spring wheel, which is sufficiently strong to support the sash. A semicircular stop is turned to engage the wheel to lock the sash.

Claim.—The half-round locking-stud I, in combination with a rack J and pinion F, to lock a window sash at any desired point, substantially as set forth.

64,911.—CHARLES A. SCHAEFER, Chicago, Ill., assignor to himself, FRITZ FRILLMAN, WILLIAM WOLFF, and JOHN SCHACHTSCHOBER, same place.—*Sash Supporter.*—May 21, 1867.—The screw cylinder is inserted transversely into the side of the sash and contains the spring shank of the friction roller which rests against the stile.

Claim.—The combination of the screw cylinder A, shank C, spring I, and fork *c* with the roller *d*, substantially as and for the purpose set forth.

64,912.—ELIJAH U. SCOVILLE, Manlius, N. Y.—*Seed Sower.*—May 21, 1867.—The rotating roller has longitudinal grooves to receive the seed from the hoppers, the seed dropping on zigzag wire-spreaders. The hoppers are adjustable on the roller. The supporting rods of the seed-box have rubber foot blocks to allow a vertical adjustment.

Claim.—First, having two or more hoppers E, within one seed box D, substantially as and for the purpose herein shown and described.

Second, the grooved roller F, when arranged below the hoppers and when provided with adjustable slides *c e*, by which the amount of the seed discharged is regulated, substantially as set forth.

Third, the revolving spreader G, when provided with perforated wings *i i*, substantially as and for the purpose herein shown and described.

Fourth, the perforated wings *i i*, when arranged in zigzag lines upon a revolving shaft G, substantially as and for the purpose herein shown and described.

Fifth, the hoppers E, when arranged in a seed-box D, which is supported by braces *b*, in combination with the spring *c*, and screw *a*, and roller F, substantially as herein shown and described.

Sixth, the grooved roller F, in combination with the rubber-scrapers *h*, which are secured in that side of the hoppers E, toward which the seed is carried by the roller, as set forth.

Seventh, the zigzag perforated revolving spreaders, in combination with the grooved rollers F and hoppers E, all made and operating substantially as herein shown and described.

64,913.—JOHN E. SEAVEY, Kennebunkport, Me., assignor to himself and S. E. BRYANT.—*Tip-cart Body Fastening.*—May 21, 1867.—The bearing projection on the body has a segmental recess to receive the eccentric end of the weighted lever, which is attached by a yoke to the frame.

Claim.—The cart-body fastener made substantially in the manner and for the purpose and to operate as specified, it being composed of the weighted arm A, the eccentric *b*, the yoke B, and the bearing D, formed and arranged as explained.

64,914.—DAVID J. SELDEN, Mount Vernon, Ohio.—*Plow Point.*—May 21, 1867.—The point is run on a tenon of the share, and they are traversed by a vertical doubly countersunk hole and spring-ended pin.

Claim.—The wrought-iron tenon cast in the cast-iron share, with shouldered on each of the four sides of the tenon, the point with the mortise to fit the wrought-iron tenon, with either side of the point up and with the back end of the point of the same size and meeting the shoulders on the cast-iron share. The countersunk hole through the mortised point and the wrought-iron tenon, with the pin passed through the hole to keep the point to its place on the tenon, and the split point of the pin so sprung as to keep it in its place and to hold the point to its place on the tenon with either side up.

64,915.—HENRY F. SHAW, West Roxbury, Mass.—*Hoisting Gear.*—May 21, 1867.—The barrel is attached to a spur wheel, which is surrounded and engaged by a ring gear of larger diameter. This ring

gear is attached to a lever slotted to receive a guide pin near its lower end. The winch has a crank pin entering this lever and gives an oscillating motion to the ring gear, which rotates the spur wheel to an extent equal to the difference in number of cogs between that and the ring gear.

Claim.—First, the combination as well as the arrangement of the ring gear H and spur wheel D, operating as described and for the purposes set forth.

Second, the combination of the ring gear H with the lever K, made substantially as described and for the purpose set forth.

64,916.—LORENZO SIBERT, Mount Solon, Va.—*Manufacture of Iron and Steel.*—May 21, 1867.—The flux is composed of manganese, salt, and limestone. The metal is run into heated iron moulds and heated in a furnace, the moulds being covered with powdered manganese; it is cooled slowly and may be hammered and rolled.

Claim.—The improved method of manufacturing iron and steel, substantially as herein described.

64,917.—GEORGE W. SMITH, Mount Olivet, Ky.—*Garden Cultivator.*—May 21, 1867.—The head has cultivator teeth and an adjustable and removable harrow frame. It has a hook for a draft strap, and vertical pins for attachment of a weight block.

Claim.—The cultivator in its combined form, having a number of tools E F F G G H, easily detached for separate use and capable of combined use, substantially as described.

64,918.—J. SMITH and J. F. IRVIN, La Porte, Ind.—*Car Coupling.*—May 21, 1867.—The swinging pin may be thrown back by the entrance of the link, or may be drawn back by the slide, actuated by a rack and pinion.

Claim.—The slide D, the pinion E, the coupling pin B, and the shaft F, constructed, arranged and operating substantially as herein shown and described, in combination with the draw-head of a railroad car, for the purposes set forth.

64,919.—E. E. STEDMAN, Randolph, Ohio.—*Corn Sheller.*—May 21, 1867.—The machine is grasped by the handles, and the point-end of an ear inserted between the spring jaws. The machine is revolved, shelling the corn from the cob and discharging it at different apertures.

Claim.—The jaws C, springs E, as arranged in combination with the case A, for the purpose and in the manner described.

64,920.—H. L. STIBBS, Savannah, Ga.—*Temporary Rudder.*—May 21, 1867.—The jury rudder is hinged to the forked straps, to whose ends cords are attached, and which are made fast to the ship's sides. Its post passes through the post-hole, being drawn in with a rope in slipping.

Claim.—The combination of the chains D, or their equivalent, and branched or forked hinge-straps C, with the body of the rudder B, substantially as herein shown and described and for the purpose set forth.

64,921.—W. A. STOWELL, Moretown, Vt.—*Car Coupling.*—May 21, 1867.—The pin is held in the upper horizontal bar of the falling yoke, and the lower bar of the same is engaged by the hook of a swinging lever, and tripped by the entering link.

Claim.—The combination of the yoke E, holding the coupling-pin F, bumper-head A, having two mouths, bent lever I, and pivoted hook H, substantially as described for the purpose specified.

64,922.—JAMES B. STRICKLAND, Scranton, Pa.—*Adjustable Eccentric.*—May 21, 1867.—The slot in the arm of the collar which is keyed to the shaft receives a bolt passing through the eccentric by which the latter is adjusted on the shaft.

Claim.—The combination and arrangement of the collar and arm B C, and the eccentrics E F, substantially as herein shown and described for the purpose set forth.

64,923.—J. W. SUSA, San Leandro, Cal.—*Gang Plow.*—May 21, 1867.—The fore-end of the plow-frame is adjustable vertically in respect to the wheels. The tongue is pivoted and has a vertically adjusting

screw, connecting its rear end to a metallic plate attached to the frame.

Claim.—First, the combination and arrangement of the shaft e, the segment arms d d', the axles g g' of the wheels D D, the hand lever h, and the rack k, for raising and lowering the gang plows A A, substantially as herein described.

Second, The arrangement of the draft-pole F, pivoted to the plow beams B B, and depressed and elevated by the screw a, substantially as and for the purpose set forth.

64,924.—JACOB VAIL, Beloit, Wis., assignor to himself and JOHN H. LINDERMAN, same place.—*Gate.*—May 21, 1867.—The cords by which the gate is swung run on pulleys pivoted to the ends of the horizontal bar, and over-pulleys pivoted to posts, standing at right angles to the gate when shut.

Claim.—First, the arrangement of the cords H and I, and pulleys J L O P, with each other and with the gate B, for the purpose of opening and closing said gate, substantially as herein shown and described.

Second, making one of the horizontal boards or bars of the gate act as a sliding latch, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the coiled spring E, or its equivalent, with the sliding bar b', substantially as herein shown and described.

Fourth, the combination of the pivoted lever T, with the gate B, sliding bar b' and operating cords H and I, substantially as herein shown and described and for the purpose set forth.

64,925.—H. WESTON, Towanda, Pa.—*Attaching Burners to Lamps.*—May 21, 1867.—A packing strip of leather fills the circular groove in the neck and forms a yielding surface against which the attaching screw impinges.

Claim.—Providing the interior of the collar C with a screw, and having the exterior of the projection B covered with a packing a of leather or any suitable cement or composition, with set screws c passing through the collar, substantially as and for the purpose set forth.

64,926.—BENJAMIN F. WHITNER, Madison, Fla.—*Planter and Manure Distributor.*—May 21, 1867.—The furrow-opening plow-point is followed by the bevel-edged wheel which gives shape to the furrow. The bottom of the seed-hopper is closed by the cylinder whose recesses are adjustable to the amount of seed required; a covering drag follows. By removing the annular ring from the cylinder and adjusting the sliding brushes in the hopper, fertilizers may be distributed.

Claim.—The combination of the furrow opener g, the furrow wheel A, and the covering drag D with each other and with the planting cylinder C and the seed receptacle B, substantially in the manner and for the respective purposes herein set forth.

Also, the grooved planting cylinder C when it is combined with a jointed and a recessed ring i, and when the said cylinder works in combination with the furrow opener g, the furrow wheel A, and the covering drag D, substantially in the manner herein set forth.

64,927.—ALBERT WILCOX, Maquoketa, Iowa.—*Shovel Plow.*—May 21, 1867.—The extra side shovel is attached and secured by a curved supporting bar and brace, and the equilibrium of the draft is maintained by the extra curve and size of the high shovel.

Claim.—The attachment of the third shovel A, by means of the curved-supporting bar B to the beam C of the main plow, also the manner of equalizing the draft of said plow, by making the left-hand standard of the main plow more curved and the shovel on the same a size larger, in the manner and for the purpose above set forth.

64,928.—MARVIN T. WILLIAMS, Milwaukee, Wis.—*Egg-Beater.*—May 21, 1867.—The propeller blades on the shaft dash the eggs against the beating arms.

Claim.—Propeller blade M, beating arms L, shaft I, pinion F, cover H, and cog-wheel D, arranged and combined substantially as and for the purpose described.

64,929.—JOSEPH WOODRUFF, Rahway, N. J.—*Steam Generator.*—May 21, 1867.—Pipes descend vertically from the main boiler to the smaller boiler beneath, and other pipes pass upward from the lower boiler and discharge into the upper one at different altitudes.

Claim.—First, the connection of two boilers by means of the pipes D D, substantially as described.

Second, extending the tubes D D, a nozzle into the boiler and bending or deflecting the same, for the purposes substantially as set forth and described.

64,930.—HENRY A. ALDEN, Matteawan, N. Y.—*Car Spring.*—May 21, 1867.—The concavo-convex plates are arranged in pairs, making double convex springs whose enclosed spaces are filled with rubber.

Claim.—In a spring composed of one or more pairs of concavo-convex, or conical and radially corrugated plates, as described, interposing between the plates of each pair a disk of vulcanized rubber or other elastic body of suitable dimensions, substantially in the manner and for the purposes set forth.

64,931.—CHARLES H. AMDON, Greenfield, Mass.—*Brace for Bits.*—May 21, 1867.—The shank of the bit is clamped between the stirrup and socket; the latter has a projection in front of the shoulder of the bit to keep it in the socket.

Claim.—The combination of the clamping stirrup B and shoulder G in the shank of a bit-brace, for the purpose set forth.

64,932.—CHARLES H. AMDON, Greenfield, Mass., assignor to BAILEY WASHING AND WRINGING MACHINE COMPANY, Woonsocket, R. I.—*Clothes Wringer.*—May 21, 1867.—The journals of the gear wheels on the roller shafts are linked to the journals of the wheels by which they are driven, the latter wheels engaging to maintain their coincident motion. The upper roller has vertical adjustability and its boxes are depressed by a spring bar connected by rods at its center to springs in the upper corner of the frame.

Claim.—First, the cog wheels C D E F connected together at their axles by the straps or links *d e f*, so as to form a flexible train of gearing between and in combination with the rollers B B of a clothes wringing machine, substantially as and for the purpose set forth.

Second, the levers H H, arranged substantially as set forth, to be in opposition to a resisting force exerted by a spring or springs, or their equivalent.

64,933.—WILLIAM H. APPLIGATE, Le Claire, Iowa.—*Coffer-Dam and Boat.*—May 21, 1867.—The boat has a large central opening, surrounded by water-tight casings, between which plank is driven down into the bed of the river; the space between the plank is tamped with clay, and the water pumped from the central space.

Claim.—First, the construction and arrangement of a floating coffer-dam and boat combined, having the water-tight compartments and provided with the series of frames arranged to support the planking, substantially as herein shown and described.

Second, in combination with a combined coffer-dam and boat constructed as described, the shafts A and F, and the carrier or endless belt D, for removing material from within the dam, substantially as set forth.

Third, the construction and arrangement of the boat with an opening at its rear end, substantially as described.

64,934.—EDWARD BALBACH, Jr., Newark, N. J.—*Separating Zinc from Gold and Silver.*—May 21, 1867.—A movable black-lead retort with a neck is placed in a furnace so that it can be turned up for the reception of the alloy of gold, silver, and zinc; the latter is distilled off, and the retort turned down to empty out the precious metals.

Claim.—A movable black-lead retort formed with a neck and introduced within a furnace, substantially as set forth, for receiving gold, silver, lead, and zinc alloys, and distilling off the zinc, the remaining alloy being poured out by inclining the retort, as set forth.

64,935.—PETER BARRY, Newark, N. J.—*Machine for Wiring Blind Stats.*—May 21, 1867.—The roller is placed between the frame and a ratchet guide-rod,

having a shoulder engaging the rear end of the rod by which it is driven forward, reciprocating pawls engaging the ratchet for that purpose. The pawls are astride of an inclined bar, and slide toward the operating plunger. One staple is automatically separated from the rest, and descends beneath the plunger by which it is forced into the roller.

Claim.—First, the independent cut-off F, arranged to operate upon the staples by coming between them from above, substantially as described.

Second, the independent cut-off, in combination with the guides *e e*, which guide its free end to the guide-strip B, substantially as shown.

Third, the combination of the elbow lever S, the slot F, the pawl L, and the adjusting shoe M, substantially as shown.

Fourth, in combination with the feeding pawl L, the adjusting shoe M, and the feeding bar or rack, substantially as shown.

Fifth, the application of a spring-plate R to the feeding mouth or space below the plunger, when arranged and combined with a rigid or unyielding guide-strip B, substantially as set forth.

64,936.—A. R. BARTRAM, Redding, Conn.—*Attaching Carriage Thills.*—May 21, 1867.—The coupling loops are forged upon short tangs that slip telescopically in the sockets of the cross-head to which the tongue or thills are attached. The points of the set screws enter grooves in the sides of the tray to prevent rotation.

Claim.—First, the adjustable coupling A, in combination with the cross-bar C, substantially as set forth.

Second, the tang B, of the coupling A, provided with a groove, as set forth, in combination with the socketed cross-bar C and the set screw E.

64,937.—J. H. BEAN, Marietta, Ohio.—*Lifting Jack.*—May 21, 1867.—The lever is pivoted on the ends of two vertical ratchet bars, sustained by spring pawls, and is raised by oscillation in a vertical plane, the pawls acting alternately as fulcrums.

Claim.—The lever E, the serrate bars C C', both the latter working in the vertical passages B B', for greater security, in combination with the levers F F' and detents G G', and springs *b b'*, the detents pivoted to the levers, and operating at right angles to the said bars, substantially as described.

64,938.—WILLIAM B. BEMENT, Philadelphia, Pa.—*Lathe.*—May 21, 1867.—The pulleys are placed on the overhanging mandrels, and their peripheries turned off by the tools in the slide rests, which, in addition to their traversing motion, have an automatic movement toward and from the mandrels, to round the faces of the pulleys.

Claim.—First, the combination of the spindle C, its two overhanging ends, driving wheel or pulley F, and bearings B B, the whole being arranged substantially as and for the purpose herein set forth.

Second, the combination of the said spindle and its two overhanging ends with the bed *b*, carrying two slide rests, when the said spindle can be adjusted from and towards and in a direction at right angles to the said bed *b*.

Third, the said spindle C, its adjustable bearings B B, and its cog wheel F, in combination with the adjustable arms I I, and the gearing herein described, or its equivalent.

Fourth, the combination of the two slide rests, the two screw shafts *m* and *m'* for operating the said rests, the driving pinion *n*, and the two clutches *p* and *p'*.

64,939.—JOHN M. BILLHOFFER, Irvington, N. Y.—*Life Preserver.*—May 21, 1867.—The elliptical frame has a hood to cover the head and shoulders when required, and a bag to receive the person in a sitting position. The hood has an air pipe and window, and when down the navigator may work the oars.

Claim.—The double cone-shaped frame A, provided with the bag B and jaws C, substantially as and for the purpose shown and described.

64,940.—WILLIAM E. BIRD, New York, N. Y.—*Oscillating Engine.*—May 21, 1867.—The steam passes through the trunion, but is directed by an ordinary

slide valve with a fixed seat, the valve rod being actuated by an eccentric on the crank shaft.

Claim.—The combination in steam or other oscillating engines, with the truion of the engine cylinder of a reciprocating slide valve working against a fixed or stationary seat, and operating to control the ports or passages of the engine, substantially as described.

64,941.—G. W. BOWLBY, Pontiac, Mich.—*Combined Back Sight and Cartridge Retractor for Firearms.*—May 21, 1867.—The attaching screws of the sight traverse slots in the same to allow its backward movement to retract the cartridge shell by a claw which engages the flange of the shell.

Claim.—The sight F, constructed and used in combination with the barrel A, for the purpose of forming a sight and retractor at the same time, substantially as specified.

64,942.—CHARLES BRIED, Newark, N. J.—*Carriage Trimming.*—May 21, 1867.—The tubular rubber sockets and sleeves are made for attachment to the tongues, thills, bows, and whiffletrees.

Claim.—Rubber or gutta-percha tubes, sleeves, or rings, or compounds of gum elastics, when made and used in the forms and for the purposes herein above designated.

64,943.—ALBERT BROWN, Troy, N. Y.—*Heating Stove.*—May 21, 1867.—The stove top has a circular opening through which a covered oven is let down; a rack in the oven sustains articles to be cooked, and a hole in its bottom plate receives a kettle, or permits the passage of the fuel into the basket beneath. This hole has an ordinary stove cover.

Claim.—In connection with the combustion chamber of base-burning stoves, the arrangement of a fuel reservoir or supply-chamber C, directly under an oven B, substantially in manner as herein described and for the purpose set forth.

64,944.—DARIUS C. BROWN, Lowell, Mass.—*Warp Eye of Wire Heddles for Loom Harness.*—May 21, 1867.—The end angles of the heddle eyes are rounded out to prevent catching of the warp in the same.

Claim.—An improved heddle eye, made substantially as described, that is, of wires or parts of a wire twisted together and subsequently spread laterally at the angle or angles of junction, in manner substantially as set forth, so as to tighten the twist at either or both ends of the eye, as and for the purpose as hereinbefore explained.

64,945.—JOHN A. BURCHARD, Beloit, Wis.—*Gate.*—May 21, 1867.—The gate is operated by the ends of the counterbalancing weights; by withdrawing the spring catch the gate is lowered into the vault by its own gravity.

Claim.—An improved farm and carriage gate when constructed and operated substantially as set forth and for the purpose specified, in combination with the vault O O, weight C, lever D, pulleys E E, tracks Q Q, cords e f, latch b, pulleys H H, posts A A G G, and platform P.

64,946.—CHARLES BUTTERWORTH, Miamisburg, Ohio, assignor to himself and JACOB KERCHER.—*Lifting Jack.*—May 21, 1867.—The lever is connected to the extension upright, and rests on the movable fulcrum attached to the post. The spring catch enters holes in the extension piece to retain it in position.

Claim.—The combination and arrangement of the uprights A and B, the lever E, with its fulcrum roller n, and the supporting pieces F, constructed substantially as described and for the purpose specified.

64,947.—THOMAS J. CHUBB, Brooklyn, N. Y.—*Apparatus for Accumulating and Reclaiming Heat.*—May 21, 1867.—The gas and air are heated separately before their admittance to the mixing and combustion chamber. The devices are stated in the claims.

Claim.—First, the employment in a chamber or chambers of a series of tubes arranged in such manner that the exterior surfaces of said tubes are exposed to or are in communication with the waste heat passages in the chamber in which said tubes are ar-

anged, and the space or passages between the tubes in said chamber are in communication with the chamber of combustion, and also to and with the passages leading to the chimney, and the interior of said tubes or passages therethrough are in communication with a separate chamber or passage leading from the gas-generating furnace to and through the interior of the said tubes to the chamber of combustion, when the foregoing is combined with substantially a similar chamber, series of tubes, spaces, passages, and communications, the interior of such latter series of tubes being in communication with the passage leading from the open air to and through the interior of said tubes to the chamber of combustion, substantially as described.

Second, the combination in or with a gas-generating furnace of a chamber or chambers containing a series of tubes, made hot by the waste heat produced by the combustion of gas and air heated in these passages as separate currents to the place of combustion in a direct or continuous manner by opposite surface action or passage of the heat through the material of which said tubes are composed, substantially as described.

Third, the employment of a series of tubes so arranged that they may be heated by the products of combustion, produced by the mingling together of heated air and gas, when said air and gas have been heated by heat communicated through the material of which the said tubes are composed, substantially as described.

Fourth, the employment of a chamber or chambers containing a series of tubes so arranged as to present an extensive caloric absorbing surface, and conducting heat through the material of which said tubes are composed, and communicating it to and heating a current or currents of air and gas or gases passing on or over the opposite side of the said tubes.

Fifth, constructing chambers with a series of tubes for the entrance of continuous currents of air and gases for supporting combustion in a separate chamber, which currents are heated by waste heat or the products of combustion of such heated currents passing in opposite directions, or nearly opposite directions, and on opposite sides of said tubes, and through the material of which they are composed, for the purposes specified.

Sixth, making provision for heating air and reheating gas in their passage to a chamber of combustion by the heated products resulting from combustion in said chamber, when said gas, air, and heated products flow through their respective passages without requiring reversal, substantially as specified.

64,948.—ADRIAN CORNELL, Newton, Pa.—*Combined Grain Thresher and Cleaner.*—May 21, 1867.—The grain and straw pass from the threshing cylinder to the double vibrating shaker where the straw is removed, the grain and chaff falling to the winnowers beneath; the blast from the fan assists in each operation.

Claim.—First, the combination substantially as described of the threshing cylinder, the double vibrating shaker, the fan, and the shaking shoe, when arranged for joint operation, as set forth.

Second, the detachable shoe frame R, constructed and arranged as described.

Third, the combination of the shaker, the shaking hopper, and the riddle, arranged for joint operation, as described.

Fourth, the combination of the driving shaft and pulleys with the cylinder shaft and pulleys and the pulleys on the fan shaft, arranged and operating as described, for the purpose of adapting the machine to use with either an undershot or overshot horse-power, without crossing the belts.

64,949.—CHARLES CROW, Onango, Ill.—*Lifting Jack.*—May 21, 1867.—The claw-steps on the lower ends of the racks engage the sill, and the windlass cord is attached to an under girthing chain of the building. The racks are operated by spur wheels on the cord drum, so as to act with unanimity.

Claim.—First, the arrangement and combination of the movable steps I, racks D, and guides B C, when constructed to operate substantially as and for the purpose set forth.

Second, the combination of the roller H, rope E,

pulley J, inner guides C, and drum *v*, when arranged substantially as and for the purpose described.

64,950.—FRANCIS DANZENBAKER, Bridgeton, N. J.—*Churn and Pump Power.*—May 21, 1867.—An arm from the pendulum shaft is connected to the pump rod and another pendulum on the shaft of the pump rod arm is the means of working the churn dasher.

Claim.—The pendulums B and K and their attachments, lug C, shaft D, and arms G and F, when arranged to operate both a churn and pump, either separately or combined, substantially as set forth.

64,951.—JONATHAN DEARBORN, Seabrook, N. H.—*Machine for Applying Animal Power.*—May 21, 1867.—The endless wheel track is operated by animals; a train of gearing connects with the driving wheel, which is attachable by belt to other machinery.

Claim.—The combination and arrangement of the inclined shaft A, the wheel C, the guard E, and the platform G.

Also, the combination of the shaft A, the wheel C, the guard E, the fender D, and the platform G.

Also, the combination of the beveled gears H I, the shaft K, the shaft A, the wheel C, the guard E, and the platform G, the whole being arranged so as to operate as specified.

64,952.—L. DE FOREST, Birmingham, Conn.—*Hoop for Skirts.*—May 21, 1867.—Explained by the claim.

Claim.—Protecting the hoops of hoop skirts by a succession of metallic clasps or spangles, in the manner and for the purpose substantially as herein set forth.

64,953.—CHARLES DISSTON, Philadelphia, Pa.—*Saw.*—May 21, 1867.—The key occupies counterpart recesses in the tooth and the edge of the socket in the saw blade; the seats of the blocks on the ends of the key fit on ridges in the respective portions, being retained in position by the force of the spring which forms the bow of the key.

Claim.—An elastic detachable forked key C, constructed and adapted to the retention of a detachable saw tooth, substantially as specified.

64,954.—HENRY DISSTON, Philadelphia, Pa.—*Treating Steel Blades, &c.*—May 21, 1867.—Steel blades while yet hot from the tempering are condensed and straightened by impact or pressure.

Claim.—The within-described mode or process of treating blades or other thin pieces of steel, that is to say, straightening and condensing them by impact or pressure immediately after they have been reduced to the desired temper, and while they are still hot, as described.

64,955.—L. DORMAN, Worcester, Mass.—*Carriage Wheel Hub.*—May 21, 1867.—The wooden center piece of the hub is driven into the metallic shell, whose internal longitudinal fins fit into grooves in the wooden core; sockets in the shell receive the spokes.

Claim.—First, the combination of the grooved wooden part A with the metal shell B, substantially as and for the purposes set forth.

Second, the combination of the grooved wooden center or core A and the spokes E with the slotted or metal shell part B, substantially as and for the purpose set forth.

64,956.—ISIDORE DREYFUS, New York, N. Y.—*Automatic Lubricator.*—May 21, 1867.—The duct from the cup to the journal is occupied by a loosely fitting pin with a flattened end, the agitation of which by contact with the journal aids the flow of oil.

Claim.—An automatic lubricator, constructed to be applied as described, provided with a loose rod or dasher, set in motion by the journal for conducting the lubricating material thereto, substantially as specified.

64,957.—SIMON DRUM, Alleghany City, Pa.—*Sash Pulley.*—May 21, 1867.—The sheave *c* is held between two plates, which have counter projections and depressions on the edges of their incurved ends, and side perforations for reception of the sheave pivots.

Claim.—A shell for a sash pulley, said shell being made in halves and without a face piece, and so ar-

anged that the openings for the screws are divided by the line of separation between the halves of said shell, whereby one half of each opening for the screws is cast in the ends of each half of the shell, the whole being constructed, arranged, and operating substantially as herein described and for the purpose set forth.

64,958.—STEPHEN W. EATON, Farmington, Me.—*Support or Bearing for Friction Rollers.*—May 21, 1867.—For supporting railway carriages on their trucks. Device explained by the claim.

Claim.—The box A, constructed substantially as specified, viz: with the elongated recesses or notches *a*, to receive the journals of the roller B, and so made as to enable the roller to rest on the base plate *c* of the box, and roll thereon a short distance in either direction from the middle of the plate, as described.

64,959.—HENRY FAYETTE, Port Chester, N. Y.—*Wooden Pavement.*—May 21, 1867.—The sections are made of wooden blocks bolted together, and the sections are locked together to form a pavement. The outer blocks of each section are longest, and becoming imbedded in the earth prevent rocking.

Claim.—First, the sections of pavement composed of a number of wooden blocks, bolted together longitudinally and transversely, substantially as described.

Second, in sections of pavement composed of wooden blocks, bolted together as described, making the blocks in the outer tier of each section longer than the central blocks, as and for the purpose described.

64,960.—HENRY FAYETTE, Port Chester, N. Y.—*Wooden Pavement.*—May 21, 1867.—Wooden blocks are bolted together in sections by through rods running transversely to each other. The sections are united by tongues and grooves.

Claim.—First, locking together sections of wooden pavement by means of tongues and grooves, so arranged that each section will be supported by every adjoining section, substantially as described.

Second, sections of pavement, composed of wooden blocks bolted together as described, and provided with tongues and grooves so arranged that when laid down in a pavement each section will be locked with all the adjoining sections by means of said tongues and grooves, substantially as described.

64,961.—JOHN C. FISH, Barnstable, Mass.—*Device for Lubricating Wheels, &c.*—May 21, 1867.—The reservoir is secured to the hub of the wheel, and a pipe furnishes the oil through an opening in the hub and box, when air is supplied to the chamber; the partial vacuum at other times retains the oil.

Claim.—A lubricating apparatus constructed of a reservoir, in which is located the tube *c*, provided with openings as described, and with a perforated movable tube *i*, operating substantially as described.

64,962.—JOSIAH FOSTER, Sandwich, Mass.—*Marine Furniture.*—May 21, 1867.—The ends and bottom boards of the sofas are matched by tongue and groove and packed by intervening rubber strips. The sections are clamped and bolted together, and the cross seats strengthen the attachment.

Claim.—A construction of movable furniture for vessels, so that by means of packed joints, arranged and operating as set forth, it can be transformed into boats, substantially as described.

64,963.—THADDEUS FOWLER, Seymour, Conn., assignor to THE FOWLER NAIL COMPANY, New Haven.—*Machinery for Making Nails.*—May 21, 1867.—The blanks are fed in a continuous rod, with projections for two heads at intervals. It first passes between the grooved segments of two rollers, being fed by corners of said segments engaging the head projections, and then between transverse and oblique cutters, which sever the rod at the head and point respectively.

Claim.—First, moving the rod of blanks forward, and adjusting successively each blank to its proper position before the dies bite upon it, by means of the lateral fingers *o s*, arranged and operating in the manner herein described.

Second, combining with devices for feeding the nail blanks, the two pairs of cutters *h* and *vi*, *l* and *n*, arranged substantially as described.

Third, the combination of the cutters *h* and *m*, *l* and

n, with the rollers *d* and *e*, formed with cam-shaped surfaces *t* and flanges *o* and *s*, as and for the purposes specified.

64,964.—THADDEUS FOWLER, Seymour, Conn., assignor to THE FOWLER NAIL COMPANY, New Haven.—*Machine for Making Horse-shoe Nails.*—May 21, 1867.—Nail blanks prepared on a machine described in patent No. 64,963, are dropped in the notches of an annular disk intermittently rotated by a pawl. Shanks protruding from the periphery of the disk are first pressed edgewise, then sidewise, and then the point is sheared to form. A reciprocating file gives the side bevel to the point.

Claim.—First, the jaws *n n*, fitted and actuated substantially as specified, to straighten the nail by pressure on its edges, as set forth.

Second, the die *p* in combination with the carrier plate *h*, for acting upon the side of the nails as brought around successively, as specified.

Third, the cutter *q* in combination with the carrier plate *h*, for clipping off the nailpoints as successively presented by said carrier plate *h*, as set forth.

Fourth, the spring friction plate *t* in combination with the carrier plate *h*, and a file for removing the side of the point, substantially as specified.

64,965.—JOHN A. FREY, New York, N. Y.—*Lamp Burner.*—May 21, 1867.—The lower chamber of the burner has a circle of apertures, and is divided by a perforated diaphragm from the upper chamber, which is crowned by a conoidal frustum cap.

Claim.—The combination of the air chambers *f* and *g* with the air inlets *d* and *d'* and perforated diaphragm *c*, arranged and operating as and for the purpose set forth.

64,966.—E. R. GARDINER, Brooklyn, N. Y.—*Machine for Sizing and Felting Hats.*—May 21, 1867.—The endless belt is carried around drums. The lower portion of an inclined adjustable vat bed forms a hot water battery; the rolls alternate between the sizing surface and the hot bath. The vat bed rests on spiral springs to give elasticity or a gentle vibratory action.

Claim.—The combination with the inclined endless belt or apron *C* of the inclined adjustable or self-adjusting partly submerged bed *F*, and box or bath *A*, substantially as and for the purpose or purposes herein set forth.

64,967.—T. ELZARE GARDINER, Jr., Bryantown, Md.—*Gang Plow.*—May 21, 1867.—The two gang plows on each side bar of the frame throw the furrows into a ridge; drags and rollers follow the plows.

Claim.—A gang plow, constructed and operating in the manner substantially as shown and described.

64,968.—GEORGE D. GARVIE, Hartford, Conn.—*Guide for Sewing Machines.*—May 21, 1867.—The spring arm holds the cloth upon the plate and determines the edge towards the face of the guide, which is adjustable on the cloth plate of the machine.

Claim.—The adjustable gauge *B*, in combination with the spring arm *a*, both being constructed and arranged as described.

64,969.—J. C. GASTON, Cincinnati, Ohio.—*Atmospheric Churn Dasher.*—May 21, 1867.—The hollow dasher has a perforated tubular handle, through which air is introduced into the cream.

Claim.—The tubular handle *A*, provided with the perforation *b*, near the upper end *a*, in combination with the dash board *c*, having the annular concavity *c'* in its lower face, all constructed and operating substantially as herein described and for the purpose set forth.

64,970.—A. E. GRAHAM, Richland, Ind.—*Bride Reins.*—May 21, 1867; antedated November 21, 1866.—The continuous reins extend from the check hook through the gag runners and bit ring to the driver's hand.

Claim.—The continuous reins *A A*, passing through pulleys on the ends of the bit, and also through pulleys each side of the gag rein, and around the terret or check hook, being tacked together, (as seen at *x*) or prevented by a keeper from sliding through said check hook, substantially as described and for the purposes herein specified.

64,971.—ADELBERT W. GRAY, Bennington, Ohio.—*Churn.*—May 21, 1867.—The break attached to the bottom is deeply cleft to increase the agitation. The beater shaft is rotated by an endless band and driving wheel.

Claim.—The special arrangement of the break *C*, in combination with the beater *H*, when operated conjointly in the manner and for the purpose set forth, by means of the band *I*, pulley *K*, and wheel *J*.

64,972.—WM. D. GRIMSHAW, Newark, N. J.—*Reciprocating Engine.*—May 21, 1867.—The steam enters the cylinder through axial passages which receive the end projections of the piston, forming dash pots.

Claim.—The combination with a reciprocating piston of a cushioning attachment, operating as a sliding or movable plug to the port or ports of the cylinder, substantially as specified.

64,973.—C. H. HALL, Binghamton, N. Y.—*Bed Bottom.*—May 21, 1867.—The slats are attached by wires to fixed screws in the frame. The wires pass from the upper sides of the screws to the under sides of the cylindrical ends of the slats, and have three or more coils around them.

Claim.—The arrangement of a series of springs *C*, each having three or more coils, which are placed on pins *D* and on the end of the slats *B*, substantially in the manner and for the purpose shown and described.

64,974.—H. G. and E. L. HALL, Putnam, Ohio.—*Plow.*—May 21, 1867.—The share edge and point are detachable for removal when worn.

Claim.—First, the detachable side plate *B* of the plow point *A*, substantially as and for the purpose specified.

Second, the cutting point *C*, composed of a wrought-iron shank *e* and a cast or chilled-iron cap *c'*, substantially as and for the purpose described.

Third, the method above described of attaching the side plate *B* to the plow joint *A* by means of shouldered pins *b' b'* projecting from the side plate *B* into slots in the body of the plow point, where the shoulders of the pins rest on ledges or keys in the walls of the slots, substantially as and for the purpose specified.

Fourth, the method of attaching the shank *c* to the plow point *A*, above described.

Fifth, the independent cutter or colter *H*, substantially as and for the purpose described.

Sixth, the construction of the cutting point *C* and the groove or bed *a*, as above described, so that the cutting point may be self-sharpening, substantially as and for the purpose specified.

64,975.—WM. I. and J. W. HARRIS, Newport, N. Y.—*Door Lock.*—May 21, 1867.—The bolt is actuated by an eccentric which is connected to a cylinder having a keyhole into which the tumbler keys project; these slide radially in the cylinder and about on similarly-sized spring pins in the hub. The key is of proper form to adjust the tumbler pins so that their ends shall coincide with the periphery of the cylinder and allow its rotation in the hub.

Claim.—First, in combination with the key for arranging the tumblers, the eccentric or slide for moving the lock bolt, substantially as described.

Second, in combination with the slide, the stops against which it impinges, or brings up at the exact point in both the locked or unlocked positions for the admission and withdrawal of the key, substantially as described.

64,976.—H. A. HARVEY, New York, N. Y.—*Window-sash Weight.*—May 21, 1867.—The sheet-metal case is fitted with an anchored ring at top, and filled through the bottom with heavy comminuted iron ore and cement.

Claim.—The new article of manufacture herein described, namely, a sash weight, composed of a metallic case filled with iron ore and cement, manufactured as herein set forth.

64,977.—BIRDSILL HOLLY, Lockport, N. Y.—*Turbine Water Wheel.*—May 21, 1867.—The vertical driving shaft has a disk which forms the cap of a chamber to which water is admitted from the flume, to sustain by water pressure any part, or the whole weight, of the wheel and shaft.

Claim.—Sustaining turbines and other wheels by means of a water chamber H and disk F resting directly upon the sides thereof, both surrounding the step and shaft of the wheel when supplied with water from the flume, and proportioned to the height thereof, substantially as set forth.

Also, in combination with said device, the supply pipe I, arranged for receiving the water from the outside of the stop gate J, substantially in the manner and for the purpose set forth.

64,978.—J. HOUGHTON, New York, N. Y., and G. WINGFIELD, Brooklyn, N. Y.—*Device for Perforating Cigars.*—May 21, 1867.—The exterior sleeve moves the rear plate to which the needles are attached and projects them into the cigar; the recoil spring retracts them.

Claim.—First, the combination of the needles a, head A, casing B, spiral spring b, ring d, and piece C, substantially as and for the purpose set forth.

Second, the combination of the head A and needles a a with the casing B, substantially as and for the purposes set forth.

Third, the combination with the head A and needles a a of the conical piece C having a trumpet-shaped or conical opening in it, substantially as and for the purpose specified.

Fourth, the combination with one or more needles a a, head A, and casing B of the spiral spring b, substantially as and for the purpose set forth.

64,979.—WILLIAM G. HUGHES, Hebron, Ind.—*Broom Head.*—May 21, 1867; antedated May 8, 1867.—The metallic head and ferrule are braced by curved wires running through the sliding joint, through which also passes the spring band encircling the brush.

Claim.—First, the combination of the wire braces I and J with the parts A and B and with the brush of the broom, substantially as described and for the purpose set forth.

Second, the combination of the spring or bracing wires M and N with the wire braces I and J and the brush P, substantially as described and for the purpose set forth.

64,980.—W. W. HUSE, Brooklyn, N. Y.—*Tobacco Cutting Machine.*—May 21, 1867.—The annular cutter is adjustable circumferentially on the periphery of its eccentric disk to bring fresh portions of the edge into action. The inner face of the cutter is concave to prevent trouble from slight gumming. Scrapers and sharpeners act on the cutter during use.

Claim.—Arranging or hanging the circular cutter eccentrically upon its shaft, so that only a portion of its cutting edge is at one operation brought into action on the tobacco or other material to be cut, and when desired, can be shifted on its shaft to bring another portion of its cutting edge to act on the substance to be cut, as described.

Also, making the cutter for a short distance from its periphery or cutting edge inclining outward from its plane of motion, as herein described, in combination with the method of hanging the cutter eccentrically and so that it can be shifted on its shaft, as described.

Also, in combination with the eccentric cutter, the employment of a sharpener and wiper, arranged substantially in the manner and for the purpose set forth.

64,981.—HENRY HUTCHISON, Three Rivers, Mich.—*Seeding Cultivator.*—May 21, 1867.—Explained by the claims and illustration.

Claim.—First, the reversible cross-shaped marker O, constructed, arranged, and operating as described. Second, the reversible rhomboidal spades R, constructed, arranged, and operating as described.

Third, the reversible winged covering plows U, constructed, arranged, and operating as described.

Fourth, adjusting and holding the shades upon the legs or shovel stocks by means of the hinged clamps and set screws, constructed and arranged as described.

Fifth, the combination of the hinged slotted legs with the pivoted drag bars having hooks on their rear ends to pass through the slots and be held by wooden pins behind the legs, when constructed and arranged as described.

Sixth, the combination of the marker and front plows with the shifting bar P, shifting lever P', and

driver's seat, when arranged for joint operation, as set forth.

Seventh, the combination of the legs with their supporting beams by means of the laterally-adjustable sockets, forks, lugs, and set screws, constructed, arranged, and operating as described.

Eighth, the combination, substantially in the manner described, of the front and rear plows, mounted on opposite ends of levers pivoted to rock transversely to the axle to relieve the strain on the plows caused by inequalities in the surface of the ground.

Ninth, the combination of a series of front and rear plows with longitudinal rocking levers fulcrumed on transverse levers so connected at their inner ends that the levers can simultaneously be raised or lowered by the driver or be held in any position desired.

Tenth, the combination of the covering plows attached to the beam suspended from the rear end of the rocking levers with the lateral vibratable front plows suspended from the front end of the rocking levers.

Eleventh, the combination of the lifting levers, sliding bar V, and detent v, when arranged in relation to the driver's seat, substantially in the manner described.

Twelfth, the arrangement of the adjustable driver's seat, arched bar, and adjustable back brace, as described.

Thirteenth, the arrangement of the hoppers E' and F as and for the purpose described.

Fourteenth, the combination with the feeding hopper E' of the reciprocating teeth m and rubbers m', for the purpose of separating the seed.

Fifteenth, the combination with the lower hopper of the reciprocating toothed feeding slides.

Sixteenth, the vertically-reciprocating gates J, arranged and operating as described.

Seventeenth, the combination, substantially in the manner described, of a hopper, a horizontally-reciprocating toothed slide, and a vertically-reciprocating gate.

Eighteenth, the combination of the hopper, the reciprocating slides, the feed spout, and the marker, for the purposes set forth.

64,982.—ALFRED IVERS, New York, N. Y.—*Stationary Wash Basin.*—May 21, 1867.—The basin has a pendant flange on the interior and a waterway between the flange and the basin communicating with the overflow pipe; the entrance to the latter is higher than the slot, so that the water covers the slot before overflowing.

Claim.—The pendant flange d and slot e, in combination with the dam f and pipe g, substantially as and for the purposes specified.

64,983.—HEBER G. IVES, Durham, Conn.—*Sheep Rack.*—May 21, 1867.—Roots emptied into the rack divide equally to each trough.

Claim.—First, pivoting the hay rack of a sheep-feeding device so that by adjusting or turning the same, the trough beneath may be exposed to facilitate cleaning, substantially as described.

Second, the combination with the rack C C of two troughs F F, having their contiguous inclined sides joined together at top at an angle for the purpose of distributing the grain or roots, substantially as set forth.

64,984.—LUMAN A. and GEORGE J. JONES, Barrington, N. Y.—*Harvester.*—May 21, 1867.—An upper reciprocating cutter removes the head or bolls of the plants while the lower cutter mows at the usual height. The seed falls into a trough attached behind the upper finger bar.

Claim.—The arrangement of the several parts B C D E G J K L and M, when made and applied as and for the purposes herein specified.

64,985.—JACOB L. KINTNER, Harrison county, Ind.—*Harvester Pitman.*—May 21, 1867.—The wrist of the pitman is journaled between two grooved blocks which are enclosed in a frame and keyed up to prevent rattling.

Claim.—The grooved adjustable journal boxes B B, frame A, and packing E F, combined and arranged with the cutter bar D, pitman E, and wrist pin C, in the manner and for the purposes herein specified.

64,986.—GEORGE B. KIRKHAM, New York, N. Y.—*Organ*.—May 21, 1867.—Designed to change the pitch a half or full tone, or more. The key and hammer sticks are jointed and connected together by pivoted sticks overlapping the joint, and these connecting sticks are moved by a bar pivoted to them; this bar is connected by an adjustable rod, segmental gear plate, and gear wheel, to a scale disk to indicate the movement.

Claim.—First, the connections *a a*, their nuts, screws, and blocks *d e*, together with their pin screws, and little ball supports *c*.

Second, the lips *f f*, and their guides *g g*.

Third, the spring catch *h*, and its attachments *i j k l m n* and *o*, including the arrangement *p* and *q*.

Fourth, the bar *b*, and its supports *b' b'*, as shown and set forth.

Fifth, the combination *s r t u v*, as described and represented.

Sixth, the peculiar hinge joint made by the sticks *T Y* and *Z*, with little pins passing through the sticks.

64,987.—ALBERTUS LAROWE, Cohocton, N. Y.—*Gate*.—May 21, 1867.—The latch is raised from the notch when the gate is raised upon its rabbets. It is then drawn to the center stay and swung 90°, resting on the roller.

Claim.—The combination and arrangement of the gate, as herein described, with the post *C*, having the rabbets *e e*, and roller *g*, and post *B* with slot and catch *t*, in the manner and for the purposes set forth.

64,988.—JOHN LE FERRE, Charlestown, Mass.—*Window-sash Elevator*.—May 21, 1867.—The hinged clamp is attached to the sash by a transverse thumb screw. Its pintle has an upper and lower eye for attachment of the operating cords.

Claim.—The hinged plate *C* with its projections *a*, eyes *e d*, and screw *D*, in combination with the block *G*, provided with the screw thread *f*, and carrying the pulley *e*, substantially as and for the purpose set forth.

64,989.—L. PAUL JUVET, Glenn's Falls, N. Y.—*Time Globe*.—May 21, 1867.—One arbor of the globe has the hand-bearing cylinders and the other operates as a key to wind up the watch works.

Claim.—First, the axis of the globe *A*, when constructed of the two sections *F* and *F'*, the former serving as an axis for the hollow arbors *o* and *p*, carrying the hour and minute hands *d* and *b*, and the latter serving as a winding arbor, constructed, arranged, and operating in the manner substantially as shown and described, and for the purpose set forth.

Second, the combination of the dial *D*, globe *A*, and the chronometer movement within the same, arranged, constructed, and operating in the manner substantially as shown and described and for the purpose set forth.

64,990.—JOSEPH LLOYD MARTIN, Baltimore, Md.—*Ageing Alcoholic Liquors*.—May 21, 1867.—The raw liquor is placed in a tank, and by means of a pump is drawn up and passed through a copper return pipe containing a series of gauze sieves. During this process it is subjected to a current of electricity and to heat.

Claim.—First, the process herein described for changing, altering, and modifying whiskey, brandy, gin, or other alcoholic liquors, so as to give them the character and quality of similar liquors as usually acquired by long keeping.

Second, the combined action of heat, electricity, and attrition, so as to modify and change alcoholic liquors, substantially as herein described.

Third, the combination of an electric battery, pump, and tanks, or their equivalents, so as to treat alcoholic spirits, substantially as herein described.

64,991.—EBENEZER MATHERS, Eldersville, Pa.—*Sheep Shears*.—May 21, 1867.—The teeth of the cutters are double edged. The cutter plates are connected by a screw which is secured to one plate and traverses a slot in the other plate. The spring has one or more coils.

Claim.—First, making sheep shears with reversible blades for cutting or clipping, whether each blade or set of blades be made in one piece or in two

or more pieces, substantially in the manner and for the purposes above set forth.

Second, the mode of attaching the handles *a a'*, of a pair of sheep shears by a spiral or coiled spring *b*, so as to admit of their easy operation, such spring possessing sufficient rigidity to cause the return stroke of the blades, substantially as and for the purposes hereinbefore set forth.

Third, securing a more or less intimate contact between the opposite blades or sets of blades of a pair of sheep shears, by a set screw passing through a slot in one of the blades or the plate to which such blade is attached, and screwing into the other, substantially as and for the purposes above described.

64,992.—DAVID MATHEW, Prairie du Chien, Wis.—*Instrument for Preventing Incrustation of Steam Boilers*.—May 21, 1867.—Scraps of copper and zinc are enclosed in a case and placed in a boiler to remove scale by magnetic action; if the boiler be of copper, zinc alone is used.

Claim.—The employment within the boiler or cage or case, containing metallic scrap, substantially as described.

64,993.—T. A. McFARLAND, Meadville, Pa.—*Steam Heating Apparatus*.—May 21, 1867.—The top of the fire chamber is domed and has vertical, blind pipes extending into the water space above. Above the water chamber is a steam chamber which is connected to the former by steam and return water pipes, and has a safety valve in its crown sheet which separates it from an upper chamber from whence the steam may be conducted for heating purposes. These chambers are enclosed in a shell leaving an annular space for passage of the caloric current.

Claim.—First, the combination, substantially in the manner described, of the fire chamber, the water chamber, and the steam chamber, with the casing or body of the stove, for the purposes set forth.

Second, connecting the water and steam chambers by the steam and waste water pipes, arranged as described, for the purpose set forth.

Third, the valve *F*, arranged to operate as a safety valve for the boiler, and as a return valve for the condensed waste steam, as described.

64,994.—SAMUEL McLAUGHLIN, Philadelphia, Pa.—*Brick*.—May 21, 1867.—The horizontal faces and the ends of the bricks are grooved and ridged so as to form a bond with the other bricks in the wall.

Claim.—Bricks having ribs and grooves arranged substantially as and for the purpose herein set forth.

64,995.—WILLIAM HARTLEY MILLER, Philadelphia, Pa.—*Manufacture of Packing for Stuffing Boxes of Steam Engines, Pumps, &c.*—May 21, 1867.—A bundle of jute yarn is drawn through powdered soap stone, it is then passed through melted paraffine, then braided with fine cotton yarn, and passed again through the paraffine.

Claim.—The combination of these materials in a packing for engines, pumps, &c., in the manner shown and described.

64,996.—ADAM MINNIS, Canton Township, Mich.—*Potato Digger*.—May 21, 1867.—Knives precede to cut the vines. The shears raise the tubers, and the armed rollers agitate them to remove the earth. The rollers are worked by band and gearing from the driving wheel.

Claim.—First, the whole combination of the machine, for the use and purposes named.

Second, as new, the shears *A A*, &c., five or more, in shape and manner of adjustment.

Third, as new, the flexible knives *E E*, &c., in the manner of their adjustment.

64,997.—PARKER MOODY, Gloucester, Mass.—*Hawse Pipe*.—May 21, 1867.—A roller in the throat and one in the bed of the pipe assists the traverse motion of the hawse, which is drawn through it.

Claim.—The arrangement and combination of the auxiliary concave roller *D*, and its chamber *b*, with the hawse pipe *A*, its oblique mouth-piece *B*, and the concave friction roller *C*, arranged in such mouth-piece, substantially as specified.

Also, the combination and arrangement of the

dovetailed plates *d d*, and recesses *e e*, with the hawse pipe and its auxiliary roller *D*, and roller chamber *b*, as described.

Also, the construction of the roller chamber, with discharging passages *f g h*, leading therefrom and communicating as described.

64,998.—CHRISTIAN C. MUSSELMAN, Somerset, Pa.—*Combined Press for Cheese and for Other Purposes.*—May 21, 1867.—The plunger lever presses the cheese or frits in the perforated cylinders. The sausage stuffer is a close cylinder, with projecting pipe, and is operated by the same lever.

Claim.—The arrangement of the lever *d*, winch *f*, platform *a*, and rings and cylinders *l i k m o*, in the manner and for the purposes set forth, the whole forming a press adapted to domestic uses.

64,999.—JOSEPH and GEORGE HENRY NEEDHAM, London, England, assignor to JAMES GRAHAM GREY, same place.—*Breech-loading Fire-arm.*—May 21, 1867.—The hinged breech block swings horizontally, is locked by a spring catch, operated by the tail piece, and has an axial firing pin, actuated by the hammer and a recoil spring. The ejector fork is operated by the swinging breech.

Claim.—The arrangement of the breech piece *i*, with its component parts, constructed and operating substantially in the manner described.

65,000.—MORTIMER NELSON, New York, N. Y.—*Machine for Making Type Molds.*—May 21, 1867.—The types are set in grooves in the periphery of a disk, rotated by a friction gear, which actuates a cylinder, geared to the disk. The types are held in their grooves by contractile springs, and advanced by a lever to impress the matrix on the bed beneath. The separate key for each letter or figure is connected to a wire, which is raised by it to enter a hole in the cylinder in the part of its revolution, when that letter is in the proper position for projection. The motion of the key automatically operates the projecting lever and bed.

Claim.—First, a wheel receiving in radial grooves movable types, in combination with a lever, and with projections on said wheel, substantially as set forth, whereby the lever that moves the type is also made to accurately adjust the wheel, and hold it while the type is being impressed, as set forth.

Second, a vertical wheel, carrying movable types placed radially, and constructed substantially in the manner specified.

Third, the barrel *C*, in combination with the type wheel *A* and keys *F*, substantially as and for the purposes set forth.

Fourth, the feed wheel *Z*, rack *A*, beds *S'* and *S*, constructed and operated in substantially the manner and for the purposes set forth.

Fifth, the spacing block *E*² and its actuating mechanism, applied substantially in the manner and for the purposes set forth.

Sixth, the lever *W*, in combination with the spacing block *E* *S*, and feeding mechanism, substantially as specified.

Seventh, a contractile band to draw the type back to place in the type wheel, as set forth.

65,001.—ELIJAH R. OSGOOD, Columbus, Ohio.—*Shingle Machine.*—May 21, 1867.—The bolts are clamped between fixed and movable dogs in a circular series of spaces in a horizontally rotating table. The bolts are automatically released by an eccentric, moved forward to the tilting table, which is oscillated by a cam to make butts and points, and then gripped and fed forward to the circular saw.

Claim.—First, the manner shown and described of constructing the movable dogs of two parts *e e'*, jointed together, and held so by a plate, substantially as described.

Second, the arrangement of the tripping toe *k* and a spring arm *j*, acting upon an oscillating shaft *h*, to which the extension arm *H'* of said table is attached, all constructed and operating substantially as described.

Third, the spring arm *j*, in combination with the rock shaft *h* and tripping toe, substantially as and for the purpose described.

Fourth, the combination of the forked arm *H'* of the bolt table *H*, oscillating shaft *h*, adjustable block *g* and saw *D*, substantially in the manner and for the purpose described.

Fifth, the arrangement of the wheels *a a*, internally toothed plate *A A'*, spur wheel *C*, shaft *C'*, saw and shaft *D'*, belt *b*, central shaft *E*, cam *c*, retractor *I*, dogs *e e*, curved way *G*, spring arms *d d* and pivoted table *H*, all constructed and operating substantially in the manner described.

Sixth, the arrangement of the circular internally-toothed plate *A A'*, oscillating bed *H H'*, saw *D*, cam *c*, retractor *I*, dogs *e e*, spring levers *d d*, blocks *g g'*, rock shaft *h*, spring arm *j*, tripping toe *k*, loaded arm *m*, and weighted arm *l w*, all constructed and operating substantially in the manner and for the purpose described.

Seventh, a circular sawing machine, constructed and operating on the principle herein described, which is capable at the will of the operator of being made to saw stuff of equal or unequal thicknesses, substantially as set forth.

65,002.—BERNARD OWENS, St. Louis, Mo.—*Composition for Ink.*—May 21, 1867.—Hot water, 1 pint; soluble blue de Paris, 1 teaspoonful; ox-gall, 1 teaspoonful, and proof alcohol, 1 oz.

Claim.—The composition or like composition as above named and described, and for the purposes set forth or any other substantially the same for the purposes set forth, and to produce the above-named effect.

65,003.—HORATIO O. PERRY and JOHN L. LAY, Buffalo, N. Y.—*Steam Engine.*—May 21, 1867.—The lower and larger cylinder-head is cast with a supporting frame for the upper cylinder. The stuffing boxes, which may be connected by a sleeve, are accessible through this frame. The larger cylinder-head has a man-hole to allow access to the piston.

Claim.—The combination and arrangement of the shell or frame constituting the intervening chamber *K*, with the two cylinders *A* and *B*, and continuous piston rod *F*, its bottom plate forming the cover of the cylinder *B*, constructed substantially as and for the purposes herein set forth.

Also, the stuffing box, consisting of the sleeve *h* and packing box *L*, in combination with the chamber *K*, and piston *F*, and cylinders *A B*, arranged and operating substantially as and for the purposes set forth.

Also, the combination and arrangement of the man-hole *I* with the bottom plate of chambers *K*, forming the head of the cylinder *B*, whereby the adjustable ring *M* and sectional packing rings *r s* of the piston *E* may be removed, substantially in the manner and for the purposes herein set forth.

65,004.—S. POPE, Napoleon, Ohio.—*Hog Feeder.*—May 21, 1867.—The central receptacle has a large compartment, discharging at bottom into troughs on three sides; the discharge openings have wheels whose radial wings operate to keep back an over supply, but to work out the feed as they are rotated by the hogs. A smaller compartment contains liquid, and its outlet is closed by a valve hung on a spring plate, which is pushed open by the hog.

Claim.—First, the wheel *G*, as arranged in combination with the box *A* and trough *B*, as and for the purpose described.

Second, the valve *K*, as arranged and operated by the lever *L*, in combination with the reservoir *I* and trough, for the purpose and in the manner set forth.

65,005.—ALONZO W. PORTER and J. HAMILTON BROWN, New York, N. Y., assignors to ALONZO W. PORTER and JAMES S. GRAY, same place.—*Vapor Burner.*—May 21, 1867.—The retort has a lower cup with a central, vertical pipe containing the regulating valve stem. Upon the beveled edges of this cup is set the cap containing the burner and upper and lower heat conductors from the heating disk above.

Claim.—First, mounting the heater cap and conductors on a plug having a ground edge fitting into a corresponding ground surface on the top of the retort, substantially in the manner described for the purpose

of readily separating the heater cap from the retort to cleanse the latter.

Second, the combination substantially in the manner described of a locking yoke embracing the retort with a detachable plug supporting the conductors, for the purpose set forth.

Third, the combination of the retort, the central pipe, and the valve stem with the sleeve screw and yoke, for the purpose specified.

Fourth, a yoke which embraces the retort and serves both to lock the parts together and as an additional heat conductor.

65,006.—E. L. PRATT, Boston, Mass.—*Machine for Cutting Tobacco.*—May 21, 1867.—The plug of tobacco is placed in the head which is oscillated by a lever above the knife and gauge-plate. The plug is fed by its gravity.

Claim.—The swinging carrier, the cutter, and the gauge plate, when arranged together, substantially as shown and described.

65,007.—SAMUEL F. PRATT, Roxbury, Mass.—*Furniture for Vessels.*—May 21, 1867.—The bottom of the inverted life-boat is cushioned, and its keel forms a back to the double sofa.

Claim.—The combination of the seat and watertight tank, when constructed and arranged, to operate substantially as and for the purpose specified.

Also, in combination with the foregoing of one or more water-tight compartments, as and for the purpose specified.

65,008.—LUCIEN RARCHAERT, Paris, France, assignor to RICHARD and HENRY L. NORRIS, Philadelphia, Pa.—*Locomotive Engine.*—May 21, 1867.—Explained by the claims and illustration. The object is to enable the wheels to accommodate themselves to curves of short radius without serious strain on their flanges.

Claim.—First, a locomotive engine having a main driving shaft with a crank formed in the same turning in fixed bearings secured to the frame and situated between two trucks each of which has a cranked axle coupled to the said main driving shaft, all substantially as and for the purpose herein set forth.

Second, the combination of the said main driving shaft E, the cranked axles of the trucks, and coupling bar J, the several shafts and their cranks being arranged substantially as described.

Third, the bars F and F', constructed and adapted to the main driving shaft and cranked axles of the trucks, substantially as and for the purpose herein set forth.

65,009.—HENRY RENSCH, Quincy, Ill.—*Automatic Water Leader.*—May 21, 1867.—The filter has a pipe leading to the tank beneath, in which is a float connected to a spring valve in the waste pipe of the filter which carries off the overflow water.

Claim.—The spring N, in combination with the valve I, spring case P, discharge pipe J, and weight linked to the valve, all arranged substantially as described.

65,010.—EDWIN H. REYNOLDS, Rising Sun, Md.—*Lamp Heater for Vehicles.*—May 21, 1867.—The air-heating chamber communicates with the interior of the vehicle; the other chamber is occupied by the calorific current which heats the former chamber, and is then discharged outside the vehicle. Shields interrupt currents of air, and the glass pane admits the passage of light, for the driver.

Claim.—First, a casing B, having a perforated top a, side openings b, partition G, and outlets d, in combination with a detached lamp, the whole being constructed and applied to the bottom A of a vehicle, substantially as and for the purpose described.

Second, the combination of the above-mentioned casing B with a glass lamp chamber.

Third, the shields n n, arranged beneath the tubular projections d d, substantially as and for the purpose specified.

65,011.—HOLLAND M. RICHMOND, Buffalo, N. Y.—*Vapor Burner.*—May 21, 1867.—The outer transparent conoidal deflector is fixed in the inner groove of a flange having an outer groove to support a shade

or glass globe. The upper part of the burner is attached to the lower by a bayonet joint.

Claim.—First, the combination of the transparent cone or deflector A with the inner cone B of a gas generating burner.

Second, in combination therewith, the flange F with the grooves H and G, or the equivalent thereof, as and for the purposes described.

65,012.—JOHN B. ROOT, New York, N. Y.—*Traction Engine.*—May 21, 1867.—The driving wheel axle has a loose eccentric oscillated by a crank actuated through a connecting rod by an eccentric on a shaft rotated by the engine. The eccentricity of this latter eccentric is regulated by a sliding inclined block within the eccentric and upon the driving shaft. The former eccentric carries a traction sector whose arc bears against an annular flange on the inner side of the driving wheel, and which acts by friction to rotate the latter. This arrangement is duplicated, one block acting while the other is on the return movement. The blocks are swung over to reverse the engine.

Claim.—The combination of variable or adjustable eccentrics or cranks on a rotating shaft driven by the engine, with reciprocating friction blocks or devices acting upon the wheels connected with the driving shaft of a locomotive or traction engine, substantially as specified.

65,013.—JOHN B. ROOT, New York, N. Y.—*Rotary Valve.*—May 21, 1867.—The cylindrical end of the working pin, which is rigid in the rock shaft but loose in the valve, allows the accommodation of the latter to wear of the face.

Claim.—The combination with a valve the face of which moves in the arc of a circle or arcs of circles of a driving pin G, projecting radially from the valve operating rock shaft, and made cylindrical at its junction with the valve, and to loosely fit or enter a cavity in the valve, substantially as and for the purpose or purposes herein set forth.

65,014.—W. W. SANBORN, Lyons City, Iowa.—*Churn.*—May 21, 1867.—The cream runs from the hopper on to the gauze wings of the revolving dasher and from thence drips into the chamber beneath where the main dasher rotates.

Claim.—The perforated beater H, the air tube K, and the grooved bottom J, when constructed, arranged, and operating substantially as and for the purposes above set forth.

65,015.—JOHN N. SAWTELL, Chicopee, Mass.—*Sash Support.*—May 21, 1867.—The wedge block having a ribbed surface toward the sash is held in a case let into the stile, and is raised to free the sash by the curved end of a cam lever. This lever has a catch to lock the sash when closed.

Claim.—In a sash supporter the combination of the wedge C, lever E, and guide box A, the whole constructed and operating substantially as described.

65,016.—HENRY and JACOB SCHILD, New York, N. Y.—*Vented Faucet.*—May 21, 1867.—The faucet has an air passage whose valve is opened with the faucet and closed by a spring.

Claim.—The valve f at the inner ends of the channels j k, in combination with the elbow lever B and tooth c of the plug B, constructed and operating substantially as and for the purpose described.

65,017.—GOTTLIEB SCHREYER, Columbus, Ohio.—*Attaching Carriage Thills.*—May 21, 1867.—The clip lug has conical side projections which enter cavities in the thill iron. The latter is slotted obliquely forward and downward, so that the thills can be removed when in their lowest position. The bolt shank is conical and has a tightening nut on each end.

Claim.—First, the construction upon a clip strap B of a perforated lug D with a conical enlargement b b on its sides, adapted for receiving the slotted thill iron E and a bolt G, substantially as described.

Second, the construction of the clip strap B with lips c, c for holding rubber blocks d d, and also with a perforated lug D, having conical enlargements upon it, substantially as described and for the purpose set forth.

Third, the combination of the slotted thill iron E, conical lug D, and a tapering bolt G, substantially as described.

65,018.—THOMAS SHAW, Philadelphia, Pa.—*Steam-generating Gauge Cock.*—May 21, 1867.—The packing of the stem is placed in an annular score of the same. The side opening has a whistle attached.

Claim.—The construction and arrangement of the gauge valve and whistle, whereby to control the pressure and to indicate the sound produced by steam, or steam and water commingled, or water unmingled with steam, substantially as set forth.

65,019.—GEORGE B. SIMPSON, Washington, D. C.—*Insulating Submarine Cables.*—May 21, 1867.—Explained by the claim.

Claim.—The combination of gutta-percha and metallic wire in such form as to incase a wire or wires, or other conductors of electricity, within the non-conducting substance gutta-percha, making a submarine telegraph cable at once flexible and convenient, which may be suspended on poles in the air, submerged in water, or buried in the earth to any extent, for atmospheric and submarine telegraph communication and for other electric, galvanic, and magnetic uses, as hereinbefore described.

65,020.—NATHAN SIMPSON, Pomeroy, Ohio.—*Beehive.*—May 21, 1867.—Around the entrance is placed a palisade of galvanized needles so near together as to bar the entrance of miller worms. The bees enter on a pin projected through the hole from the inside of the hive.

Claim.—Applying and arranging around the entrance to the beehive needles or other sharp pointed pieces of metal, substantially as set forth, and for the purposes stated in the foregoing specification.

65,021.—HENRY SIPE, Sipesville, Pa.—*Sleigh Brake.*—May 21, 1867.—The brake dog is depressed by oscillation of the rock shaft caused by a backward pressure on the tongue.

Claim.—The rock shaft *b* and arms or elbow levers *c c*, in combination with the brake bars *d d*, and pole or tongue *a*, arranged and operated substantially as described.

65,022.—GEORGE W. SIZER, Brooklyn, N. Y.—*Toy.*—May 21, 1867.—The whistles are placed in the outer disks of the "buzz," and sound when it is oscillated.

Claim.—The combination of one or more whistles with the toy known as the buzz, substantially as herein set forth.

65,023.—E. SPENCER, Ottawa, Canada West.—*Paddle Wheel.*—May 21, 1867.—The buckets have radial pivot shafts, whose cams come in contact with the projections and depressions of the guide ring to feather the paddles so that they act broadside in the water, but come out edgewise.

Claim.—The pivoted buckets *I*, provided with the cams *b* and *h*, and arranged to operate in connection with the stationary ring *B*, having the notches *n* and projections *e* formed thereon, substantially as shown and described.

65,024.—JAMES STEWART and DAVID WINDSOR, Sandwich, Ill.—*Concrete Brick Machine.*—May 21, 1867.—The two plungers are operated simultaneously by toggle levers operated by a rock shaft, and are both connected to a yoke attached to a follower bar on which the toggle levers act.

Claim.—First, the combination and arrangement of the molds *B B*, plungers *C C*, following bar *E*, arms *H H I I*, connecting arms *L L*, and shaft *N*, substantially as and for the purposes specified.

Second, in combination with the above, the arms *F F* and lever *G*, arranged as and for the purposes described.

65,025.—JONATHAN THOMAS, Mount Union, Ohio.—*Fence.*—May 21, 1867.—Hoop iron to form trellis work or paling is wound around the horizontal rods whose ends are attached to the iron posts of inverted U-form. Springs at the attachment of the rods permit contraction, &c., with changes of temperature.

Claim.—First, the combination of the horizontal wires *C C* with strips *B B'* looped around them, substantially as shown and described.

Second, the posts *A*, constructed of bar iron in U-form, with the flanges at bottom to adapt them to be bolted to a base, substantially as described.

Third, the springs *J J*, adapted and employed to operate substantially as and for the purpose set forth.

65,026.—HARRIS W. THORNBURG, Mottistown, Ind., assignor to C. W. MORRISON, same place.—*Cattle Pump.*—May 21, 1867.—The circular platform is rotated by the animal. An annular serpentine cam below the platform works between two friction rollers attached to the pivoted lever that actuates the pump handle.

Claim.—The circular platform *A*, in combination with shaft *R*, when said shaft is arranged by means of slot *t*, that the pumping apparatus will adapt itself to the weight of the animal, substantially as set forth.

Second, spring *F*, provided with friction rollers in combination with the tilting platform *A*, as and for the purpose described.

Third, the circular or tilting platform *A*, shaft *R*, slotted head block *B*, cam wheel *K*, and lever *m*, all arranged substantially as and for the purpose specified.

65,027.—WM. J. TURNER, Utica, N. Y.—*Boot and Gaiter Strap.*—May 21, 1867.—The strap by which the boot is drawn on is formed out of a part of the boot leg.

Claim.—The boot or gaiter strap, constructed and operating substantially as described.

65,028.—CHARLES WEED, Boston, Mass.—*Bed Bottom.*—May 21, 1867.—Two short slats are rooted in the rails and incline upward therefrom; the long slat is laid on their ends and confined thereto by an elastic ring, outside which a fulcrum is interposed between the slats.

Claim.—The spring support made of one long and two short slats, when these are combined through the medium of stationary fulcra, and springs adjustable relatively to said fulcra, as means for graduating the yielding resistance of the support, substantially as described.

65,029.—A. M. WHITE, New York, N. Y.—*Brush.*—May 21, 1867.—The ends of the staples which enclose the "knot" of bristles are clamped in the enlarged recesses at the terminations of the sockets in the back of the trough.

Claim.—The enlarged chambers *a'* of the holes *a*, in combination with the staple-like wires *b*, substantially as and for the purpose specified.

65,030.—WILLIAM N. WHITELEY, JR., Springfield, Ohio.—*Harvester Rake.*—May 21, 1867.—The drop platform is supported on one end of a lever whose other end carries a roller running on the cam disk, to which the rake is attached. A flange on the inner side of the cam disk comes nearly in contact with a fixed stop and prevents the rake from being thrown out of gear, except when raised from the platform, a recess in the flange receiving the stop in this position.

Claim.—First, driving the rake and reel directly by means of a worm screw on the cutter's crank shaft, and a worm gear on one end of the reel shaft, substantially as shown and described.

Second, the quadrant-shaped dropping platform *P*, hinged to the finger bar, substantially as and for the purpose set forth.

Third, the combination of the quadrant-shaped platform *P*, with the rake *G*, arranged to operate in conjunction with said platform, substantially as described.

Fourth, the combination of the rake *G*, the cam *F*, and quadrant-shaped dropping platform *P*, so arranged that the dropping of the platform is dependent upon the moving of the rake, substantially as described.

Fifth, in combination with the dropping platform *P*, and rake *G*, the stop *O*, substantially as and for the purpose set forth.

Sixth, the combination of the clutch lever *L*, and the stop lever *M*, substantially as and for the purpose set forth.

Seventh, the combination of the cam *F*, lever *S*, and

dropping platform P, substantially as and for the purpose set forth.

65,031.—MICHAEL WINSLER, WM. CAMPBELL, and LYMAN HARDMAN, Tuscarawas county, Ohio.—*Horse Hay Fork.*—May 21, 1867.—The inner tines of the pivoted forks correspond during insertion and are crossed by the action of the toggle bars; the latter are connected to the bow-heads of the tines and secured, when longitudinally extended, to clevises on the forks.

Claim.—The fork A and B, when constructed and operated in such a manner that the point of the outside tine of each fork will come in contact with the point of the inside tine of the other fork, substantially as and for the purpose herein set forth.

65,032.—PETER WINTER, Horicon, Wis.—*Manufacture of Brown Metallic Paint.*—May 21, 1867.—Peroxide of iron, 84.46; sesqui-oxide of manganese, 4.55; silica, 8.34, and alumina, 2.65. The ingredients are burnt, pulverized, and mixed with oil.

Claim.—The brown metallic paint, manufactured from the substance popularly known as dead or shot iron ore, consisting mainly of peroxide of iron and manganese, when treated substantially as herein shown and described.

65,033.—GAUIS B. WISEMAN, Sycamore, Ill.—*Valve for Stove-pipe Dampers.*—May 21, 1867.—The leaves of the valves fold upon each other by longitudinal movement of the stem. To open the entire area of the pipe the valve is turned upon its axis.

Claim.—First, a folding damper valve, composed of the leaves B C D, operated by a sliding stem A, the whole constructed substantially as set forth and described.

Second, the folding and revolving damper valve, constructed and operated substantially as set forth and described.

65,034.—CHARLES V. WOERD, Waltham, Mass.—*Watch.*—May 21, 1867.—The crown gear of the handle spindle engages a spur wheel co-pivoted with a lever whose long arm extends outside the case and whose shorter arm carries a pinion which, by the oscillation of the lever, engages either the cannon pinion to set the hands, or the gear of the main-spring barrel to wind the spring.

Claim.—First, in combination with the wheels c, and means for rotating the same, the lever b, provided with wheel d, when arranged to operate substantially as described.

Second, in combination with the lever b and wheel d, a spring catch, latch pin, and stops, substantially as and for the purpose described.

65,035.—SOLOMON W. YOUNG, Providence, R. I., assignor to himself, J. W. HOARD, and R. A. DENISON, same place.—*Machine for making Eyelets.*—May 21, 1867.—The strips of eyelet stock are forwarded by a reciprocating pawl engaging the recess beneath the simultaneously descending punches, to perforate and form the eyelet.

Claim.—First, the combination as well as the arrangement of the feeding mechanism, the dies i l, the punches m n, and mechanism for operating such punches substantially as described.

Second, the die plate as made with the guide groove h, and the gauge cavity k, arranged with the dies i l, substantially as described.

65,036.—SOLOMON W. YOUNG, Providence, R. I., assignor to himself, J. W. HOARD, and R. A. DENISON, same place.—*Machine for making Eyelets.*—May 21, 1867.—The strip of eyelet metal is forwarded by the grasping jaws of a reciprocating lever, between the dies which form frusto-conical recesses, preliminary to annealing and punching.

Claim.—First, the die plate as constructed with the groove or channel b and the depression e, as and for the purposes set forth.

Second, the combination of the retainer H with the die and the punch, or the same and the guide channel, such retainer to operate with the punch, substantially as specified.

Third, feeding apparatus made substantially as described.

Fourth, the combination as well as the arrange-

ment of such feeding apparatus or its equivalent with the punch and die and the retainer, as specified.

Fifth, the combination of the feeding apparatus, the punch and die, the retainer and the guide channel, to operate as specified.

Sixth, the combination as well as the arrangement of either or both the guide staples, with the die plate, the punch, and the feeding mechanism, as explained.

Seventh, the combination of the roller f, the guide channel, the retainer, the punch, and die, and more staples, and the feeding mechanism.

65,037.—WILLIAM G. ADAMS, Franklin, Mass.—*Machine for Hulling Rice.*—May 28, 1867.—The rough rice passes between an elastic roller and a concave surface near thereto, and then between the said roller and the elastic belt. It is detached from the roller by a clearer and brought by the belt against the roughened steel roller.

Claim.—The combination of a narrow-outletted hopper, an elastic yielding feed roll, with its corresponding concave, and elastic yielding conveying surface, a rough surfaced cylinder, and a surface opposed to the yielding conveying surface, and extending between the feed roll and the rough surfaced roll nearly tangential thereunto when said parts or their equivalents are arranged so as to operate substantially as described.

65,038.—WILLIAM ADAMSON, Philadelphia, Pa.—*Apparatus for Securing Pulverized and other Materials to Paper.*—May 28, 1867.—Two travelling endless aprons gradually converge to the pressure rollers and carry the paper on which the pulverized material is spread. The action of the rollers spreads the material evenly.

Claim.—The two endless aprons E and F, in combination with rollers so arranged that the said aprons will converge towards pressure rollers D and D', as and for the purpose described.

65,039.—J. H. ALDRICH, Nashua, N. H.—*Wagon Body.*—May 28, 1867.—The floor extends around the wheels at the same level, caps covering in the portions of the wheels extending above the floor.

Claim.—The arrangement and combination of said sill A with cap B, for the purpose herein described.

65,040.—PETER ANDREW, Cincinnati, Ohio.—*Tank for Storage of Petroleum.*—May 28, 1867.—The wooden tanks are above brick tanks buried in the earth; the upper tanks have surrounding embankments enclosing water spaces and are connected with those below by tubes to pass the oil rapidly into the latter in case of fire; water may be passed to the cisterns if necessary.

Claim.—First, the oil tank, so constructed that the oil will rest on the surface of the water and be surrounded by water on its sides, as set forth, when said tank is arranged and combined for discharging into the lower reservoir in case of fire, substantially as set forth.

Second, for the purpose of extinguishing fire and saving oil that may be on fire, oil tanks situated in relation to each other, as described, connected by pipes, constructed and arranged in such a manner that the oil from the upper tanks may be conveyed to the lower ones without danger of fire being communicated through these pipes from the upper to the lower tanks, should the oil be on fire at the time of its being transferred.

Third, the construction and arrangement of oil tanks and pipes connecting these tanks, as described and specified, for purposes set forth.

65,041.—CHARLES A. BABCOCK, Frankfort, N. Y., assignor to himself, D. M. GOLDEN, and D. M. KENYON, same place.—*Match Safe.*—May 28, 1867.—One match at a time falls into the tray and is drawn out by the motion of the slide. The match is elevated by a spring finger, brought in contact with the friction surface, and held till removed or burned up.

Claim.—The match-delivering drawer d, in combination with the spring igniter h and finger i, for elevating the lighted end of the match, substantially as set forth.

Also, forming a receptacle l for the burned matches upon the removable cover k to the hopper a, so that

said burned pieces may be removed with facility from the match safe, as set forth.

65,042.—G. H. BABCOCK and S. WILCOX, JR., Providence, R. I.—*Steam Generator.*—May 28, 1867.—The several sections are arranged side by side and connected together so as to form an intermediate combustion chamber between them. The inclined pipes have internal circulating pipes, and the horizontal pipes have short vertical steam pipes for the escape of the steam generated therein.

Claim.—First, a steam generator made up of sections of pipes, each of the several sections being composed of a series of inclined pipes B, and a series of horizontal pipes C, united at the ends by distinct side pipes appropriate to each section, the several sections, when arranged side by side and connected, forming an intermediate combustion chamber A, and operating to cause a constant circulation of the water through the pipes in one direction, substantially as described.

Second, in combination with the series of horizontal pipes C, the series of upright connecting pipes D, for the purpose of allowing the steam, as formed, to separate from the water and rise to the discharge aperture, arranged substantially as described.

65,043.—THOMAS W. BALL, Morrisania, N. Y.—*Tempering Umbrella Ribs.*—May 28, 1867.—After hardening, the ribs are placed in longitudinal tubes in a cylindrical frame, which is heated by two lines of gas jets and rotated to equalize the heat and the resulting temper of the ribs.

Claim.—First, a tubular opening into which the ribs are introduced, in combination with gas jets, or other source of heat, so applied as to act upon all sides of such tubes or tubular openings, and temper the umbrella ribs with uniformity, as specified.

Second, a double casing of non-conducting material, in combination with such tubular openings, and heat applied, in the manner and for the purposes specified.

65,044.—AUGUSTUS BARNES, Southington, Conn.—*Treating Affections of the Skin.*—May 28, 1867.—Warts, "birth marks," &c., are removed by the use of a double convex lens, by which the solar rays are concentrated upon the spot and act as a caustic to extirpate the wart or discoloration.

Claim.—The use or employment of a glass lens for removing flesh marks and discolorations, substantially in the manner described.

65,045.—WALLACE BARNES, Bristol, Conn.—*Tempering Springs.*—May 28, 1867.—The spring is placed between metallic plates whose surfaces are corrugated or perforated to permit the tempering fluid to flow between the coils.

Claim.—The employment of one or more coils, as shown and described, in the process of tempering springs.

65,046.—HARRY S. BARTHOLOMEW, assignor to himself and G. W. BARTHOLOMEW, same place.—*Brace for Boring Bits.*—May 28, 1867.—The jaws slip into slots in the socket, projections in the latter entering depressions in the sides of the former to prevent their withdrawal when covered by the screw sleeve.

Claim.—The protuberance *a* upon the socket A, with a corresponding depression *a'* in the jaws, substantially as and for the purpose described.

65,047.—HENRY W. BARTOL, Philadelphia, Pa.—*Steam Trap.*—May 28, 1867.—Explained by the claims and illustrations.

Claim.—First, the arrangement of spring A, in cylinder A B A' B', so that when the steam enters the cylinder the expansion of metallic spring A will close opening E, as and for the purpose described and set forth.

Second, the spring A, held and secured in proper place by means of ring bosses K and bevel notch R, as and for the purpose described and set forth.

65,048.—W. L. BRARDSLEY, Binghamton, N. Y.—*Lathing Apparatus.*—May 28, 1867.—Several laths are placed in the intervals between the blocks on the board, and are held in position while being nailed.

Claim.—The construction and use of the apparatus herein described and set forth.

65,049.—HENRY BENTER, Pittsburgh, Pa.—*Washing Powder.*—May 28, 1867.—Composed of carbonate of soda, 18 pounds; ultra-marine or indigo, $\frac{1}{2}$ ounce, and cuttle-fish bone, $\frac{1}{4}$ ounce.

Claim.—A washing powder or compound composed of sal soda or its chemical equivalent, cuttle-fish bone, and ultra-marine, or other equivalent coloring matter, mixed in about the proportions above stated, and substantially in the manner and for the purposes hereinbefore set forth.

65,050.—R. W. BIGGS, Jacksonville, Fla.—*Plow.*—May 28, 1867.—The standard is pivoted to the beam and adjustably secured by bolt to the curved bar beneath the beam.

Claim.—The combination and arrangement of the slotted stock C, point or share E, and semi-circular stationary adjusting plate D, with each other and with a suitable plow beam A, substantially in the manner and for the purpose herein set forth.

65,051.—P. BLOOMSBURG, JR., and J. MOLYNEUX, Bordentown, N. J., assignors to BORDENTOWN MACHINE COMPANY.—*Mechanical Movement.*—May 28, 1867.—The eccentric is connected to a crank, and another crank at right angles to the former is connected to a bell crank, oscillating on a fixed pin, and connecting to a projection on the eccentric rod. This device is intended to give equal motion to the crank shaft.

Claim.—The single eccentric B on the driving shaft, the eccentric rod C, lever D, and rod F, in combination with the double crank on the driving shaft, the whole being arranged and operating substantially as and for the purpose set forth.

65,052.—EZEKIEL BOOTH and JOB A. DAVIS, Watertown, N. Y.—*Sewing Machine Shuttle.*—May 28, 1867.—A longitudinal spring at the bottom of the bobbin recess has a journal socket attached; the spring allows the moving of this socket piece to admit the bobbin.

Claim.—The longitudinal spring *s*, with the socket B attached, for the purpose of securing the bobbin, constructed and operating substantially as set forth.

65,053.—JAMES H. BREWER, Atlas, Mich.—*Garden Hoe.*—May 28, 1867.—The shanks of the scuffle hoe are attached to the upturned ends of the blade, each portion of which is sharpened.

Claim.—Turning up the ends of the blade, and forming upright cutters at right angles to the main blade, in combination with attaching the shanks to the outer and upper portion of the turned-up end of the blade to clear weeds and earth.

65,054.—JOHN BURT, Detroit, Mich.—*Canal Lock.*—May 28, 1867.—The water is introduced in a diffused state through perforated tubes or diaphragms. The vertically sliding gate is made of elastic material and in such a manner that the pressure of the water forces the edges more closely into the grooves in which they slide.

Claim.—First, discharging the water into and from the lock chamber of a canal in a diffused or divided state by means of a diaphragm or apertures formed in the bottom of the said chamber, substantially as shown and described.

Second, the herein-described mechanism discharging the water into and from the canal lock, the same consisting of tubes or conduits communicating with the higher and lower levels of the canal, and extending along the bottom of the lock chamber, and perforated so as to allow the water to enter or be drawn off from the said chamber at several points simultaneously and in a diffused state, substantially as shown and set forth.

Third, the combination with the said tubes or conduits of the valves for regulating the flow of water, the said valves, at each end of the tubes, coupled or united together so as to be operated simultaneously, substantially as shown and set forth.

Fourth, the combination with a tubular valve seat, in which apertures are formed diametrically opposite each other, of a tubular valve provided with corresponding apertures, the said valve and valve seat being arranged for operation relatively to the water tube or conduit, substantially as shown and specified.

Fifth, the water gate herein described, the same be-

ing made of steel or other suitable elastic material, and having a curved shape, as specified, so that when under pressure the sides of the said gate shall be held firmly and tightly against the quoins or guides in which it slides, substantially as shown and set forth.

Sixth, the combination with the elastic water gate, sliding vertically in quoins or guides of the compensating weight for equilibrating said the gate, substantially as shown and described.

65,055.—WILLIAM H. BUTLER, New York, N. Y.—*Fire-proof Safe.*—May 28, 1867.—The heterogeneous character of the associated materials baffles a drill.

Claim.—First, the tresselated work or interspersed masses of steel united with a softer metal B, by being rolled or forged together and afterwards hardened by sudden cooling so as to form a conglomerate metal of unequal hardness, the masses being arranged substantially as and for the purpose herein specified.

Second, in burglar-proof structures composed of more than one layer of plates, employing plates composed of soft iron joined with plates containing hardened steel by means of rivets C, or their equivalents, arranged relatively to each other and to the several plates, substantially in the manner and for the purpose herein set forth.

65,056.—CALEB CADWELL, Waukegan, Ill.—*Steam Engine.*—May 28, 1867.—A hollow revolving cylinder which is placed in the upper part of the fire-box, receives a supply of water at one end and discharges steam at the other. The pump cylinder turns in a metallic stock and has chambers in the inner end corresponding with the receiving pipes in the stock.

Claim.—First, the double-piston cylinder L, without heads, and having the valve 6 constructed and arranged with reference thereto, substantially as described.

Second, the pump valve 2, having the shaft Q attached, and operated as described and set forth.

65,057.—JOHN W. CARTER, New York, N. Y.—*Chalk-line Marker.*—May 28, 1867.—The twine drum is within a case containing powdered chalk, and twine passes through the side of the case.

Claim.—The use or employment of the spindle and cord when the same shall be constructed and combined, substantially as shown, for the purpose indicated.

65,058.—MARVIN CONVERSE, Jordan, N. Y.—*Curtain Fixtures.*—May 28, 1867.—The frame to which the roller is hung is vertically adjustable by cords to admit light over the blind.

Claim.—The sliding frame C, carrying the curtain roller and journals, moving freely upon the edge of the window frame on the guide rod B, in combination with the cords A, E' and D', for raising and lowering the curtain, substantially as described.

65,059.—F. E. COOK, Seville, Ohio.—*Harvester Rake.*—May 28, 1867.—The rake-head is secured to a sleeve which is traversed on a square guide-bar by a rod from the driving gears. The rake-head is raised by a cam at the end of its stroke and is held vertical during its non-effective stroke by means of the engagement of a latch-spring with a disk on the square guide-bar of the rake-head; it is disengaged at the grain end of the platform and thrown down on the latter by a spring, to commence its effective stroke.

Claim.—First, the pivoted curved bar B, sleeve L, and rake K, in combination with the rod M and cam E, as and for the purpose set forth.

Second, the notched wheel F, springs I and J in combination with the bar B and rake, as and for the purpose described.

Third, the nut and screw, with lug, in combination with the sleeve L and bar B, so as to allow the rake to fall back in place in the spaces a, before it is drawn across the platform in discharging the gavel, as and for the purpose specified.

65,060.—CHARLES T. CRANE, Lowell, Mass.—*Bench Hook or Dog.*—May 28, 1867; antedated May 19, 1867.—The rectangular frame has a thumb-screw by which it is clamped to the bench and a spring hook to receive the impact of boards laid on the bench to be planed.

Claim.—A bench hook consisting of a frame a, socket b, for the sliding spindle d, with hook e attached, and spring f, all as mechanically arranged for the purpose herein described, and the manner fully set forth.

65,061.—CHARLES CROLEY, Dayton, Ohio.—May 28, 1867.—*Red Bottom.*—The supporting bars at the head and foot slide upon each other for lateral adjustment of the frame.

Claim.—The construction of the supporting pieces a and b, with slotted ends, substantially as and for the purpose specified.

65,062.—JOB A. DAVIS, Watertown, N. Y.—*Shuttle for Sewing Machines.*—May 28, 1867.—Instead of passing the thread through several holes in the side of the shuttle it is passed between the latter and the lever pad, the pressure being regulated by the screw and the coiled spring beneath.

Claim.—The lever pad s, screw w, and coil spring c, when constructed and arranged, substantially as and for the purpose set forth.

65,063.—WILLIAM M. DAVIS, Cleveland, Ohio, assignor to himself and WILLIAM L. BECKWITH, same place.—*Compound for Refining Cider, Ale, &c.*—May 28, 1867.—For refining liquids. Codfish sounds, 16 oz.; calcined alum, 4 oz.; and salt, 8 oz.; add to 10 gallons partially fermented cider; let remain 10 days; rub through a ½-inch mesh sieve, stir and add one gallon to a 40-gallon barrel.

Claim.—The composition above described, composed of the ingredients above mentioned, or their known equivalents, substantially as and for the purpose set forth.

65,064.—DANIEL S. EARLY, Hummelstown, Pa.—*Rock Drill.*—May 28, 1867.—The drill rod may be inclined at any angle and slides in a central rectangular hole and an upper and lower circular guide hole. Its rectangular portion is raised from the hole at each reciprocation and receives partial rotation.

Claim.—The drill rod, constructed with the fixed collar K, and shoulder L, in combination with the tappets G, and slotted cross-head H, substantially as described for the purpose specified.

Second, the tappets G, with shoulders g, and turned ends h, arranged with the slotted cross-head H in combination with the drill-rod I, having fixed collar K, and square shoulder L, substantially as described for the purposes specified.

65,065.—LEWIS C. ENGLAND, Philadelphia, Pa.—*Apparatus for Evaporating Liquids.*—May 28, 1867.—The wooden box has a false bottom of copper, and in the chamber beneath there are longitudinal partitions forcing the steam entering at one corner to follow a tortuous course in its passage to the place of exit. This metallic bottom is concave on the upper side, and a rock shaft has downward projections, whose ends nearly touch this portion in their oscillation. The box can be inclined endwise, being pivoted to an inclined support.

Claim.—First, a stirrer composed of main shaft L L', teeth D D', upright U S, combined with evaporator B P by means of journals O, capable of a rocking motion, constructed substantially as described.

Second, the combination of frame o o, tapering frame o' o', and crank screw S S C, working together, in the manner and for the purpose described.

Third, box B P, false metallic bottoms d e d e, frames o o o' o', crank screw S S C and stirrer L L', all combined and working together in the manner above described and for the purpose set forth.

65,066.—THEODORE S. FOSTER, Fitchburg, Mass., assignor to himself and JOHN P. SABIN, same place.—*Pipe Cutter.*—May 28, 1867.—The pipe rests against anti-friction rollers in the curved end, and is cut by a pivoted blade, driven forward by a screw of the handle-shank, which is socketed in the other piece.

Claim.—First, the knife b, constructed as described and attached to the claw, substantially in the manner and for the purpose above specified.

Second, the combination of the knife b, with the friction rollers or their equivalent, and the feeding screw as above described.

65,067.—CHARLES H. FOWLER, West Roxbury, Mass.—*Curtain Fixture.*—May 28, 1867.—The cord end of the roller has a bearing on a spring box by which it is raised to a friction bearing above, except when the cord is drawn to turn the roller.

Claim.—First, the combination with a curtain roller of a sliding or spring box or clamp, under such an arrangement that the said box or clamp shall not only constitute the means by which the roller and curtain are held in position, but also support the journal of the said roller at all times and form the bearing in which it revolves as herein set forth.

Second, the combination of the journal of a curtain roller with the recessed bracket and sliding or spring bearing, substantially in the manner and for the purposes herein specified.

65,068.—KASSON FRAZER, Syracuse, N. Y.—*Shaft Tug.*—May 28, 1867.—The shaft-loop is of leather, bound by an iron strap, the latter giving support to the buckle of the saddle tug.

Claim.—As a new article of manufacture a shaft tug composed of the parts A, B, C, substantially as and for the purposes described.

65,069.—E. R. GARD, Chicago, Ill.—*Brick Press.*—May 28, 1867.—As the mold wheel rotates, the rollers run upon a cam track which operates the plungers, to press and eject the brick. At ejection the bricks are turned on edge by the vertical action of a pin beneath the follower lid. The molds have pivoted lids worked by a cam lever, and have rollers through which the upper pressure is communicated to the bricks. An adjustable plate on the plunger determines the thickness of the bricks.

Claim.—First, a follower S, provided with one or more rollers *u u*, running under and in combination with flanges *f f*, projecting from the track nearly along its entire length, substantially as and for the purposes herein specified.

Second, the removable journals V V, for the supporting roller U of each follower, the said bearings being provided with oil cavities for containing oil and some porous, or capillary substance, to keep the journals constantly lubricated, substantially as herein set forth.

Third, an adjustable top or lid X for the followers, by means of the washers *x x*, or any equivalent thereof, for the purposes herein described.

Fourth, the combination of the projecting rim b of the mold wheel, and the supporting roller L, for the purpose set forth.

Fifth, the self-lubricating journal box of the roller L, constructed substantially as herein specified.

Sixth, the adjustable pressure portion G of the track, when combined with india-rubber, or equivalent, springs H H, substantially as and for the purpose specified.

65,070.—JOSEPH H. GREENLEAF, New Haven, Conn.—*Forming the Edge of Water Proof Soles.*—May 28, 1867.—Improvement on the patent of John W. Coburn, June 27, 1865. The leather is cut in a semi-circular ended strap, double the length required for the finished strip. It is then punched centrally to the end curves, then cut from one perforation to the other; dampened, stretched, and shaped on a former.

Claim.—The leather edge for soles constructed and formed substantially as herein set forth, as a new article of manufacture.

65,071.—JOSEPH H. GREENLEAF, New Haven, Conn.—*Apparatus for forming the Edge of Water Proof Soles.*—May 28, 1867.—Improvement on patent of J. W. Coburn, June 27, 1865. The base disk gives support to a vertical former. The leather is cut in a long strip, and, after softening, is coiled on the former and then pressed down with a follower and left to harden. The layers are then divided obliquely and the edges riveted.

Claim.—The apparatus substantially as herein described for forming the edge of soles.

65,072.—JOSEPH H. GREENLEAF, New Haven, Conn., assignor to himself and O. P. CASE, same place.—*Chair and Bedstead.*—May 28, 1867.—The frame of the chair is extended in the manner of a "lazy tongue" to form the bed, its seat being swung

out to form the foot board. For transportation the back is folded down to the frame.

Claim.—The combined chair and bedstead herein described, having the seat H and back G attached thereto, and so as to be folded, the seat H down toward the back, and the back G backward down on the frame, substantially as herein set forth.

65,073.—BENJAMIN F. GRIMES, Dawsonville, Md.—*Corn Planter and Fertilizer Combined.*—May 28, 1867.—Two rows are planted simultaneously and fertilizing substances dropped with the corn. The fertilizer slide has a leather flap-valve, whose edge is drawn down by a hanging weight when discharging, to keep obstructions from beneath the slide.

Claim.—First, The arrangement of the corn hoppers C C, fertilizer hoppers D D, discharge tubes E E, and inclined tubes F F, substantially as and for the purpose herein set forth.

Second, the combination of the bar G, hinged arms H H, levers I I, slides J J, and dropping slides N N N', substantially as herein described.

Third, the combination of the bar P, levers P' P', rods Q' Q', bar P'', and valves Q Q' Q'', all arranged and operating substantially as herein described.

Fourth, the combination with the bar G, and its described connections with the dropping mechanism of the lever R, arranged and employed in the manner and for the purpose explained.

Fifth, the combination of the rock shaft T, arms T' T'', tappet or projections b, notch post U, and and spring catch V, arranged and operating in connection with the dropping mechanism, as and for the purpose specified.

Sixth, the stirring shafts O O', in combination with the levers I I, links o o, and lugs o' o', as described.

Seventh, the discharge tube E, when made in two or more parts, and hinged in order to adapt the lower section to be turned up and held in its raised position, substantially as described.

Eighth, the arrangement within the discharge tubes of the deflecting pieces or plates a, substantially as and for the purpose set forth.

Ninth, the weights G' G' in combination with the bar G, as and for the purpose explained.

Tenth, the frames h h, carrying the shovels h', and covers h'' h'', in combination with the supporting bar A, slotted pendants A' A', and adjusting pins a', all arranged and operating in the manner and for the purpose explained.

Eleventh, the combination with the dropping slide of the fertilizer hopper D, of the flap valve d, and ball or weight e, applied and operating in the manner and for the purpose specified.

65,074.—J. A. HALL, Greenfield, Ind.—*Grain Cleaner.*—May 28, 1867.—The octagonal screen revolves on a horizontal axis. A circular series of cams on the screen-head give a salutory motion to the hopper and sieves above, through which the grain first passes. The eduction opening is adjusted by a slide.

Claim.—First, the shaking shoe C, hinged to the frame and agitated by contact with the circular series of cams or projections on the head of the rotating screw, substantially as described.

Second, the rotating screw G, in combination with the shaking shoe C, and the shutter P, for regulating the discharge, substantially as described.

65,075.—ALBERT HALLOWELL, Lowell, Mass., assignor to himself and HORACE E. BARKER, same place.—*Steam Cook.*—May 28, 1867.—Improvement on the patent of Hallowell & Barker, November 28, 1865. The lever valve stem has an axial socket in its upper, screw-threaded end to receive the lower end of the square operating stem, which slides vertically therein and by which it is rotated. This stem passes through a conical upper valve, which is kept to its seat by a spiral spring.

Claim.—The combination as well as the arrangement of the spring s, or the same and either or both the chambers n P with the auxiliary conical valve e and seat f, the cap F, the hand wheel I, and the key E, employed for effecting, by aid of the screw c d, the vertical movements of the main valve A, with respect to its seat B, as described.

65,076.—W. M. H. HANSON, Albion, N. Y.—*Washing Machine.*—May 28, 1867.—The roller forms part of a ribbed surface, over which the clothes are drawn as they pass beneath the rotating brush. The upper portion of this surface is hinged and has pressure springs tending to keep it in proximity to an upper free roller, under which the clothes pass.

Claim.—First, the rotary brush E, one or more rollers I, and the screw K, in combination with the corrugated board H, operating in the manner and for the purpose shown and described.

Second, in combination with the above the roller L and the box A, having two compartments C and D, substantially as shown and described.

65,077.—C. F. HARLOW, Boston, Mass., and E. H. PERRY, Roxbury, Mass.—*Machine for Cutting Hair, Grass, &c.*—May 28, 1867.—The moving lever carries a segmental rack engaging a spur wheel whose shaft carries a disk; the under side of the latter is cam-grooved to receive a pin in the cutter plate and cause its reciprocation several times to one movement of the lever.

Claim.—First, so combining, arranging, and operating the two sectoral plates A B, as to be enabled when desirable to operate them by one hand, essentially as described.

Second, combining the two plates A B and their operative mechanism, in such manner as to obtain a number of reciprocating movements of the said cutter plate B over the plate A, to one movement of the handles *h h'* or the lever F, substantially in the manner as set forth and explained.

Third, the mechanical construction of the machine substantially as above described, that is, the combination of the two plates A B, bar D, lever F, provided with the handles *h h'* rack and pinion *e* and *d* and cam-groove *k*, in the manner and to operate as specified.

Fourth, the peculiar device for operating the cutter plate B, consisting of the rack *e* applied to the lever F, the pinion *d*, and the disk *b'* with its cam groove *k*, operating in connection with a stud upon the cutter plate, substantially in manner and to operate as described.

Fifth, the employment of the friction roller *i*, for the purpose of keeping the two plates A B in contact, and relieving the friction between the latter and the bar D, substantially as set forth.

65,078.—WALTER HART, Philadelphia, Pa.—*Indicating Apparatus for Oil and other Stills.*—May 28, 1867.—A pressure gauge, a thermometer, and a transparent water gauge containing a hydrometer, are associated together in the same apparatus for attachment to a still.

Claim.—An apparatus, substantially such as described, which, when applied to a still or other evaporating vessel, will show externally the quantity, specific gravity, temperature, pressure, color, and rate of evaporation of the contents of the still, by means of passages and indicators, substantially as described.

65,079.—ANDREW HARTMAN, Canton, Ohio.—*Car Coupling.*—May 28, 1867.—The link is engaged by a swinging pin whose lower flattened end forms a part of the funnel-shaped opening of the draw-head, and is held in this position by a spring block, which is forced back by the entering link, releasing the said pin.

Claim.—First, the peculiarly-shaped apron or balance D of the pin E Z C, so arranged and constructed as to act both as a balance and a part of the mouth of the coupling, substantially in the manner and for the purpose herein specified.

Second, the peculiar combination and arrangement of the parts A and B, rotating pins E Z D, bolt H, block J, spring L, iron K, pins O O, slots S S, catch C, with handle I, the several parts being arranged as hereinbefore shown, and the whole forming a self-acting coupling, operating substantially in the manner specified.

65,080.—GEORGE R. HAY, Edgerton, Ohio, assignor to himself and J. R. SEELY, same place.—*Machine for Jointing Staves.*—May 28, 1867.—The stave blank is clamped to the sliding frame in its bent form and forwarded between the two jointing saws, which are adjusted to cut the edge to the proper inclination.

Claim.—First, the link *e*, rod *d*, spring *e*, pin *N'*, and clamps O O', in combination with the vibrating frame, substantially as and for the purpose set forth.

Second, the adjustable vibrating frame, provided with the devices for curving and holding the stave, and detaching said stave when finished, constructed and operating substantially as described.

65,081.—JOHN S. HOAR, West Acton, Mass., assignor to himself, C. HASTINGS, and N. C. CUTTER, same place.—*Vise.*—May 28, 1867.—The vise head is on a disk having rotary adjustment on its bed piece, and attachment by screws and thumb nuts. An anvil is attached to the vise.

Claim.—First, the combination of the vise with a table or other support by means of the plates A and B, axial pin *e*, bolts *c*, and nuts *d'*, all constructed and arranged substantially as described.

Second, in combination with the jaws C D, the anvil G, attached to the jaw C, and arranged in relation thereto as described.

65,082.—W. L. HORNE, Batavia, Ill.—*Steam Water Elevator.*—May 28, 1867.—The buoyant inner cylinder consists of two concentric shells with annular air space between, and slides freely in the outer cylinder. The head of the cylinder slides on a tappet rod, which operates the steam valve. A partial vacuum is obtained by condensation of steam, the cylinder rises, the head actuates the valve and admits the steam to depress the cylinder and expel the water.

Claim.—A water elevator consisting of the exterior cylinders *a* and interior valve cylinder *b* and valve *c*, operated in the one direction by steam and in the other direction by water, combined and arranged as set forth.

65,083.—GEORGE W. HUNT, Winchendon, Mass., assignor to JOB S. GRAY and JOHN S. WATSON, same place.—*Door Stop.*—May 28, 1867.—A bracket is cast upon the attachment screw, and has an upper socket to receive the rubber cushion.

Claim.—A combined metallic and elastic door stop, constructed and operating substantially in the manner herein described, for the purposes set forth.

65,084.—E. HUNTER, Cleveland, Ohio.—*Compound for Silver Plating.*—May 28, 1867.—Silver, 4 ounces; cyanide of potassium, 3 ounces; oil of sassafras, $\frac{1}{2}$ drachm; Paris white, 10 pounds; ammonia, 4 ounces; benzine, 2 ounces; water sufficient to hold the silver in solution.

Claim.—The herein described compound for cleaning silver ware, and cleaning and replating plated ware, or ware made of copper or any of its alloys, or of any other metals or alloys.

65,085.—JOHN S. HUNTER, Hartford, Conn.—*Mosquito Bar.*—May 28, 1867.—The mosquito bar is stretched on pivoted bows, and is thrown back similar to a calash top.

Claim.—The arrangement of the bows B more or less in number, and combined with an adjustable socket C so as to be attached to the bedstead, and to operate substantially as set forth.

65,086.—S. W. HUNTINGTON, Augusta, Maine.—*Blind Fastening.*—May 28, 1867.—The stem of the drop catch plays in a socket made in two sections and let into the bottom of the shutter.

Claim.—The combination with the catch bar as described of the socket formed in two parts with a chamber for receiving the head of the catch bar, and for allowing slight vertical movements of the same, substantially as and for the purposes herein shown and set forth.

65,087.—JOSEPH and JAMES INGHAM, San José, Cal.—*Gang Plow.*—May 28, 1867.—The plows are attached to bars pivoted at their rear ends, and having segmental racks engaging cog wheels for vertical adjustment. The axle is divided near to the left hand wheel, the two parts being connected by counterpart rack plates and bolts, to allow the adjustment of this wheel to the depth of furrow.

Claim.—First, the movable pivoted bars C C', with the segments D D', wheels E E', and pinions F F', to raise and lower the plows, substantially as described.

Second, the two-part axle G with the vertical connecting necks K K', to make the plows cut to an equal depth, as described.

Third, the eyes L L', together with the bar M and screw n, for the purpose of regulating the draft, substantially as described.

65,088.—S. A. JEWETT, Cleveland, Ohio.—*Melodeons, &c.*—May 28, 1867.—Independent manuals operate the diagonal levers to produce remote octave or intermediate tones. These manuals are in front of the usual keys, and are intended to be operated by the little finger.

Claim.—The tappets or independent manuals K, rods J, levers G, and rods H, in combination with the keys A and reeds C, in the manner and for the purpose set forth.

65,089.—WM. JOHNSON, Lambertville, N. J.—*Turning Lathe.*—May 28, 1867.—A stationary and continuous metallic cover is inserted through an aperture in the side of the slide rest and placed over the feed screw to protect it from chips and dirt.

Claim.—First, the continuous cover M over the feed screw G, said cover passing through an aperture in the slide rest, and in other respects arranged as set forth.

Second, constructing the feed nuts to allow the cover to pass between them and the peculiar arrangement of eccentric movable arm and connecting bars, whereby the feed nuts are made to move equal distances in opening and closing the feed screw by rods attached to said nuts at points unequally distant from their center of motion. The whole combined and operating substantially as herein set forth and described.

65,090.—ROBERT JAMES KELLETT, San Francisco, Cal.—*Punch for Car Tickets, &c.*—May 28, 1867.—The punch has a clearing spring for the perforator, and a lock receptacle to catch the chips and indicate the number of tickets cancelled.

Claim.—A punch with an attachment E or its equivalent for holding the clippings or chips of tickets, in the manner substantially as and for the purpose specified.

65,091.—THEODORE E. KING, Painesville, Ohio.—*Elastic Button for Carriages.*—May 28, 1867.—The ring of rubber is compressed by the head of the screw, which expands it to such a size as to fit the loop of the carriage curtain.

Claim.—First, the adjusting screw C in combination with the rubber collar D', arranged in relation to the curtains, in the manner and for the purpose substantially as set forth.

Second, the rubber collar D' and adjusting screw, as arranged in combination with the button hole E and curtain, in the manner as described.

65,092.—H. FREDERICK KNODERER, Sr., and L. F. KNODERER, Columbus, Ohio.—*Compound for Preventing Incrustation in Steam Boilers.*—May 28, 1867.—Composed of alum, two parts, glue, one; mixed, pulverized, and introduced in the shape of powder.

Claim.—The application of a compound or preparation of two parts of common alum and one part of common glue, prepared and applied as above specified, to prevent and remove the accumulations and incrustations of steam boilers and the pipes and tubes belonging thereto, as hereinbefore specified and substantially set forth.

65,093.—F. W. KUHNER, Rochester, N. Y.—*Rudder.*—May 28, 1867.—Auxiliary rudders are pivoted in transverse openings cut through the dead wood, and are connected to the ordinary rudder chain.

Claim.—The combination with the main rudder B of the series of auxiliary rudders E E E, arranged in the keel one after another, and capable of being connected with and disconnected from the main rudder in action, as herein set forth.

65,094.—L. B. LATHROP, San José, Cal.—*Gang Plow.*—May 28, 1867.—The plows are attached by standards to a diagonal frame, which gives them the required receding sequence. The rotary cutters preceding the plows act as land sides. The frame is hinged to an oblique axle, and is vertically regulated

by a screw bolt from the through beam, which is slacked to the fore carriage.

Claim.—First, the rotary cutters d, attached to the wheels C, and forming flanges thereon, for the purpose of acting as land sides for the plows, substantially as set forth.

Second, the axle B, when arranged obliquely below the tongue A, and when adjustable by means of the screw bolt a and slotted arm b, substantially as and for the purpose herein shown and described.

Third, the devices for raising and lowering the plows, consisting of the screw K, rods i and h, and of the axle B, lugs f and g, bar F, and bolts e, respectively, as set forth.

Fourth, the double tongue A M, in combination with the wheel I, supporting the end of the main tongue, and with the hinges l m n and o p s, substantially as herein shown and described.

Fifth, the plow beams E, when bent so as to form offsets at the top of the mold-boards, substantially as and for the purpose herein shown and described.

65,095.—NEHEMIAH W. LEE, North Providence, R. I.—*Tobacco Cutter.*—May 28, 1867.—The guillotine knife-bar rests upon springs, which return it after it has been depressed by the toothed cam.

Claim.—The knife D, with its rack b, sliding vertically in the frame B, and operated against the resistance of springs E, or their equivalents, by the lever G, with its movable fulcrum and toothed sector F, substantially as described for the purpose set forth.

65,096.—BURDETT A. LEWIS, New Britain, Conn., assignor to himself and JEREMY W. BLISS, Hartford, Conn.—*Trace Fastening.*—May 28, 1867; antedated May 16, 1867.—The latch is pivoted to the button and forms an extension thereof while passing through the eye of the trace, after which it is rotated to keep the latter attached.

Claim.—The projection e upon the button c, in combination with the latch C and protuberances h, substantially as and for the purpose described.

65,097.—JOSEPH H. LEWIS, Duxbury, Mass.—*Vise.*—May 28, 1867.—The rotating tube which actuates the movable jaw is threaded internally and sleeved upon the stationary screw, whose head is at the back of the fixed jaw. The slide of the movable jaw slips in a chamber of the fixed jaw.

Claim.—First, the arrangement and combination of the movable jaw e and internal threaded rotating screw i with the stationary support and jaw a and fixed external threaded screw g, substantially as described.

Second, the arched slide d, in combination with the support a of the stationary jaw, substantially as and for the purposes set forth.

65,098.—JOHN MARQUIS and JOHN W. KIMMEL, Crestline, Ohio.—*Bolster for Railroad Cars.*—May 28, 1867.—The three parts of the bolster are coupled by cast socket pieces; the bolster is an inverted arch, whose ends are adjusted to correct sagging by means of the terminal clamps and connecting rods and nuts.

Claim.—First, the clamping pieces F F, constructed in the manner and for the purpose herein specified.

Second, the combination of the rods O O with nuts g g g thereon and the clamping pieces F F, in the manner and for the purpose specified.

Third, the arrangement and combination of the clamping pieces F F and rods O O, as claimed in second claim, with the pieces A B and C and connecting pieces D D, the whole forming an adjustable bolster in the manner and for the purpose herein specified.

65,099.—CARLO FEDERICI MARTORANA, Baltimore, Md.—*Centrifugal Pump.*—May 28, 1867.—The wings are rounded on the lower side, and their faces so curved as to cause by their rotation a centripetal and upward flow of water to the vertical discharge pipe, which is traversed by the shaft.

Claim.—First, the pump, consisting of the wheel W, constructed as described and arranged to operate as and for the purpose herein set forth.

Second, the arrangement of the pump wheel W and tube or case T with the valves d in the bottom of a floating platform or vessel, substantially as and for the purpose set forth.

65,100.—BENJAMIN A. MASON, New York, N. Y.—*Machine for Making Screws.*—May 28, 1867.—To shave and nick the head and taper the point. Several blanks can be operated on simultaneously, and then moved forward to the next operation. The blank is rigidly held while being operated upon, the work being discontinued while passing from one device to another.

Claim.—First, the series of intermittently revolving jaws, in combination with the revolving shaft s^3 , cutter 15 and cone t^1 , constructed, arranged, and acting substantially as specified.

Second, the hanging saw u , actuated in the manner and by the means substantially as described, in combination with the blank holders o' for the purposes and as set forth.

Third, the pointing tool, secured upon the end of the revolving spindle v' , in combination with the lever 23, cam 24 and blank holders o' , as and for the purposes set forth.

Fourth, the arrangement and combination of all the mechanism herein described for shaving, nicking, and pointing screw blanks as set forth.

65,101.—J. FRANKLIN MASON, Bentonport, Iowa.—*Bridle.*—May 28, 1867.—This bridle has no headstall, the bit being a rounded piece of leather, united at its looped terminations, with straps buckled around the under jaw. The rein rings in the loops at the ends of the bit secure the disk-shaped guards.

Claim.—The rounded strap, in combination with guards and rings, to be secured to the horse's under jaw, in the manner and for the purpose herein described.

65,102.—MATTHEW F. MAURY, New Orleans, La.—*Cotton Bale Tie.*—May 28, 1867.—The plate has lateral projections at both ends, forming attachments for the bight of the wire rope. The sides of the plate are folded in to form round corners for the contact of the wire.

Claim.—The plate A, when provided with the folding flanges a^1 and shoulders b^1 , as described, for the purpose set forth.

65,103.—REUBEN MCCHESEY, Utica, N. Y.—*Breach-loading Fire-arm.*—May 28, 1867.—The forward end of breech piece is supported in front of the breech of the barrel, upon a vibrating fulcrum, allowing the breech piece to rise to a position in front of a breech check, where it will be sustained by the latter against vertical movement in firing. The breech piece is moved to admit the cartridge at half-cock, and is restored into firing position by full cocking the gun. The cartridge shell is ejected simultaneously with the exposure of the cartridge chamber.

Claim.—First, sustaining the forward extension of the breech piece upon a vibrating fulcrum piece a , substantially as described.

Second, the combination of the breech piece D, fulcrum piece a , latch d , operating substantially in the manner set forth.

Third, constructing the fulcrum piece a , so as to receive through it the spring a' , which depresses the breech piece, when the latter is released from the latch d , substantially as described.

Fourth, the arrangement of the cartridge shell extractor l^1 , so as to be operated upon with the full force of the spring a' , through the agency of the intermediate slotted device n^1 and the breech piece D D, the said parts being thrown into action by the act of cocking the arm, substantially as described.

Fifth, constructing the hammer G, with a flange g' for entering a recess g^2 , formed in the breech piece, assisting in holding the latter firmly in place, substantially as described.

Sixth, constructing the latch d of the breech piece, so as to receive the forward end of the mainspring J through it, said latch d being pivoted upon the trigger pin e' , substantially as described.

Seventh, applying the pin i to the breech-holding latch, and operating said pin by the projecting g on the inside face of the hammer G, substantially in the manner shown and described.

65,104.—WILLIAM L. McDOWELL, Philadelphia, Pa.—*Hinging Lids of Teakettles.*—May 28, 1867.—The lid is cast in segments with lugs upon them for

the hinge pintle, and the rear segment is attached to the body of the kettle by screws.

Claim.—A wide-mouthed teakettle having a hinged lid attached, consisting of the two segments D E, coupled together and applied so as to operate substantially as described, and for the purposes specified.

65,105.—JAMES MELCHER, Minneapolis, Minn.—*Bag Holder.*—The flexible discharge end of the hopper is contracted to enter the mouth of the bag, and when the latter is attached the enclosed portion expands to hold the bag open.

Claim.—First, constructing the lower part of hopper I with a hinged side, and connecting said side to the opposite side of the hopper by means of a flexible material, in order that it may accommodate itself to the mouth of the bag, substantially as set forth.

Second, in combination with the hinged side and flexible material, spring M, for the purpose of retaining the mouth of the bag open to its greatest extent, substantially as described.

65,106.—LEWIS MILLER, Akron, Ohio.—*Harvester Rake.*—May 28, 1867.—The arm has a regular rotation, but the rake teeth are connected to a sliding plate whose anti-friction roller traverses a cam-groove to regulate the rake to the shape of the platform and requirements of the case.

Claim.—In combination with a revolving arm carrying a pivoted rake or fork upon its outer end, a slide and connecting rod that is operated by a cam and guide and attached to said rake or fork, so that while the arm moves in a true circle the rake or fork may assume different positions upon it, substantially as and for the purpose described.

65,107.—CHARLES E. MITCHELL, New Britain, Conn.—*Snap Hook.*—May 28, 1867.—The latch is held immovably closed till the snap is turned to such relative position with the loop strap as to bring the heel of the latch in apposition with a depression.

Claim.—A rigid pressure attachment E, or its equivalent, acting against the heel of the latch to firmly close it with the hook, substantially as and for the purpose described.

65,108.—J. NEELY and SIMEON ALLEN, Buckingham county, Va.—*Manufacture of Alcoholic Spirits.*—May 28, 1867.—The expressed juice is allowed to ferment and is then distilled.

Claim.—First, the manufacture of spirituous liquors and alcohol from the juice of maize or Indian corn, substantially as herein set forth.

Second, as a new article of manufacture, spirituous liquors or alcohol made from the expressed juice of corn stalks.

65,109.—D. P. NICKERSON, Cleveland, Ohio.—*Car Wheel.*—May 28, 1867.—The annular tread flange is attached to the outer shell, which has a thin inner flange concentric with the rim. Between the flanges is a rubber ring filling the space, and within the inner flange are two rubber rings separated by an annular plate parallel with the wheel. A plate attached to the tread ring encloses these points and the hub has a vertical movement to bring the weight upon the rubber springs and render other springs unnecessary.

Claim.—First, the shell A, elastic ring F, and disk I, provided with the shoulder or flange C, in combination with the elastic rings H.

Second, the clutches L E and disk in combination with the elastic rings and shell A, substantially as and for the purpose set forth.

Third, the annular shoulders D M', rings H, plate M, and shell A, arranged substantially as and for the purpose set forth.

65,110.—GEORGE NIMMO, Jersey City, N. J.—*Furnace for Heating and Welding.*—May 28, 1867.—The articles to be welded are heated by the direct action of the fire in one chamber, while other articles may be merely heated in the adjoining chamber. Each chamber is accessible at different points.

Claim.—The welding and heating furnace, formed with the heating chamber b , fire and welding chamber a , and openings d e and f , in the manner and for the purposes set forth.

65,111.—J. L. ORDNER, Cleveland, Ohio.—*Pipe Wrench.*—May 28, 1867.—The serrated hook is adjustable toward and from the toothed extremity of the stock by turning within the pivoted nut. When the wrench is turned in the effective direction the hook is supported by the stock, but otherwise when the motion is reversed.

Claim.—Hook F and pivoted nut E, as arranged, and operating within and in combination with the slotted shank B, as and for the purpose set forth.

65,112.—SOLOMON OTTENHEIMER, New York, N. Y.—*Sectional Take-up for Corset Looms.*—May 28, 1867.—By means of the sectional roller the fabric is drawn along irregularly as the gores are woven, so that the fabric shall present a straight line to the reeds. The springs applied between the stationary shaft and the toothed rings allow the latter to yield to any folds or creases and permit them to pass.

Claim.—The springs *o*, applied between the stationary shaft *e* and the toothed ring *h*, in combination with the wheels *d* of the sectional take-up roller of a loom for weaving corsets and other irregular fabrics, substantially as set forth.

65,113.—GEORGE N. PALMER, Greene, N. Y.—*Horse Rake and Hay Spreader.*—May 28, 1867.—Improvement on his patent of December 12, 1865. The axle and clearer with the operating mechanism are above the tilting frame, which is balanced by springs at the fore end. The tending mechanism is operated by a ratchet and pawls connecting the turning axle therewith. The pawls are restrained from engagement by set screws, when raking.

Claim.—First, the arrangement and combination of the balanced frame B B, short levers F F, and the rake head E, in the manner herein described, for the purposes set forth.

Second, regulating and adjusting the tilting motion of the frame B by the screw hooks *k k* and springs *m m*, as described.

Third, the combination of the pawls *e e*, ratchets *b b*, and thumb screws *c c*, constructed and arranged substantially as and for the purpose specified.

65,114.—B. F. PERKINS, North Adams, Mass.—*Vise.*—May 28, 1867.—The lever socket of the vise screw has a spring which bears against the side of the lever.

Claim.—The spring B or its equivalent, in combination with the screw D and lever C, as herein described, and for the purpose specified.

65,115.—W. R. POMEROY, Millersburg, Ohio.—*Counter and Desk Seat.*—May 28, 1867.—The seat is centrally hinged to a bracket pivoted to the desk, so that it can be swung to or from the same. The seat is horizontally secured to the bracket by sliding back upon it.

Claim.—The bracket B, seat C, lugs D, and springs I, as arranged in combination with the counter A, for the purpose and in the manner as set forth.

65,116.—GEORGE RAMSAY, Clyde, Ohio, *Balance Wheel of Watches.*—May 28, 1867.—The curved elastic arms of the balance wheel enable the heavy rim to yield, upon concussion of the watch, without breaking the pivots. The rim travels between guide fingers which receive its impact, when thrown out of true by the concussion of the watch.

Claim.—First, a watch balance wheel constructed with spring arms, as and for the purpose set forth.

Second, the balance wheel with spring arms in combination with the guards, substantially as and for the purpose set forth.

65,117.—L. RASTETTER and A. SIMCOX, Fort Wayne, Ind.—*Shank Laster.*—May 28, 1867; antedated May 16, 1867.—The edge of the leather is clamped between the jaws by screwing down the handle. The pivoted fulcrum is then adjusted and the handle vibrated until the fulcrum piece touches the jaw.

Claim.—The shank A, handle B, stationary jaw C, movable jaw E, spring J, adjustable fulcrum D, combined and operated as described, and constructed in the manner and for the purpose specified and set forth.

65,118.—MARTIN C. REMINGTON, Auburn, N. Y.—*Fastening Seats to Carriages.*—May 28, 1867.—A hook connected to an eccentric on the seat engages over a pin in the body and is raised by the eccentric.

Claim.—First, the device for fastening seats to carriages and constructed substantially as described. Second, the eccentric C, and sliding hook E, substantially as described for the purpose specified.

Third, the locking device consisting of the spring toothed lever D, toothed ring F of the hook E, in combination with the eccentric C, substantially as described.

65,119.—UEL REYNOLDS, New York, N. Y.—*Shifting Rail for Carriage Tops.*—May 28, 1867.—The shifting bar is of wood, bent to form, and connected to the seat by bolts and nuts. This bar receives the slats and props of the top.

Claim.—The wooden shifting rail to which the metal slat irons and prop blocks are attached as set forth.

65,120.—E. P. RICHARDSON, Lawrence, Mass.—*Boot and Shoe.*—May 28, 1867; antedated May 16, 1867.—The barbed nail secures the layers of leather together, similarly to a peg. The nail may be made by barbing a wire and then dividing it into lengths.

Claim.—The system or mode of fastening the soles of boots and shoes, by means of barbed or corrugated nails or pegs, either with or without heads and driven either from the outside or inside of the boot or shoe, substantially as herein set forth, and for the purpose specified.

65,121.—E. A. L. ROBERTS, Titusville, Pa.—*Sand Pump.*—May 28, 1867.—The foot valve is raised by a vertical bolt whose head impinges against the sand. A series of side holes at the tube top allow exit to the air as the bucket rises.

Claim.—First, the combination, substantially as and for the purposes herein set forth and described, of a tube piston and foot valve, the latter being opened for the purpose of discharging the contents of the pump by means of the stem *k*, or its equivalent, whether attached to, or separate from, the valves.

Second, the perforations *s*, as arranged in relation to said pump for the purposes herein set forth.

65,122.—S. C. SALISBURY, New York, N. Y.—*Reducing and Refining Metallic Ores and Oxides.*—May 28, 1867.—An ordinary blast furnace is connected by a divided tyerc with three retorts which are placed over a furnace. Air is passed through one retort and steam through another. Hydrocarbon vapor, generated in a still, is passed through the third retort, where it is decomposed, forming a fixed gas. The hot air, superheated steam and gas, pass through the passages of the tyerc into the furnace.

Claim.—First, the application and use in blast and other like furnaces for reducing metallic oxides, of a blast of hydrogen and oxygen gases, or their equivalent, when heated to a temperature of from 700° to 800° Fahrenheit, or thereabouts, for the purposes set forth.

Second, the use in such furnaces in combination with such blast of hydrogen and oxygen gases, or their equivalent, heated as described, of carbon gas, when free from or obtained from hydrocarbons free from sulphur, phosphorus, ammonia, &c., for the purposes set forth.

Third, the use in such furnaces of such blast of hydrogen and oxygen gases, or their equivalent, so heated as described, and of such carbon gas free from sulphur, phosphorus, ammonia, &c., in combination with the ordinary air blast, for the purposes set forth.

Fourth, in combination with blast and other furnaces used for reducing ores, the use of a compound or divided tyerc constructed substantially as described, for supplying to such furnaces such blasts of different character, substantially as and for the purposes set forth.

Fifth, the use in blast and other furnaces used for reducing ores, of manganese, substantially as and for the purposes set forth.

65,123.—HENRY SANDERSON, Sheffield, England, assignor to WM. SANDERSON, New York, N. Y.—*Cutlery.*—May 28, 1867.—The steel blade has a short

tang which is secured, by pressure, in a cavity of the bolster the shank of which passes through the handle.

Claim.—The uniting the handle and blade in the manner substantially as herein described.

65,124.—D. SAUNDERS, Brooklyn, N. Y.—*Pipe Vise.*—May 28, 1867.—The jaw-piece is attached by a horizontal axis to the bench-piece, so as to rotate in a vertical plane, to allow the pipe to enter in any position at the lateral opening, to be gripped between the stationary and movable jaws.

Claim.—The improved pipe vise herein described turning on the axis C, and having the side opening H, to allow the introduction and removal of the work, the several parts being combined and arranged substantially as and for the purpose herein set forth.

65,125.—W. D. SCHOOLEY, Richmond, Ind.—*Straw Cutter.*—May 28, 1867.—The main shaft is placed beneath the box and operates the knife-gate by a wrist-pin. A cam on the shaft also operates the lever which actuates the ratchet feed-wheels by means of connecting rods.

Claim.—First, the arrangement of the balance wheel B, and main shaft C, relative to the main frame and knife sash E, substantially as described and for the purposes set forth.

Second, the use of the lever k, when provided with the adjustable head l, and operated by the cam D, and to operate in combination with the rods m n and the levers j j, for the purposes specified.

Third, the adjustable bearings O, as described and set forth.

Fourth, the keys u u, for adjusting the knife frame, as shown and described.

Fifth, the guard w, when made detachable, substantially as described and set forth.

65,126.—H. K. SEARS and S. L. HOLT, Hartford, Conn.—*Oil Cup.*—May 28, 1867.—The valve closes the inlet aperture when oil is to be ejected, and at other times allows drip to pass into the can.

Claim.—The combination of the passage a, valve d, guide i, and rod e, all arranged to operate substantially as and for the purpose described.

65,127.—JOHN F. SHEARMAN, Brooklyn, N. Y., assignor to E. S. DODGE & Co., New York, N. Y.—*Register Points for Printing Apparatus.*—May 28, 1867.—The guide point is automatically raised and depressed by a fixed mechanism beneath the circular rotatable plate. It is held in a case adjustable along a slot running radially from the center to the periphery of the plate, and the point is operated and its case clamped by plates running beneath the sides of the slot and pivoted to the said plate.

Claim.—First, the case K, inclosing the point I, and open on one side to allow the operation of the edge of the blade G', or its equivalent, so as to operate the point therein in any position in the slot, substantially in the manner and for the purpose herein set forth.

Second, in combination with the above, the clamp L, and adjusting means N, or its equivalent, adapted to be conveniently operated from above the feed board, so as to set the point in the desired position in the slot c, substantially as herein specified.

Third, adjusting the turning plate C, by operating from the upper side, all substantially in the manner and for the purposes herein set forth.

65,128.—P. T. SMITH, Salem, Ohio.—*Planing Machine for Wood.*—May 28, 1867.—To plane, groove, and tongue flooring from stuff of double thickness. The board is run between the permanent and the adjustable rollers, is planed on each side, the edges planed, is ripped by the circular saw, and discharged.

Claim.—First, the adaptable shaft G, dowel points or clutch c', socket joint a, in combination with the feed rollers E F, and springs K, as and for the purpose substantially as set forth.

Second, the vertical revolving cutters Q, spring guides d' and f, as arranged in combination with the saw g, for the purpose and in the manner described.

65,129.—ALFRED SOWER, New York, N. Y.—*Kettle.*—May 28, 1867.—The caloric current passes through pipes leading up from the bottom of the kettle

to the chamber within and thence outward by a flu to a place of discharge.

Claim.—The chamber E, in combination with the tubes C, and pipes F G, substantially as herein shown and described, for the purpose specified.

65,130.—IRWIN H. SPELMAN, Baconsburg, Ohio.—*Sheep Shearer.*—May 28, 1867.—The knife is set obliquely in the head of the stock and cuts the wool by a forward and slightly lateral motion, while the teeth of the comb gather it to the knife.

Claim.—The combination of a shearer for the purpose and in the manner as substantially described, as a new article of manufacture.

65,131.—EDWARD F. STEPHENS, Towanda, Pa.—*Card or Label Holder.*—May 28, 1867.—The metallic plate is cut so that a point at each corner is turned back for attachment to a drawer and the sides and one edge are bent over to secure the label.

Claim.—The form of the plate as cut of one piece of metal, the points marked C D E and F, which secure the holder to the drawer, or so forth, without the use of nails or other means of fastening, and the flanges G H and I, so turned as to hold the card or label and permit the same to be changed without detaching the holder.

65,132.—JEREMIAH STEVER and JOHN A. WAY, Bristol, Conn.—*Machine for Making Ferrules.*—May 28, 1867.—The blank is cut by shears and bent around its forming pin by pressers worked by cams; the ferrule is delivered ready for brazing.

Claim.—First, the reciprocating bending dies J J, slides L L, and mandrel R, combined and arranged for joint action, substantially in the manner described.

Second, in combination with the above presser R'', substantially as and for the purpose described.

65,133.—ISAAC STRAUD, Kenton county, Ky.—*Grinding Mill.*—May 28, 1867.—By means of the additional tram-support the millstone is perfectly reset in its normal position in train with the runner, after it has been removed and dressed.

Claim.—The bolt b, when used in combination with trambolts a a a, for the purposes substantially as described.

65,134.—R. A. STRATTON, Philadelphia, Pa.—*Mangle.*—May 28, 1867.—The clothes are pressed twice in passing between the three rollers which are adjustable by bolts, by which their journal bars are held together. A vertical shield is placed between the upper and under rollers, and faces toward the middle roller.

Claim.—First, the combination of the rollers E E', secured to the adjustable spring standards D D', and the roller F secured to the spring standard D', the whole being constructed and arranged as and for the purpose set forth.

Second, the shield m, arranged in respect to the rollers, as and for the purpose described.

65,135.—D. B. STROPE, Fort Wayne, Ind.—*Pneumatic Spring.*—May 28, 1867.—Air is used as the elastic medium, and oil or other liquid as a cushion for the piston rod when depressed to its ultimate limit. The air and oil are introduced into the outer cylinder through a cock and valve, and pass from thence to the hollow piston.

Claim.—First, the construction and arrangement of the hollow piston in its relation to the oil contained in the reservoir or outer cylinder, in the manner and for the purpose herein described.

Second, the combination of the packing D, elastic packing I, metallic packing ring E, and elastic flange or packing F, with the gland C and piston B.

Third, the combination of the studs K, cylinder A, and piston B, substantially as shown and described.

Fourth, the combination of the cock G, valve M, and cylinder A, when arranged substantially as shown and described.

65,136.—DEXTER SYMONDS, Lowell, Mass., assignor to himself, BENJAMIN WOODWARD and M. S. MARSHAL.—*Oil Still.*—May 28, 1867.—The oil and lime water are introduced from separate elevated reservoirs into the still, which has horizontal screws

to check foaming. A curved pipe extends from the cover of the still to the top of the condenser and nearly to the bottom of the latter. The still has cocks for drawing off oil and water respectively.

Claim.—First, in stills for deodorizing and purifying oils, where the substance or material used and the process of deodorizing and purifying are herein described.

Second, the employment of one or more screens, in the manner and for the purpose substantially as set forth.

Third, the employment of a screen or screens in any still where the substance or material under operation is liable to foam or rise, as set forth.

65,137.—DEXTER SYMONDS, Lowell, Mass., assignor to himself, BENJAMIN WOODWARD and M. S. MARSHAL.—*Purifying and Deodorizing Oils.*—May 28, 1867.—To 30 gallons of crude oil, in a still, add 10 gallons of lime water. Distill and collect the lighter oil and afterwards remove the heavier.

Claim.—In deodorizing and purifying hydrocarbon or other oils, the use of the substances or materials herein specified and in the manner set forth.

64,138.—TIMOTHY F. TAFT, Shrewsbury, Mass., assignor to AUGUSTUS RICE, Worcester, Mass.—*Machine for Cutting Sheet or Bar Metal.*—May 28, 1867.—The prominent parts of the head and bed pieces are connected by a bolt to give strength and rigidity.

Claim.—The application to the lock shears above described of the two arms J J with bolt K and nut L, or their equivalents, substantially as described.

65,139.—C. S. TOMS, Utica, N. Y.—*Composition for Cleaning Metals, Wood and other Articles.*—May 28, 1867.—A detergent composed of borax, 10 lbs.; oil, 6 galls.; and water, 30 galls.

Claim.—The composition of matter substantially as herein described, with and without the Fuller's earth.

65,140.—GARRET VLIET, Milwaukee, Wis., assignor to WM. VLIET, Green Lake county, Wis.—*Gate for Water Wheels.*—May 28, 1867.—The metallic cylinder has openings through which pass curved plates by which the course of the water is directed. The cylinder is movable on its axis to vary the area of aperture.

Claim.—Solid metal gate C, with water ports through its metallic water guides D projecting through the ports in gate C, and curved at their inner ends to conform to the shape of the wheel, for the purpose of giving the water the proper direction, metal rings E and F, bolts G, and pinion H, all arranged and combined substantially as and for the purpose described.

65,141.—ANNA WEISSENBORN, New York, N. Y.—*Tuck Marker or Creaser for Sewing Machines.*—May 28, 1867.—The marking wheel has a bearing in a standard rising from a plate which is adjusted at right angles to the guide edge of the gauge on the cloth plate. It is set in position by a thumb screw, and its pressure determined by the rock shaft whose outer screw bears upon the cross-plate.

Claim.—First, the combination of a creasing or marking wheel or roller A¹⁰, sliding in unison with a sliding blade A¹², when applied to a sewing machine, in such a manner that the creasing or marking can be done during the process of sewing, substantially as described.

Second, for giving the downward pressure of the creasing wheel against an edged or grooved instrument attached to the sliding blade A¹², the employment of a spring or set screw or a lever, substantially the same as set forth.

65,142.—JOHN A. WHIPPLE, Cambridge, Mass.—*Combined Match Box and Paper Holder.*—May 28, 1867.—The case contains a hinged candle socket and a place for matches.

Claim.—The combination of the casing A, the match holder B, and hinged socket S, substantially as and for the purpose specified.

65,143.—MOSES G. WILDER, West Meriden, Conn.—*Punching Press.*—May 28, 1867.—For the purpose of varying the extent of motion of the slide which carries the upper die, the slide-carrying lever is mounted upon a fulcrum which is elevated by an

eccentric thereon rotating within the bearing of the lever.

Claim.—First, the combination of the eccentric G, stock A, shaft D, lever E, arranged and operating substantially as described.

Second, the combination of the eccentric G, stock A, shaft D, levers E K, arm L, with the wheel H J, substantially as and for the purpose described.

65,144.—ALBERT S. WILKINSON, Pawtucket, R. I.—*Horseshoe.*—May 28, 1867.—A continuous clip surrounds the hoof. The shoe is adjustable. An elastic connection between the heels, by a steel spring or otherwise, aids in expanding the hoof.

Claim.—First, an elastic or spring connection L for connecting the heels of expanding shoes, substantially in the manner and for the purpose set forth.

Second, in a jointed horseshoe as described, and having a continuous clip, the toe clip a and heel clips e e, provided with the projecting arms e² e³, in combination with the elastic spring connection L, substantially as described.

65,145.—ALBERT S. WILKINSON, Pawtucket, R. I.—*Horseshoe.*—May 28, 1867.—The shoe is expandible and has an attaching band passing over the hoof.

Claim.—First, in double shoes an expansion point which consists in slitting the upper and lower plates laterally so as to break joints, so that the toe clip acts as a spring joint to allow the heels of the shoe to expand laterally, substantially in the manner and for the purpose set forth.

Second, the double shoe a a having an expansion joint as described, in combination with the toe clip B provided with a loop c, and retaining bands f f, substantially as described.

Third, the double shoe a a having an expansion joint as described, in combination with the toe clip B provided with a loop c, retaining bands f f, and heel rests j j, the whole being constructed and operating substantially in the manner and for the purpose set forth.

65,146.—J. D. WINSLOW, Wilmington, Del.—*Sash Tightener.*—May 28, 1867.—A pin is driven into the jamb, and a wedge being inserted between the pin and the sash holds the latter snugly against the parting strip and prevents rattling.

Claim.—Attaching to window sashes the wedge-shaped piece a, together with the pin or stop b, as shown in the drawings and herein described as a sash tightener, to exclude wind and storms and prevent the sash from rattling.

65,147.—J. E. WINANTS and J. F. GRIFFEN, New York, N. Y.—*Apparatus for Distilling Turpentine.*—May 28, 1867.—The material is received into a supply hopper from whence it is automatically fed as it melted, strained and distilled. The products of distillation pass off in one direction to constitute spirits of turpentine, and the residuum of rosin passes off in another direction.

Claim.—Melting the lower portion of the mass of crude material in the bottom of the supply tank or hopper, and there partially straining it, substantially in the manner described and for the purposes set forth.

Also, the employment within a closed chamber D of a steam-heated strainer F, constructed and operating substantially as described for the purposes set forth.

Also, the employment in combination with the chamber D and steam-heated strainer F of one or more auxiliary sieves or strainers, substantially as described.

Also, the employment, in combination with a strainer confined within a chamber, of a cleaning device or scraper arranged to be operated from the outside of the chamber, substantially as described.

Also, making the strainer chamber D with windows, as and for the purposes specified.

Also, the employment within a closed vessel K, of one or more steam-heated disks or evaporators, when formed with a scroll-shaped or helical groove in the passage of the liquid, substantially as described, for the purposes set forth.

Also, forming the still with windows, substantially as described, for the purposes set forth.

Also, supplying the superheated steam directly to the evaporators, carrying it thence to the steam strainer, and lastly to the melting worn, so as to heat these several devices to different temperatures, as hereinbefore described, for the purposes set forth.

Also, the combination or combined arrangement of the supply hopper, melting coil, strainer, and still with the heating medium, when operating together in substantially the manner hereinbefore described, for the purposes set forth.

65,148.—GEORGE L. WITSL, Philadelphia, Pa., assignor to himself, WILLIAM DARMON, and GEORGE W. GRIFFIN, same place.—*Clothes Wringer.*—May 28, 1867.—The roller journals have bearings in frames, which are pivoted together, and have downward arms, embracing the tub side, so that the pressure of clothes between the rollers serves to clamp the frame to the tub.

Claim.—First, the combination of the roller A, spur wheel G and frame F, including the jaws F² F³ and the roller A', adjustable pinion G' and frame D, including the jaws D² D', said parts being respectively constructed, and the whole arranged to operate substantially as and for the purpose set forth.

Second, the arrangement of the rollers at A and A', when both are actuated positively, frames D and F, including the jaws F² F³ and D² D', block D', stems D² and spiral springs E, substantially as set forth.

Third, in combination with the rollers A and A', the spur wheel G and slotted pinion G', cross-piece H rigidly attached to the shaft of the upper roller and washer I, substantially as and for the purpose set forth.

65,149.—S. W. WOOD, Cornwall, N. Y.—*Grain Conveying Machine.*—May 28, 1867.—The grain is weighed in an air-tight receptacle, and by pressure of air is forced from the same through discharge pipes.

Claim.—A reservoir B and weighing apparatus or scales II, in combination with the receiving and conveying pipes or passages C D, air pump A and the governing valves, constructed and arranged to operate substantially as and for the purposes herein specified.

Also, the perforated partition or screen L, in combination with the reservoir B, receiving and conveying pipes C D, air pump A and valves, substantially as and for the purpose herein set forth.

Also, the devices or their equivalents for the introduction of air into the receiving and conveying pipes C D, in addition to that introduced with the grain, substantially as and for the purpose specified.

Also, the arrangement of the devices, or the equivalent thereof, for introducing grain into a conveying pipe of passage, substantially as shown in Figs. 3 and 4, and for the purpose herein specified.

65,150.—CHARLES R. ABBOT, Elmira, N. Y.—*Prop for Carriage Tops.*—May 28, 1867.—The shank of the prop is made in two pieces, lapping past each other. The outer is removable, while the leather is put on, and is then replaced and fastened.

Claim.—First, the shank B B', when made in two parts, and constructed and operating substantially as and for the purposes set forth.

Second, the shank B B', in combination with plate A, ferrule C and screw D, substantially as and for the purposes set forth.

Third, securing the shank B B' and ferrule C together, by means of tongue and groove o and pins and holes v, substantially as and for the purposes set forth.

65,151.—JOHN D. ANDERSON, CORTY, Pa.—*Car Coupling.*—May 28, 1867.—When uncoupled the link is thrown up, its curved end projecting in front of the draw-head. A plate on the draw-head of another car impinges against the projecting ends, and oscillates the link to engage it with the catch.

Claim.—The construction and arrangement of the link B, fitting over the hooks C upon the upper side of the draw-heads, said link catching over the pins g, and prevented from slipping when in a vertical position, by means of the circular projections h, and coupled by means of the bent arm d striking the projection a upon the draw-heads, as herein shown and described.

65,152.—ABRAM P. ANTHONY, Morrison, Ill.—*Clothes Dryer Attachment for Stove Pipes.*—May 28, 1867.—When the ring is turned downward its inner surface pressing upon the outside of the divergent loops forces them together, and clasps the wires around the pipe.

Claim.—The wire B forming the ring B² and loops B¹, in combination with the ring C, by means of which it may be clamped upon a stove pipe, substantially as and for the purpose set forth.

65,153.—ELLCOTT D. AVERELL, New York, N. Y.—*Lath for Plastering.*—May 28, 1867.—The countersunk apertures are penetrated by the mortar, which forms a bond therein.

Claim.—A lath constructed with countersunk apertures A', substantially as herein set forth for the purpose specified.

65,154.—THOMAS BANTA, Hoboken, N. J.—*Rotary Steam Engine.*—May 28, 1867.—The hollow arms rotate in closed cylinders, and their shafts are so connected as to be continuous, the packing of the series being performed at one operation. The steam passes in at the axis of each, and issues at a tangent, driving the wheel by reaction on the principle of the coilpipe.

Claim.—First, the combination of the rings R S T U, with the stuffing boxes L M N O, shafts G H I J, radial arms D E F and flange V, substantially as herein shown and described, and for the purposes set forth.

Second, the combination of the flanged ring W and rods X, with the shaft J, flange V and flanged end of the packing box O, substantially as herein shown and described, and for the purpose set forth.

65,155.—JOHN BARBIER, Boston, Mass.—*Clasp for Securing Shirt Collars.*—May 28, 1867.—Two plates are pivoted together near their midlength, and have a spring between their lower ends, which drives the projection of the rear plate through the collar button-holes and a perforation of the front plate. A button on the rear plate engages the shirt. A socket on the front plate gives place of attachment for the bow.

Claim.—The within-described collar clasp, consisted of the two plates a a', when pivoted together at or near the center, in combination with a spring e, one of the plates being provided with a projection f, which passes into or through an opening in the extremity of the opposite one, and the clasp being attached to the shirt by means of a stud g, all arranged and operating substantially as described.

Also, in combination with the above the socket h for receiving a pin projecting from the cravat or tie, substantially as set forth.

65,156.—IRA N. BEVANS, Terryville, Conn., assignor to ELI TERRY, Terryville, Conn.—*Apparatus for Tempering Steel Springs.*—May 28, 1867.—By the feed rollers the spring is drawn through the bath of molten lead at an equable rate, securing even temper.

Claim.—The feed rollers C, in combination with the vessel A and receiving drum D, substantially as and for the purpose set forth.

65,157.—EZRA BIRME, Dayton, Ohio.—*Basket for Feeding Turred Corn Cobs to Furnaces.*—May 28, 1867.—The basket and its hinged lid are of woven wire. The lid is raised by a chain, and held shut by a catch, whose hold is insufficient to keep the lid closed when inverted over the furnace.

Claim.—The cob-kindling basket, constructed substantially as herein described and for the purpose specified.

65,158.—HIRAM BOYS, Rushville, Ind.—*Cultivator.*—May 28, 1867.—The plows are regulated by lever, or by the adjustment of the seat, being swiveled to the frame in front and suspended by chains from rollers on the frame.

Claim.—First, the frame A, as constructed with adjustable tail piece a, arms b, with swivels for connecting the shovel beams and rollers E, with chains for attaching the shovel bars, when combined, arranged and operating in the manner and for the purposes herein specified.

Second, the beams D D, shovel bars f f', and shields

c e, connected by the adjustable bars *m m*, in the manner and for the purposes set forth.

65,159.—WILLIAM BRIGGS, Bristol, R. I., assignor to himself and THOMAS HOLMES, same place.—*Molasses Vessel.*—May 28, 1867.—The wooden bucket has a tight cover and a spigot, the lever of which has a notch to receive the end of a pivoted arm to prevent accidental opening.

Claim.—As a new article of manufacture, a pail or bucket, constructed and furnished as herein described, in combination with the gate *o*, as herein set forth and for the purpose specified.

65,160.—A. BRINCKMANN, New York, N. Y.—*Faucet.*—May 28, 1867.—The spring faucet has two stop washers. The application of one allows the entire closing of the faucet; that of the other admits the flow of a slight stream therethrough to prevent freezing.

Claim.—The tube A, spigot B, spring D, within the case C, in combination with the washers F G, having stops *c d*, as herein described, for the purpose specified.

65,161.—WALTER BRITTON, Abington, Ill.—*Bolt Cutter.*—May 28, 1867.—The pivoted jaws with transverse cutters are operated by cam levers to cut the rivet.

Claim.—The guide A, bars B B', connected by a pivot-bolt *b* at one end, and provided with cutters *c e* at the opposite end, and the levers D D, provided with eccentrics *g g*, all being combined and arranged substantially in the manner and for the purpose set forth.

65,162.—JAMES R. BROWN, Boston, Mass., assignor to himself and W. S. LOVELL, Cambridgeport, Mass.—*Pipe Wrench.*—May 28, 1867.—The jaws are attached by a strap, and have an adjustable spring pivot by which they may be arranged to hold any size of pipe.

Claim.—The combination of the staple or clasp, the series of holes and the fulcrum pin and its spring, and their arrangement with the two crossed-jaw levers, substantially in manner as specified.

65,163.—MELLISSA E. BULKLEY, Providence, R. I.—*Corset Clasp.*—May 28, 1867.—A metallic shield on the stud is interposed between the clasp-eye and the fabric so as to prevent wear of the latter.

Claim.—The use of the shield *s*, or its equivalent, in combination with the clasp, constructed substantially as described for the purpose specified.

65,164.—ISRAEL L. BULLOCK, Marcy, Ind.—*Horse Rake.*—May 28, 1867.—The rake head is of the simplest form of horse rake. It is kept in gathering position by pressure of the feet on the holding frame, and the catch pawls are dislodged from their catches to allow semi-rotation by forward pressure of the foot on their frame.

Claim.—The levers J J, having elastic pawls L L attached in combination with the shaft M, provided with the foot-boards *j j'*, and connected with the levers J J, substantially as and for the purpose set forth.

65,165.—HUBERT BURGESS, San Francisco, Cal.—*Pencil Sharpener.*—May 28, 1867.—The inner part of the box which slides into the other has within it a file to sharpen pencils, the box catching the dust.

Claim.—The case or box A, tray B, and file C, for sharpening pencils, substantially as shown and described.

65,166.—H. BURK, Mineral Point, Ohio.—*Converting Motion.*—May 28, 1867.—The rotating cam wheel has a tri-looped cam groove on each side, traversed by rollers pivoted to the head of the pitman rod, anti-friction rollers running on guide-plates of the bed-piece. Three reciprocations are given to the rod to each rotation of the wheel.

Claim.—The construction and arrangement of the pitman D, the legs *a b* of which straddle the wheel C, and are provided with rolls *d*, the former running in the groove E of the said wheel, and the other running on the metallic plate *f* of the bed A, substantially as described and for the purpose specified.

65,167.—F. CAJAR, New York, N. Y.—*Car Spring.*—May 28, 1867.—The frusto-helical plate has inner and outer flanges on its edges, to stiffen the same and to form abutments when pressed home.

Claim.—The improvement of a coiled or spiral spring and buffer for cars, &c., by providing the lower margins of the coil (*viz.*, of their individual cones) with the ribs or projections *a* and *b*, for the purpose and substantially as described above.

65,168.—JOHN S. CAMPBELL, Newton, N. J.—*Vehicle.*—May 28, 1867.—Explained by the claims and illustration.

Claim.—First, the carriage or sleigh body A, when made of hard rubber, and provided with flanges *b* and *c*, and cross-pieces *d*, substantially as and for the purpose herein shown and described.

Second, the running gear of wagons and sleighs, when made of rubber, substantially as herein shown and described.

65,169.—EDWARD CARD, North Providence, R. I.—*Pattern Lifter.*—May 28, 1867.—The lower ends of the steel arms have outer projections to engage the under countersunk holes of the lifting plate; they are forced apart by the wedge-shaped end of the descending screw which works in a screw socket at the upper part of the bend.

Claim.—The combination of the steel arms D D, and screw spindle wedge E, constructed as described.

Also, the combination of the device above set forth, with the plate A, having a hole through its center countersunk on one side, as herein described and set forth.

65,170.—E. M. CARPENTER, Elkhart, Ind.—*Liniment.*—May 28, 1867.—Ox gall, 1 gallon; kerosene oil, $\frac{1}{2}$ gallon, and alcohol, 1 gallon.

Claim.—The liniment compounded of the ingredients and for the purpose substantially as herein described.

65,171.—RILEY W. CARPENTER, Brattleboro, Vt.—*Melodeons and other Wind Instruments.*—May 28, 1867; antedated May 23, 1867.—The keys are rounded at the point where they impinge on the frame, and have diagonal connecting rods to the tremolo valve so that a rolling motion of the key will raise the valve. The keys are straightened up by a side spring pin.

Claim.—First, the arrangement of the tremolo valve in or on the swell, substantially as specified.

Second, the connection of the tremolo valve with the key or keys of the instrument, in such manner as to bring it under perfect control of the finger by the independent action of the latter on the key, essentially as herein set forth.

65,172.—JOHN CARROLL, New York, N. Y.—*Bath Tub.*—May 28, 1867.—The bottom of the tub is segmental in transverse section, and the tub has a casing of thin wood bent around it. The sides and one end flare sufficiently to allow package in nests.

Claim.—First, the bath tub, consisting of the body *c*, with a half circular bottom, head rest *a*, and foot rest *b*, all composed of sheet metal, and surrounded by a layer B of thin wood, in such a manner as to conform to the shape of the inside of the tub, the wooden foot board C, adjustable support D, and metallic lining *g*, substantially as herein shown and described.

Second, the thin covering B of wood, when laid around the body of a bath tub, with semicircular bottom, substantially as and for the purpose herein shown and described.

65,173.—S. E. CHUBBUCK, Roxbury, Mass., assignor to JOSEPH H. CHADWICK, same place.—*Machine for Cutting Sheet Lead.*—May 28, 1867.—The sheet lead passes over a roller bed and a grooved bar; above the latter traverses a cutting disk journaled in a spring arbor, which is socketed in a suspended carriage driven by rack and pinion.

Claim.—First, the arbor G, provided with the rotary cutter H, and adjusted in the hollow shank B of the arms C, by means of the spring I, and set screws J K, substantially as described for the purpose specified.

Second, in combination with the above the transverse racks E, guides D D, in which the cross-heads B slide, pinion F, and transverse bar L, substantially as described for the purpose specified.

65,174.—HENRY C. COFFMAN, Washington Court House, Ohio.—*Fluid for Disinfecting and Embalming.*—May 28, 1867.—Distilled water, 1 gallon; carbolic acid, nitrate of potash, and alcohol, each 4 oz.

Claim.—A disinfecting and embalming compound, prepared substantially as described and for the purpose set forth.

65,175.—ALEXANDER ANGUS CROLL, London, England.—*Treatment of Sulphate of Alumina.*—May 28, 1867.—For neutralizing free acid resulting from the manufacture of sulphate of alumina. Caustic lime or carbonate of lime is added to it before it has cooled down to 170° Fah. For making a soluble sulphate of alumina, take sulphuric acid five parts, diluted with water, to which add four pounds of dry and finely divided aluminous clay.

Claim.—First, the employment of carbonate of lime with the sulphate of alumina when the latter is in a heated state, substantially as herein described.

Second, the treatment of the roasted aluminous earth or clay with hot oil of vitriol, substantially as herein described.

65,176.—LUTHER C. CROWELL, West Dennis, Mass.—*Constructing Paper Bags, &c.*—May 28, 1867.—A thin strip of metal is pasted horizontally in a fold at one side of the bag top. When filled, the edges are laid together parallel to this strip, are rolled on the same and the ends of the roll bent inward.

Claim.—First, the combination of the strips of tin or iron with wrapping paper, or its equivalent, when cemented, pasted, or otherwise securely connected together, and used as a self-sealing wrapper, as a new article of manufacture.

Second, the paper-bag M, in combination with the opening O, and thin strip of tin or folder A, constructed and operating substantially in the manner and for the purpose herein shown and described.

65,177.—EPHRAIM CULVER, Shelburne Falls, Mass.—*Cutter, Grater, and Sharpener.*—May 28, 1867.—The grater roller armed with longitudinal saw plates and the cutter cylinder armed with knives are upon one shaft, but in separate compartments. The grindstone is on a separate shaft, and the shafts are rotated by a common motive wheel actuated by a winch.

Claim.—The arrangement and combination of the revolving cylinder c, having its projecting and transverse saw teeth of unequal length, and the cylinder b, with the knives attached to it, and the grindstone d, substantially as and for the purpose described.

65,178.—WILLIAM H. CUMMINGS and ISAAH BABCOCK, Boonsboro, Iowa.—*Gauge for holding Clapboards.*—May 28, 1867.—The fixed dog takes under the edge of a board and the spring dog is depressed by a lever to engage the face of a board below and give support to a board above.

Claim.—The combination of the adjustable bars a b and d, the fixed dog g, and the spring dog h, and the lever k, or their equivalent devices, arranged and operating substantially as and for the purposes herein described.

65,179.—OSCAR A. DAY and GEORGE W. BISHOP, Saratoga Springs, N. Y.—*Composition for Coating Roofing, &c.*—May 28, 1867.—Roofing composition. An inner coat is composed of sand 3 and cement 1 part, with sufficient lime and water to reduce to a mortar. The outer coat is composed of cement, 4; ground clay, 2; fine sifted sand, 2; coal tar, 3; and rubber compound, 1 part. The rubber compound has rubber or gutta-percha, 5; tallow, 2; and spirits of turpentine, 1 part.

Claim.—The combination substantially as herein described and for the purpose specified.

65,180.—JOSEPH A. DAYTON, New London, Conn., assignor to himself and JOSEPH STARR, same place.—*Hoisting Apparatus.*—May 28, 1867.—The screw of the crank shaft engages a suitable gear

wheel, which is connected by cog gearing to the barrel of the windlass.

Claim.—An improved hoisting apparatus, formed by the combination of the chain wheel B, shaft D, gear wheels E F, shaft G, gear wheel H, endless screw I, shaft J, and cranks K, or their equivalent, with each other and with the frame A of the machine, substantially as herein shown and described and for the purpose set forth.

65,181.—FREDERICK W. DEVOE, New York, N. Y.—*Metal Can and Box for Paints and other Materials.*—May 28, 1867.—An inwardly-projecting bead holds the gasket on which the cover rests. The cover has notches into which the rim of the metallic can is pressed to fasten the cover.

Claim.—First, the can constructed with the internal swage a at the inner part thereof, substantially as and for the purpose specified.

Second, the combination of the rebate b of the cover B, the internal swage a of the body of the can, and the gasket c, substantially as and for the purpose specified.

Third, the recesses d in the cover B, in combination with the upper edge of the body A and the internal swage a, substantially as and for the purpose specified.

65,182.—GEORGE F. DEITZ, Burlingham, N. Y.—*Attaching Thills to Vehicles.*—May 28, 1867.—The two ears of the clip are on separate pieces attached by transverse bolts, permitting their lateral adjustment when the joint wears.

Claim.—A carriage clip formed in two parts so as to be adjustable, when so constructed that one part can be moved on the other without loosening the clip on or detaching it from the axle.

65,183.—WILLIAM H. DOANE and JOHN RICHARDS, Cincinnati, Ohio.—*Shaft Coupling.*—May 28, 1867; antedated February 16, 1867.—The conical sleeves have a longitudinal split to allow their contraction upon the shaft by the action upon them of the outer sleeves. One of the latter has an extension, screw-threaded within, to engage the annular nut, which engages a flange on the other part.

Claim.—First, the ring nut c for connecting the conical compressing shells b b in a shaft coupling, in the manner and for the purposes specified.

Second, the sleeve a, compressing shells b b, and ring nut c of a shaft coupling, combined and operated in the manner and for the purpose set forth.

65,184.—WILLIAM C. DURANT, West Troy, N. Y.—*Base Burning Stove.*—May 28, 1867.—A series of apertures, alternating with the annular plates which compose the fuel reservoir, permit the heated gases to escape from the latter and thus prevent the ignition of the fuel therein. The annular plates have a tapering shape to deflect the escaping gas and induce its exit from the reservoir.

Claim.—A fuel reservoir of "base-burning" stoves having a series of horizontal apertures or openings a a formed in and through its sides, said series of openings or apertures extending in succession from its base part upward to its top part, in manner substantially as herein described and for the purpose set forth.

Also, in combination with said series of apertures or openings a a, and respectively with each other, a series of deflector plates or bands G, said series extending in alternate succession with said apertures from the base part or bottom of the reservoir upward to its top, in manner substantially as herein fully set forth and for the purpose specified.

65,185.—J. W. DURGIN, Bangor, Me., assignor to E. Q. NORTON and A. H. NORTON, same place.—*Machine for Cutting Slates.*—May 28, 1867.—The curved knives are hinged at their ends and connected to levers by which they are actuated. They work on a frame of similar shape.

Claim.—The cutting of slate for roofing purposes, composed of a knife of a shape corresponding to that in which it is designed to cut the slate, and pivoted to the end of a bed piece of a form corresponding to that of the knife, and of such dimensions that the knife may work over it with a lever or treadle applied

to the knife, all arranged substantially in the manner as shown and described.

65,186.—E. J. EAMES and C. A. SEELY, New York, N. Y.—*Composition for Soap.*—May 28, 1867.—A disinfectant and deodorizer, such as carbolic acid, is mixed with the soap, or with one of its component parts, before manufacture.

Claim.—A disinfectant soap compounded of the ingredients as above set forth.

65,187.—JONATHAN EMERY, Cedar Falls, Iowa.—*Artificial Leg.*—May 28, 1867.—The frame has two side bars extending up and attached to the leg which are hinged in the foot and have bearings before and behind the pivot. The back plate of the heel is fitted to slide on the convex part above it.

Claim.—First, the construction of the frame D D in the form shown in Fig. 5 of the drawings, and so that it is applicable to the standard *b* on the steel sole plate *c*, and will afford a bearing forward of and in rear of the axis of motion of the leg *A*, and also serve as the means for connecting the leg to the foot, all in the manner herein described and shown.

Second, the construction of the heel extension *a* and concave ankle portion *b* upon the leg *A*, in combination with the heel spring *d*, frame D, and foot section B, substantially as described.

65,188.—JOHN G. ERNST, Baltimore, Md.—*Tobacco Pouch.*—May 28, 1867.—The mouth of the pouch opens to embrace the pipe mouth and is afterwards closed.

Claim.—The elongated hinges *d d* of frame B, in combination with spring *c*, or its equivalent, the concave metal plate D and nipple E, the whole secured to bag or pouch A, in the manner described and for the purpose specified.

65,189.—JACOB ESLAMAN, Belleville, Ill.—*Wheat Dampener.*—May 28, 1867.—The wheat is damped by a jet of steam on its way to the millstones, the object being to toughen the bran and enable it to be rolled off nearly entire.

Claim.—The combination of the conveyor-screw B and mixing trough A with the steam dampening apparatus, consisting of the spout *c* and steam pipe E, arranged in manner described.

65,190.—O. B. EVANS, Buffalo, N. Y.—*Tanning.*—May 28, 1867.—The cleaned hides are immersed in a composition of warm soft water, salt, borax, salt-peter, acetic acid, and nitric acid. Draw and drain and then immerse in extract of nut galls; drain and return to first composition and alternate six times. Thicker hides after cleaning, hairing, and breaking, and after treatment in first composition, are immersed in a decoction of bonceset, melted catechu, and extract of bark. Then return to first composition and alternate between the compositions.

Claim.—Compounds or solutions for tanning hides and skins, composed of the ingredients specified, mixed together in or about the proportions described, substantially as and for the purposes set forth.

65,191.—JEROME FASSLER, Springfield, Ohio.—*Machine for Drilling Harvester Guard Fingers.*—May 28, 1867.—The guard fingers are clamped to their bar and drilled simultaneously by a series of longitudinally adjustable drills. The slide table has an automatic upward feed motion.

Claim.—The main frame A, constructed as described, and mounted upon the hollow pillars B B and bed plate C, as and for the purpose set forth.

Also, the crank S connecting clutch rod R and lever T in combination, the two former being behind and the latter in front of the frame, as and for the purpose shown and described.

Also, arranging the stop lever T and hand wheel W with the other operative mechanism, in the manner and for the purpose shown and described.

Also, the construction and arrangement of the plug *k* and follower *n*, in the end of a hollow drill stock, as described.

Also, the steel pattern bar *p* with the clamps *q q*, as and for the purpose set forth.

Also, the trough *o*, constructed as described and for the purpose set forth.

65,192.—JEROME FASSLER, Springfield, Ohio.—*Machine for Milling Harvester Guard Fingers.*—May 28, 1867.—The rotating cutter shaft is mounted on a vertically moving carriage actuated by automatic feed which is detachable at will. The shaft bearings are between the gearing and cutter heads. The cutters are made in sections to enable the formation of shoulders upon the faces formed.

Claim.—The combination of the main shaft G which carries the cutters and the counter shaft H which receives motion from the driving power, both mounted upon the carriage F with the feed shaft S, constructed and arranged substantially in the manner shown.

Also, the arrangement substantially as shown of the main shaft G and counter shaft H, both upon the vertically moving carriage F, cutters O O, gearing J K, and pulley L, all outside of the bearings of said shafts.

Also, securing the guard fingers *e* to the holding bed *g*, in the manner shown, to hold them firmly while being faced off by the cutters.

Also, the combination of the detachable holding bed *g* with the carriage P, whereby duplicate holders may be used, and one set being prepared while another is being operated upon, in the manner shown and described.

Also, the detachable holding bed *g*, carriage P, and feed screw Q, combined with the hand wheel R, worm S, and driving band T, all combined for joint operation substantially as shown.

Also, the combination of the set stop Y, let-off device W X Z, and dropping box V, to stop the movement of the carriage P at the desired point.

Also, the detachable holding block *g* in which two or more guard fingers may be secured at one time, in combination with the carriage P and cutters O of a milling machine.

65,193.—JEROME FASSLER, Springfield, Ohio.—*Machine for Slotting Harvester Guard Fingers.*—May 28, 1867.—The longitudinally and transversely adjustable carriage has suitable clamps for the guard fingers, and an automatic feed by the impact of the lower bar of the sash against a lever which, by a pawl, operates a ratchet wheel on the feed screw. The slide bars of the sash extend through the table.

Claim.—Securing the guide rods, constructed as described, to the table A, substantially in the manner shown and set forth.

Also, the rods L L to connect the heads K K of the saw frame, in connection with the independent guide rods H H, in the manner shown and for the purpose set forth.

Also, the straining heads M, constructed as described, with the set screws O O Q and the pin P passing through a horizontal slot, for the purpose set forth.

Also, the holding block *g*, constructed as described, to hold the guard finger *h* while being slotted, as set forth.

Also, in combination with the holding block *g*, the point holder *f*, all constructed as and for the purpose set forth.

Also, the carriage T and holding blocks *f* and *g*, combined and arranged as set forth.

Also, the combination of the carriage T, holding blocks *g* and *f*, and the saw frame K L, when the carriage and holding blocks are located and arranged between the parts of the saw frame, as set forth.

Also, the arrangement of the shaft V, pawl W, and crank bar Y with the ratchet wheel U and head K of the saw frame to produce an automatic feed for the carriage T, as set forth.

Also, in combination with the automatic feed motion herein described, the lever *b*, spring *c*, latch *d*, and pin *e*, for the purpose of disconnecting the said feed and arresting the forward motion of the carriage T, as and for the purpose set forth.

65,194.—JULIUS FISCHER, New York, N. Y.—*Fire Escape and Alarm.*—May 28, 1867.—The chain ladder is wound upon the windlass on the roof and is unwound by a chain reaching to the ground. The windlass is connected to a bell. The curved ends of two springs engage the lower round when elevated and prevent accidental unwinding.

Claim.—First, the combination of an alarm bell or of alarm bells with a life-saving apparatus, connected in such a manner that the life-saving apparatus

when being brought in readiness to be used will set the bell or bells in motion, for the purpose as herein fully described.

Second, in combination with the above a chain attached to the ladder by means of which said ladder may be unwound from a windlass, for the purpose as herein described.

Third, the combination of a sliding frame with a windlass and chain ladder, the whole being constructed and operating as and for the purpose herein fully described and set forth.

65,195.—D. S. FISHER, Cedar Spring, Ind.—*Wheat Drill.*—May 28, 1867.—The seed slide is actuated by a rotating cam driven from the ground-wheel axle, and has above it a rotating agitator armed with radial pins.

Claim.—The rotating shaft B, provided with the pins *a*, in combination with the perforated board C, and the reciprocating slide D, operated by the cam H, all arranged substantially in the manner as and for the purpose set forth.

65,196.—D. S. FISHER, Cedar Spring, Ind.—*Harrow.*—May 28, 1867.—The radial arms of the horizontal rotating frames carry vertical teeth. These frames are rotated by a band from the ground wheel vertically adjustable by a series of circumferential grooves on the shaft and a pin traversing its journal socket and entering one of the grooves.

Claim.—First, the revolving harrows F F, secured to the lower ends of vertical shafts D D, which are fitted loosely in bars A A, or any suitable framing, substantially as and for the purpose set forth.

Second, the circumferential grooves *c* in the upper parts of the harrow shafts D D, in combination with the pins *d*, all arranged substantially as and for the purpose specified.

65,197.—D. S. FISHER, Cedar Spring, Ind.—*Corn Planter.*—May 28, 1867.—The seed is agitated by the radial pins of a rotating bar, and falling through an adjustable opening is carried to the spout by a reciprocating seed slide worked by a cam projection and a spring. The seed is covered by an automatically oscillating hoe.

Claim.—First, the rotating shaft D, provided with pins *a*, and the slide E, in combination with the reciprocating slide F, spring H, and the wheel I, provided with one or more projections *f*, all arranged to operate in the manner substantially as and for the purpose set forth.

Second, the hoe N, attached to the shaft L, in combination with the spring O, and the wheel I, provided with one or more projections *r*, and the arm *g*, on one end of shaft L, all arranged to operate in the manner substantially as and for the purpose set forth.

65,198.—D. S. FISHER, Cedar Spring, Ind.—*Plow.*—May 28, 1867.—The plows and rotary coulters are attached to sliding standards adjustable vertically by levers.

Claim.—First, the rising and falling or adjustable plow bars E F, one or more arranged with a lever or levers C D, and having rotary coulters J attached, all arranged substantially as and for the purpose set forth.

Second, the spring catches J*, one or more, arranged with the bars E F and levers C D, substantially as and for the purpose specified.

Third, providing the coulters J* with radial ribs *a*, substantially as and for the purpose set forth.

65,199.—D. S. FISHER, Cedar Spring, Ind.—*Propelling Wheeled Carriage.*—May 28, 1867.—The carriage is driven by a coiled spring and is connected by gearing to the rear axle guided by a semicircular rack on its fore axle.

Claim.—First, the frame A, with small frame D, shaft *a*, spring E, cogs *d t*, and axle B', with cog-wheel *b*, all constructed, arranged and operating in the manner substantially as and for the purposes specified.

Second, the segment F, shaft G, ratchet I, lever H, and bar R, all constructed and arranged for guiding the vehicle in the manner as set forth.

65,200.—HENRY FLAD and GEORGE P. HERTHEL, Jr., St. Louis, Mo.—*Hydraulic Elevator.*—May 28,

1867.—The hoisting rope is operated through the medium of sheaves by a hydraulic ram.

Claim.—First, the combination of the cylinder R, pistou *b*, sheaves *b' b'*, and system of pulleys, as arranged in relation to the reservoir C, or supply-pipe D and its connecting pipe *d*, substantially as shown and described.

Second, the arrangement with the foregoing of the secondary reservoir C', substantially as and for the purposes shown and described.

65,201.—CHESTER D. FLYNT, Collinsville, Ill.—*Carriage Seat.*—May 28, 1867.—The steel strips are interwoven, present a convex upper surface, and rest upon an elastic bearing in a rigid frame.

Claim.—The spring cushion C, in combination with the frame A, and the bands B, substantially as described.

65,202.—F. G. FOWLER, Springfield, Ill.—*Propeller.*—May 28, 1867.—The propeller wheel rotates in a horizontal plane and its vertical blades are pivoted to the ends of the horizontal radial arms. The tiller wheel operates an eccentric to whose surrounding strap the adjusting rods are attached; the other ends of the rods are pivoted to the back parts of the blades to adjust them. When the wide side of the eccentric is to the rear the blades act to propel, and turning the eccentric serves to steer the vessel.

Claim.—First, the eccentric *e*, in combination with the blades *a'*, hung on pivots placed on their vertical central line, and revolving, in the manner and for the purpose substantially as described.

Second, the chain wheels *i'*, and chain *r'*, or their equivalents, in combination with the eccentric *e*, and blades *a'*, arranged in the manner and for the purposes substantially as shown.

65,203.—ABEL M. FRENCH, Burton, Ohio.—*Medical Compound for Treating Ringbone, Spavin, &c., in Horses.*—May 28, 1867.—For cure of ringbone, spavin, &c. Quicksilver, 8 oz.; tincture of cantharides, 1½ oz.; nitric acid, 4 oz.; sulphuric acid, 4 oz. The acids must be added slowly to prevent accident.

Claim.—The herein-described compound, formed of the ingredients named, and applied substantially as and for the purpose specified.

65,204.—A. D. FRYE, JR., New York, N. Y.—*Bouquet Holder.*—May 28, 1867.—The bouquet is arranged around the central tube which may hold a handkerchief, and furnishes a socket for reception of the scroll which forms a foot for the bouquet holder.

Claim.—The tube A, formed in one or more parts, in combination with the reversible scroll B, either removably or securely attached for the purpose of holding bouquets or handkerchiefs, substantially as herein shown and described.

65,205.—ALFRED FRYER, Manchester, England.—*Apparatus for Evaporating and Concentrating Cane Juice and Other Liquids.*—May 28, 1867.—The evaporating trays connect with a rotating cylinder at a slightly lower level, and air, heated by the caloric current from the furnace, is forced through the cylinder. The trays may be connected by U-shaped side channels.

Claim.—First, treating cane juice and saccharine solutions and liquids in order to obtain what I term "Fryer's concrete," or sugar in a non-crystalline or semi-crystalline state, by exposing it or them to heat in shallow trays, and then to heat in a revolving cylinder, substantially in the manner herein set forth.

Second, treating solutions and liquids for evaporating and concentrating purposes, by exposing them to heat in shallow trays, and then to heat in a revolving cylinder, as herein set forth.

Third, treating cane juice and saccharine and other solutions and liquids for evaporating and concentrating purposes, by passing it or them through or into a revolving cylinder, heated from the inside, and through the inside of which heated air is forced or driven.

Fourth, the machinery or apparatus for the concentration of cane juice and saccharine and other solutions and for the evaporation of liquids, consisting of shallow trays in combination with revolving cylinders, all constructed and acting substantially in the manner described.

65,206.—STEPHEN F. GATES, Boston, Mass.—*Umbrella.*—May 28, 1867.—Improvement on the patent of A. G. Davis, August 31, 1858.—The tubular part of the handle to which the coupling is screwed has longitudinal internal grooves containing pressure springs projecting from the sliding rod, which prevent rotation and the consequent loosening of the coupling.

Claim.—In combination with the tubular handle, sliding rod, and feather or spring top, the groove or grooves in the tubular handle, operating as and for the purpose substantially as set forth.

65,207.—AUGUSTE LEON GENNERAT, Paris, France.—*Burglar Alarm Clock.*—May 28, 1867.—The movement of the handle raises a lever which on its recoil strikes the bell within the lock.

Claim.—First, the construction and arrangement of the piece A secured to the piece B of the handle lock, working in the hollowing of the partition of the stop piece D, to which the hammer G is secured, having trunnions D D', piece C upon the trunnion D', working from K to H thereon, spring P, stop pin M, and bell, as herein set forth, for the purpose specified.

Second, in combination with the above, the adjustable swivel T, whereby the ringing of the bell is prevented, as herein set forth, for the purpose specified.

65,208.—FAYETTE S. GILES, New York, N. Y.—*Stem-winding Watch.*—May 28, 1867.—The stem has a rectangular portion carrying a contrate wheel, which by depression of a thumb pin is made to engage a wheel to set the hands. This contrate wheel when not depressed engages by a ratchet clutch with a similar wheel geared with a toothed ring actuating the main spring gear wheel.

Claim.—The toothed ring C, in combination with the spur wheel A, the spring barrel and the contrate wheel c, attached to the winding stem or arbor, substantially as and for the purpose herein set forth.

65,209.—E. C. GORDON, Sevastopol, Ind.—*Fence.*—May 28, 1867.—The panels stand in zigzag form and are attached by wires to an anchor piece beneath the surface.

Claim.—Supporting and connecting the sections A A, as constructed, by means of the anchor B, in the manner herein specified and for the purposes set forth.

65,210.—GIDEON S. GRANGER and WILLIAM NORTROP, Wayland, N. Y.—*Gate.*—May 28, 1867.—The gate is in two sections, each supported by its bars on the adjoining fence and on hook pins of the central post; the latter is hinged at the ground and may be folded down to allow passage to vehicles.

Claim.—Hinging the central post G at or just above the surface of the ground, substantially as herein shown and described and for the purpose set forth.

65,211.—SYLVESTER GREENE, Rome, N. Y.—*Separating Cheese Curd from Whey.*—May 28, 1867.—The perforated plate fits the vertical sides of the vat and has pendent cutters which divide the curd; the whey is expressed by the weight of the plate.

Claim.—In the manufacture of cheese the separating of the whey from the curd by means of a gradual pressure produced by a perforated plate, and either with or without a strainer, substantially as herein shown and described.

65,212.—J. V. GREIF, Paducah, Ky.—*Plow and Cotton Scraper.*—May 28, 1867.—Explained by the claim.

Claim.—The spur or projection e formed upon the share C and fitting into the slot or hole f of the mold board, in combination with the bolt g, substantially as and for the purpose specified.

65,213.—R. H. GRIFFITH, Baltimore, Md.—*Boat Detaching Tackle.*—May 28, 1867.—Dogs prevent the block hooks from turning to release the bolt, and are connected by a longitudinal rod to insure coincidence of motion. One of the dogs has an arm which is engaged by a pin in the block. The removal of the pin releases the hooks.

Claim.—The rock shaft or rod A on which the cams e e are secured, when connected with the two pulley

blocks C C, one at each end of the boat, in combination with the pivoted hooks f f, constructed and operating substantially as and for the purposes set forth.

65,214.—NEWELL F. GUFFIN, Governor's Corners, N. Y.—*Hop Trellis.*—May 28, 1867.—Each pole rests in an eye on one post, and passes through the upper loop of the adjoining post.

Claim.—The combination of the poles A planted in double parallel rows, and the transverse inclined poles D interlocking the former, to which they are attached by hoops or loops C, and eyes B, substantially as and for the purpose set forth.

65,215.—JOHN HALLAS, New York, N. Y.—*Apparatus for Tempering Steel Wire.*—May 28, 1867.—The object is to save space and to bring both the discharging and receiving drums under care of one operator. The wire passes through the melted metal, and then, after passing through the oil tank, turns around a roller and returns through the tempering tank.

Claim.—First, in an apparatus for hardening and tempering wire, substantially of the character described, causing the wire, after it has passed through the heating pot in the furnace, or through the latter and oil or other bath, to be run or returned in its passage through the tempering pot, for after-collection or take-up, to the same side of the furnace from which the green wire was fed, substantially as specified.

Second, the arrangement on or in connection with the same furnace in which is located the first or heating pot B of the tempering pot F, having its temperature controlled by dampers, essentially as and for the purpose or purposes herein set forth.

65,216.—S. B. HARTMAN, Millersville, Pa.—*Safety Bridle.*—May 28, 1867.—Improvement on his patent of November 7, 1865. The rein has an elastic section connecting to the bit ring, and a leather connection passing through the bit ring over a roller on the check piece, and down for attachment to the bit ring.

Claim.—The employment or use of friction rollers b applied to the check straps C of the bridle in combination with the bit D, head strap E, and reins d, all arranged substantially as and for the purpose set forth.

Also, the elastic reins e in combination with the reins d, check straps C, and bit D, all arranged and applied to the bridle, substantially as and for the purpose specified.

65,217.—HENRY HASSENPLUG, Huntington, Pa., assignor to himself and EDWARD HASSENPLUG.—*Sawing Machine.*—May 28, 1867.—The log is clamped on a sliding frame, fed to the saw by a weight, draw cord, and a pawl. The saw is actuated by a crank, gear wheels, and adjustable levers.

Claim.—The feed device, consisting of the weighted cord l arranged in relation with the pawl p and ratchet bar q, all made as described, and operating so that the carriage shall be moved towards the saw, as herein set forth, for the purpose specified.

65,218.—B. G. H. HATHAWAY, Rock Stream, N. Y.—*Harvester.*—May 28, 1867.—The wheels turn backward on the axles freely, but when progressing rotate the axle which may be clutched to the cutter mechanism. This mechanism is contained in a spherical case from which the cutter driving shaft issues. The cutter is hinged to arms attached to different parts of the frame so as to form mutual braces.

Claim.—1. The spherical case when attached to the axle and constructed in two parts C and C', and having a projecting cylindrical pipe C'', which form bearing at P' and P'' for the attachment of the cutting apparatus, substantially as set forth.

2. The combination of the lever H, yoke H', clutch H², radial arms with depression D¹, and the planet wheels E, when constructed and arranged substantially as set forth.

3. The braces N and N' and N'', in combination with the tongue O, bracket P, and pipe C'', when constructed and arranged substantially as set forth.

4. So arranging the braces uniting the cutter bar with the supporting frame of the machine as that they may oscillate upon and around the pipe C'', substantially as set forth.

5. The combination of the lever Q', arm Q, bracket P, and pipe C'', substantially as set forth.

65,219.—B. G. H. HATHAWAY and GEORGE M. HATHAWAY, Rock Stream, N. Y.—*Harvester*.—May 28, 1867.—The ground wheel rotates freely on the fixed axle and carries within the three planet wheels which receive motion from a gear on a hemispherical case attached to the axle. These planet wheels engage a central cog wheel whose shaft acts by a pawl to revolve the bevel wheel, which in turn actuates the cutter driving shaft. The cutter is vertically adjustable by means of a lever.

Claim.—First, the ground wheel C in combination with the planet wheels D pivoted to its inner face, and a fixed gearing H' communicating motion to a pinion E, so arranged in combination with a detent that it can revolve only with the forward motion of the ground wheel, substantially as described.

Second, the combination with the planet wheel D, pinion E, detent E', and ratchet wheel F, when said parts are respectively constructed and arranged substantially as set forth.

Third, the hemispherical case H, when constructed with internal gearing H', and having a collar by which it is attached to a rigid axle, so as to dispense with a frame, substantially as set forth.

Fourth, the combination with the ratchet wheel F, bevel wheel G and collar I, with its pins I', yoke I'', rod I''', and lever I''', substantially as and for the purpose set forth.

Fifth, the arrangement of case H, axle B, tongue A, brace T, shoe M, and frame O, substantially as set forth.

Sixth, the combination of the wheel R, arm Q, frame O, and lever P, said parts being respectively constructed and arranged as and for the purpose set forth.

65,220.—ALBERT HETH and GAYLON HALL, Adams, N. Y.—*Clutch*.—May 28, 1867.—The frame carries a hook and has a fixed and movable clamping point for attachment to a beam.

Claim.—A clutch for suspending hay forks and other articles, said clutch consisting of a frame A provided with adjustable sliding brace i and revolving pointed pins f and h, and with a swivel hook e, all made and operating substantially as herein shown and described.

65,221.—CHARLES HINDLE, Brooklyn, N. Y.—*Governor*.—May 28, 1867; antedated May 16, 1867.—The tension spring regulates the action of the governor, and is adjusted by a thumb screw, which acts on the lower abutment collar of the said spring.

Claim.—The tension spring j and regulating screw l, in combination with the governor B and valve c in the pump barrel A, arranged substantially as and for the purpose set forth.

65,222.—JACOB HOERT, New York, N. Y.—*Bedstead*.—May 28, 1867.—The two end sections are jointed to the middle section, so as to fold together above it, inclosing the bed between them.

Claim.—The arrangement and combination of the toggle braces H D, legs E, and frame B, with the flexible bottom A, constructed and operating substantially as and for the purpose described.

65,223.—ROBERT HOSKIN, Brooklyn, N. Y.—*Roller for Floor Cloths*.—May 28, 1867.—The flanged ends of the rollers are radially grooved to receive the longitudinal bars by which the coils of cloth are kept separate.

Claim.—A roller, which is constructed substantially as described, for receiving cloth upon it for drying, so that the surfaces of the cloth are kept separate.

65,224.—ADOLPHUS HOWARD, Wellsville, Md., and GEORGE F. HOWARD, Chicago, Ill.—*Machine for Washing Leather*.—May 28, 1867.—The two brushes are rotated in opposite directions to draw the leather downward, and are supplied with water to clean the same.

Claim.—First, two or more revolving brushes, or their equivalents, for washing or removing the sediment from leather, for the purposes and substantially as herein described.

Second, in combination with the brushes E E, the tanks B B, or equivalents, for the purposes and substantially as herein set forth.

65,225.—CHARLES HOWLETT, New York, N. Y., assignor to himself and WILLIAM FREEBORN.—*Cartridge Box*.—May 28, 1867.—The cartridge box has a series of vertical plates whose incurved edges grasp the flanges of the metallic cartridges.

Claim.—A cartridge holder, formed of a series of strips or plates of suitable material, with raised edges or grooves to clasp the base of a cartridge, when arranged in combination with a cartridge box, substantially as and for the purpose set forth.

65,226.—GEORGE S. HUDSON, Ellisburgh, N. Y.—*Molding Machine*.—May 28, 1867.—The cutter shaft is carried on a sliding frame which is reciprocated by a walking beam, actuated by a crank and connecting rod. The reciprocation of the cutter causes the waves in the molding.

Claim.—The combination of the cutter shaft D, the reciprocating frame E and the walking beam G, or the equivalents of them, or either of them, the said combination being so arranged, substantially as described, that by its mode of operation the cutter shaft D and the cutter head z shall rise and fall while in motion to cut any required depth or curve in wave or serpentine wood moldings.

65,227.—JOHN HUGHES, Brooklyn, N. Y., assignor to himself and JAMES R. HITCHCOCK, New York, N. Y.—*Apparatus for Concentrating Sulphuric Acid and Other Liquids*.—May 28, 1867.—The pans are set in a sand bath and in an upwardly-ascending series from the hottest part of the furnace. A pipe conducts the sulphurous gases to the condenser.

Claim.—First, the flat pans E or H, arranged in a furnace, substantially as herein shown and described. Second, the furnace A, provided with a longitudinal chamber B, and with the transverse plates D or I, substantially for the purposes and in the manner herein shown and described.

Third, the manner herein shown and described of transferring the acid from one pan to another, either by spouts e and an inclined chamber B, or by means of syphons K K, substantially as herein shown and described.

Fourth, an apparatus for concentrating sulphuric acid, made and operating substantially as herein shown and described.

65,228.—R. H. HUSTON, Keokuk, Iowa.—*Car Coupling*.—May 28, 1867.—The catch ends of the coupling bar take over a catch in the draw head, and are held down thereon by a curved plate backed by a spiral spring. The bar is self-releasing on the throwing of a car from the track.

Claim.—First, a draw head with a chamber B for receiving a catch head G, of the form described, said chamber having its side walls made flaring so as to cause the escape of the catch head should a car leave the track, substantially as described.

Second, a yielding guide plate C, or its equivalent, in conjunction with a chamber B, of the form substantially as described.

Third, the combination of the draw head, which has a laterally-flaring chamber B, and the coupling bar G, with semi-ellipsoidal catch heads on its ends, substantially as and for the purposes described.

65,229.—JOHN H. IRWIN, Chicago, Ill.—*Lantern*.—May 28, 1867.—The inner chimney is carried through the horizontal plate in the cap, the heated air descending through holes in the same; outer air passing through the sides of the cap descending between said chimney and the glass globe to feed the flame. The chimney and globe are supported apart from the lamp and may be removed through the hinged top.

Claim.—First, extending the top of the inner globe F above the holes d in the lantern top, substantially in the manner and for the purposes specified.

Second, supporting the said inner globe in such a manner that the oil cup can be removed from the lantern without disturbing said globe, substantially as specified.

Third, so constructing a lantern that the interior globe can be removed from the lantern independently of the oil cup, substantially as described.

65,230.—JOHN H. IRWIN, Chicago, Ill.—*Lamp*.—May 28, 1867.—The bell mouth of the tube is over

the lamp and receives the heated air therefrom to conduct it beneath the lamp. An annular cooler surrounds the tube and assists in the descent of the air by increasing its specific gravity.

Claim.—First, in combination with the lamp or its burner the tube D, or its equivalent, arranged and operating substantially as and for the purposes specified.

Second, in combination with said tube B, a cooler E, arranged so as to operate substantially as described.

65,231.—JOSEPH H. JENNINGS, Cambridgeport, Mass.—*Rubber Boot for Horses.*—May 28, 1867.—The boot incloses the whole foot and the lower part of the leg, and is laced to the latter.

Claim.—For the curative treatment of the hoofs and lower parts of the legs of horses, a rubber boot, constructed and arranged substantially as specified.

65,232.—EZRAM JOHNSON, Joliet, Ill.—*Window Sash Fastener.*—May 28, 1867.—The cam is operated by a segmental rack wheel on its shaft, and a rack pin whose end projects from the stile.

Claim.—The toothed wheel F, in the recess b^2 , of the casing B, attached to the end of the shaft E, cam D and toothed bar G, when constructed, arranged, and operating as herein set forth for the purpose specified.

65,233.—STEPHEN C. KETCHUM, Winchendon, Mass.—*Mincing Knife.*—May 28, 1867.—The blades are pivoted to the shank so as to spread and make a draw cut as they press against the meat in the bowl; the springs return them to the former position as the knife is lifted.

Claim.—First, a double-bladed chopping knife, the blades being so pivoted to the shank as to give a drawing cut at each stroke, substantially as described.

Second, so hinging two or more blades or knives together, and supporting them in such a position with springs, as to allow the cutting edges to conform to any suitable concave, or the curves of a chopping tray or bowl, as herein described.

Third, the combination of the cutting blades B B, fulcrum pins d , shank A, springs C C, with the bolt and thumb nut D, operating in the manner herein described for the purpose set forth.

65,234.—S. P. KINGSLEY, Springfield, Wis.—*Churn.*—May 28, 1867.—The horizontally rotating dasher has beveled arms attached by radial wires to the cylindrical axle.

Claim.—First, the arrangement of the dasher having cylinder E, beveled arms i i , and wires S S or their equivalents, when constructed and used in the manner and for the purposes specified.

Second, the combination of the dasher as constructed with the churn box A, when operating in the manner as set forth.

65,235.—MARGARET KNOTTS, Carondelet, Mo.—*Medical Compound.*—May 28, 1867.—For the cure of piles. A decoction of persimmon bark, $\frac{1}{2}$ lb.; winter fern, $\frac{1}{2}$ lb.; to which add lard, 1 lb.; mutton suet, $\frac{1}{2}$ lb., and rosin, $\frac{1}{2}$ oz.

Claim.—The medical compound, made substantially as and for the purpose described.

65,236.—HENRY C. KOCHENSPIERER, Thornville, Ohio.—*Holder and Seat for Wagon Brakes.*—May 28, 1867.—Iron sockets contain the rubber blocks, and rest by their flanges upon the ends of the brake bar.

Claim.—First, the holder A, constructed substantially as described, in combination with the brake bar or its equivalent, as set forth.

Second, the combination of the holder A, and rubber D, substantially as and for the purpose specified.

65,237.—E. M. KRUM, Nassau, N. Y.—*Horse Hay Fork.*—May 28, 1867.—The pivoted tines are clamped on the hay by straightening the toggle links. The latter are bent by pulling a trigger cord, and the hay opens the tines and is discharged.

Claim.—First, the construction as the curved tines A A, with angular portions $A' A'$, and with jointing portions a a , said tines being connected together by means of a pivot b , and toggle links c c d , the link d being constructed and operating in the manner shown, all substantially in the manner and for the purpose set forth.

Second, the arrangement of the cords B B B, and line g' , in combination with the pivoted tines A A', toggle links c c c , and lever link d , all in the manner and for the purpose described.

Third, the arrangement of the stop g on one of the toggle levers in combination with the lever link d , of the toggle c c d , substantially in the manner and for the purpose described.

65,238.—JOHN LAING, Hoboken, N. J., assignor to self and GEORGE NIMMO.—*Faucet.*—May 28, 1867.

—The spindle of the disk valve passes through a sleeve which traverses the receiving chamber, and the perforated disk has a seat upon a correspondingly perforated plate.

Claim.—A faucet formed with a pipe extending from the seat i' of the disk valve n , across the water way g , and receiving the spindle i of said valve, as and for the purposes set forth.

65,239.—HENRY SAMPSON, London, England.—*Bale Tie.*—May 28, 1867.—Explained by the claim and illustration.

Claim.—Securing the ends of the band a together by passing the end a' through the metal loop b and turning the same back upon the inside of the said band, the opposite end a^2 passing through the loop b' and through the loop b , and turned back short over the outside of the loop b , and inserted again in the loop b' , and the latter slipped up toward the loop b , when all are arranged and operating substantially as herein shown and described.

65,240.—R. LAPHAM and G. CLARK, Jr., Boston, Mass.—*Chemical Fire Engine.*—May 28, 1867.—In each of the two compartments of the engine is a force pump communicating with a receiver. The compartments are charged respectively with a solution of carbonate of soda and dilute acid.

Claim.—First, the admixing of chemicals for producing carbonic acid gas, substantially as described and for the purpose set forth.

Second, the use of pumps when they are employed for forcing upon the fire chemical solutions which, when brought together, produce carbonic acid gas.

65,241.—CORNELIUS H. LATHAM, Randolph, N. Y.—*Tube Well.*—May 28, 1867.—The upper sections of stoneware form the pump barrel, and are coupled to a lower section of smaller diameter which has a pointed end and water induction slits, and is driven into the ground.

Claim.—The arrangement of the slotted tube A with point B shrunk upon it, when used in combination with the coupling E, as constructed with valve box seat and the pump sections D D, in the manner substantially as and for the purposes herein fully set forth.

65,242.—GEORGE LAUDER, Pittsburg, Pa.—*Machine for Straightening Bars.*—May 28, 1867.—The bar is compressed between two rolls which turn in the same direction, and whose axes are set obliquely to each other and to the axis of the bar which traverses slowly between them endwise, presenting all portions of its surface to the straightening action. The motion is obtained by a worm on the oblique axis which engages gearing on the ends of the respective rollers.

Claim.—The worm E and worm wheels B and C, arranged relatively to the skewed straightening rolls B C, and to the housing A, or its equivalent, substantially as and for the purpose herein set forth.

65,243.—JEWETT LAWRENCE, Ripon, Wis.—*Revolving Tablet for Multiplying Photographic Pictures.*—May 28, 1867.—The picture plate is placed in the tablet which is hung upon a pin of the standard. The slide being raised and the picture taken the tablet is partially revolved exposing another surface. The bar being unlocked the standard and tablet may be raised or lowered, presenting new surfaces for impressions.

Claim.—The revolving tablet G, the cross-bar C, and the standard E arranged in the camera, as and for the purpose specified.

65,244.—GEORGE LAWTON, Trenton, N. J., assignor to GEORGE JAMES, same place.—*Machine for*

Stamping Clay Door Knobs.—May 28, 1867.—The upper die falls three times with variable force. The holes are made for receiving the shanks; the branching holes, to enable the lead filling to adhere, are made by expanding spring pins in the shank hole former.

Claim.—First, the arrangement and construction of the cams D, whereby the dies *e* are operated three times in succession, the said cams consisting of the parts *h* *i* and *k*, all made and operating substantially as and for the purpose herein shown and described.

Second, the device for raising the pushers H, so as to lift the stamped articles out of the matrices *c*, the said devices consisting of the cams *o*, levers *n*, and rods *m*, all made and operating substantially as herein shown and described.

Third, the spring *s*, when arranged as herein shown and described for the purpose of depressing the pushers H, as set forth.

Fourth, the device for forming the small horizontal holes at the bottom of the shank holes in door knobs, said device consisting of the pins *p*, tubes H, springs *q*, and pins *r*, all made and operating substantially as herein shown and described.

65,245.—THOMAS LIPPIATT, New York, N. Y.—*Rose Engine Lathe.*—May 28, 1867.—The tool box carries the graving tool, whose movements are controlled by the movements of the pattern, and which is still free to be pressed against the article to be engraved.

Claim.—First, the swinging frame K suspended from the sliding stock *r* and furnished with the tracing pin *u*, in combination with the pattern E and sliding tool box I, substantially as herein set forth, for the purpose specified.

Second, the sliding frame C, main frame A, and adjustable frame D, combined and arranged in relation with each other and with the tool box I, swinging frame K, and pattern E, substantially as herein set forth, for the purpose specified.

65,246.—JAMES P. LOVE, New York, N. Y.—*Fastening for Corsets.*—May 28, 1867.—The flap of the corset is folded round the spring and retained by hooks. Pins project through openings in the flaps and are engaged by eyes on the other steel, which is similarly bound in its flap and secured by hooks.

Claim.—First, the manner herein shown and described of securing the steels *b* *b* in corsets by means of flaps *a* and *c*, and hooks *d*, and eyelets or button holes *e*, all made and operating substantially as and for the purposes herein shown and described.

Second, the fastenings *f* and *g*, in combination with the flaps *a* and *c* and steels *b*, hooks *d*, and eyelets or holes *e*, all made and operating substantially as herein shown and described.

65,247.—CHARLES B. LOVELAND, Elizabethport, N. J.—*Shoe Sole.*—May 28, 1867.—A toe clip on the metallic sole plate enables it to clasp the sole to which it is further secured by screws. The heel socket is also screwed to the heel and the plates afford attachment for half-sole and heel tap respectively.

Claim.—First, the movable metal plate B, with the continuous bent lip *c*, for clasping the sole *d*, and having the half-sole *b* attached thereto and fastened to the sole *a* by means of the screws and flanged nuts *m*, as and for the purpose herein described.

Second, the adjustable metal lift *e*, with front and rear set off with the tap *g*, employed and fastened to the heel of a shoe by means of the screws *d* *s*, fitting into the flanged nuts *n* *o*, as and for the purpose herein specified.

65,248.—WARREN LYON, New York, N. Y.—*Machine for Cutting Stubs.*—May 28, 1867.—One shear is attached to the standard and the other to the oscillating plate, which is rocked by segment rack and lever to sever the rod. The latter is thrust through the throat till it meets the adjustable gauge, which gives way to allow the discharge of the severed piece of the rod.

Claim.—The operating of the pivoted plate E through the medium of the segment rack F and pinion C, when said plate E has a cutting plate *c* attached, and is used in connection with a similar cutting plate *d* on a fixed standard or plate A, to which the plate E is pivoted, all arranged substantially as and for the purpose specified.

Also, the combination of devices composing the gauge, arranged substantially as and for the purpose set forth.

65,249.—JACOB MAUCK, Cheshire, Ohio.—*Portable Hay Press.*—May 28, 1867.—By the duplication of the pulleys and the ropes, which are wound upon different parts of the capstan, the chafing of the ropes is prevented. At the end of the press, where the strain is greatest, a series of binding stirrups are applied and the latter are tightened by nuts.

Claim.—A hay press having capstan A, ropes *a* and *b*, pulleys *c* and *d*, clevis I, pins 2 and 3, carriage C, stirrups F, hooks *g* *g*, and braces *f*, constructed, combined, and operating substantially as herein specified.

65,250.—GEORGE W. MCGHILL, Washington, D. C.—*Button.*—May 28, 1867.—The double metallic shank penetrates the cloth, making but a single hole, and its two members are then clinched upon the washer, which rests against the cloth.

Claim.—The double or split metal shank for a button herein described, in combination with a metal washer, constructed and applied substantially as described.

65,251.—R. M. McGRATH, Lafayette, Ind., assignor to himself and J. H. GALLAGHER.—*Sawing Machine.*—May 28, 1867.—The first-mentioned lever is held in position by a rack on the uprights, and has pins on its under side by which it is adapted to dog the log. The saw is elevated by the pulley and cord, and the friction wheel, which drives the feed shaft, is thrown by another lever into or out of gear with a similar wheel on the main shaft.

Claim.—The arrangement of the lever *y'*, pulley *z*, and its cord *x*, and the lever *v'*, for placing within the control of the operator the management of the sawing and feeding devices of the machine.

65,252.—ALEXANDER MCKENZIE, Newport, Ky., assignor to himself and WILLIAM C. DAVIS, same place.—*Paddle Wheel.*—May 28, 1867.—The blades descend obliquely into the water so that an equal amount of blade surface is submerged at all times and jar avoided. The position of the arms gives the blades such direction as to prevent them from lifting water.

Claim.—The arrangement of inclined blades or buckets G, radial arms B, oblique secondary arms C, and brace rings E, substantially as and for the purpose set forth.

65,253.—G. L. MCKNIGHT, Worcester, Mass.—*Calipers.*—May 28, 1867.—The position of the nut determines the extent to which the legs of the calipers may be expanded by the spring, and the wedge-like action of the screw within the slotted standard firmly binds the nut in its adjusted position.

Claim.—First, the combination with the slotted standard or screw B of the screw D, for holding the adjusting nut C, substantially as described.

Second, the combination with the upper part of the body or part A of the spring E, substantially as and for the purposes set forth.

65,254.—E. MEGGENHOFEN, Frankfort-on-the-Main, Germany, administratrix of the estate of EDWARD MEGGENHOFEN, deceased.—*Steam Safety Valve.*—May 28, 1867.—The levers and their connections with the spring balance are so proportioned and applied that the downward pressure exerted on the valve is not changed by the rising of the valve and increased tension of the spring. The spring balance thus acts as a weight.

Claim.—The arrangement of the bell-crank lever C, connecting rod D, with reference to the spring balance A, constructed substantially as and for the purpose set forth.

65,255.—F. MERTENS, Cumberland, Md.—*Bracing and Staying Boats.*—May 28, 1867.—The side trusses of the flat-bottomed boat are stayed by braces and hog-chains reaching from the gunwale deck or shear to the keelson.

Claim.—The arrangement of the braces E and F, and the cross-ties G, when constructed and combined with the tightening rods H, as herein described and for the purpose set forth.

65,256.—JOHN H. MESLER, Symm's Corner, Ohio.—*Compound for the Cure of Hog Cholera.*—May 28, 1867.—Chamber lye, 3 quarts; assafoetida, 12 oz.; tincture of camphor, 2 oz.; tincture of opium, 2 oz.; tincture of rhubarb, 2 oz.; whisky, 1½ pts.

Claim.—A compound for the prevention and cure of hog cholera, made of the ingredients set forth.

65,257.—WILLIAM F. MORTON, New Haven, Conn.—*Carriage Wheel.*—May 28, 1867.—The circumferential bands bind the hub. The spokes are inserted between the radial flanges.

Claim.—The double collar with its bars and flanges all cast in one piece, when the double collar is fitted to the hub and the flanges to support the spokes, substantially as herein described and set forth.

65,258.—WILLIAM MYLER, Bridgeport, Ohio, assignor to GEORGE W. JOHNSON, Wheeling, West Va.—*Roofing Material.*—May 28, 1867.—Coal tar, 12; pine tar, 1; soap stone, 12; ochre, 1; and hydraulic cement, 4 parts.

Claim.—The combination of coal tar, pine tar, soap stone, ochre, or other oxide, and hydraulic cement, substantially as specified.

65,259.—JOSEPH NATHAN, Washington, D. C.—*Bottle Stopper.*—May 28, 1867.—A yoke is anchored to blocks on a wire around the neck of the bottle. A boss on the crown of the stopper is tapped to receive the threaded portion of the presser-rod, whose lower end carries a disk loosely fitted between the rubber stopper and its metallic casing.

Claim.—First, the screw E, the lower part of its shank being made smooth, substantially as and for the purpose described.

Second, The blocks b, on the wire B, constructed and arranged substantially as described.

Third, the combination of the wire B, blocks c, yoke C, screw E, with the lower part of its shank made smooth, and stopper f g, substantially as and for the purpose described.

65,260.—JOSEPH NOCK, Washington, D. C.—*Trunk Lock.*—May 28, 1867.—A pin on the bolt-operating lever enters between the side catches of recesses in the tumblers which are raised by the wards of the key to a position to allow passage to the pin in unlocking. The hasp when free is thrown out by a spring surrounding and attached by one end to the pintle, which has a flattened part engaged by blocks to prevent rotation.

Claim.—First, the use of the crooked lever E, or its equivalent, in combination with the tumblers F, more or less in number, and the bolt D, arranged substantially as described and shown.

Second, the spindle m, with the spring n, when inserted and confined in the hasp, substantially as described and for the purposes set forth.

65,261.—JOSEPH NOCK, Washington, D. C.—*Trunk Lock.*—May 28, 1867.—The double hooked spring tumblers are alternately thrown in opposite directions to disengage them from the catch-pin. These opposite motions are given by the direct action of some of the key wards upon the corresponding tumblers and of others upon levers which give a reverse motion to the corresponding tumblers.

Claim.—A series of spring tumblers E, and levers d, so arranged and combined that the key shall act directly upon a portion of said tumblers to release them from the staple and at the same time shall act on the levers d, causing them to act upon and release either of the tumblers, in the manner substantially as described.

65,262.—Prince NICOLAS OUBOUSSOFF, St. Petersburg, Russia.—*Portable Camp Bed.*—May 28, 1867.—The cork-dust filling is light and impervious to moisture. The sections are sewed together at their edges and may be rolled and bound up for transportation. The pocket receives a blanket or clothing to form a pillow, and the sheet, covering the seams, forms a smooth surface to lie upon.

Claim.—Making the bed in sections filled with cork dust, or its equivalent, and furnished with a pocket d, and flap sheet or covering e, all substantially as and for the purpose described.

65,263.—ISAAC PARDEE, Vineland, N. J., and R. C. PARVIN, Forest Grove, N. J., assignors to R. C. Parvin.—*Stump Extractor.*—May 28, 1867.—The rack bars pass through the socket above the frame and are engaged by pawls; the oscillating lever is pivoted to both and they alternately form fulcrums by which the chain is lifted.

Claim.—The pawls G G, resting upon the ledge a, of the socket E, with their lower inner corners rounded as shown at b, so that their upper ends will fall by their own gravity against the ratchet bars F, and engaged therewith, when constructed and arranged as herein shown and described.

65,264.—B. F. PARTRIDGE, jr., Columbus, Ky.—*Locomotive Pilot.*—May 28, 1867.—The rollers and serrated disks are to cut and remove obstructions with certainty.

Claim.—The horizontal revolving disks d d d, having their peripheries serrated, pivoted to the under side of the bottom plates, a a, in combination therewith and with the pilot frame A, and inclined rollers c, substantially as herein described for the purpose specified.

65,265.—CHARLES H. PERKINS and RICHARD W. COMSTOCK, Providence, R. I.—*Horseshoe Machine.*—May 28, 1867.—The previously bent shoe blank is clamped to the block and operated on by the revolving hammers pivoted to a rotating disk.

Claim.—The combination in a machine for making horse shoes of the following instrumentalities: A rotary hammer B, sliding anvil E, or equivalent apparatus for supporting the shoe blank and the gripping tongs L, arranged relatively to each other, and operating substantially as described for the purposes specified.

65,266.—FRANKLIN PERRIN, Cambridge, Mass.—*Preparation of Palm Leaf Warp and Wool for Weaving.*—May 28, 1867.—A ligature is tied around the folded leaf as imported, and the bent sides of the folds split to the ligature at both ends before it is split into the smaller strips.

Claim.—The employment of a ligature in the preparation of palm leaf strips, substantially as set forth.

65,267.—WILLIAM HUGH PIERSON, New Orleans, La.—*Plastic Compound made from Vegetable Fiber.*—May 28, 1867.—Vegetable fiber is treated with acid to render said substance soluble in other solvents than acids and capable of being molded into form.

Claim.—First, the formation of articles of manufacture, resembling stone, wood, whalebone, shell, horn, and other rigid or elastic articles, out of plastic or semi-soluble pyroxyline, prepared substantially in the manner and for the purposes herein set forth.

Second, the combination of plastic as above described with vegetable or any other foreign matter, substantially in the manner for the purpose set forth.

Third, making woven cloths and other fabrics, water or air proof, by treating them with plastic, substantially as and for the purposes set forth.

Fourth, the combination of plastic with drying oils for water-proofing, and transparencies, and other purposes.

Fifth, combining plastic with metals, and various metallic substances in the pulverulent state, substantially as described.

Sixth, attaching by means of plastic fur, plush, or other short fiber, to any suitable surface, so as to give a fur-like surface, substantially as set forth.

Seventh, forming a compound for painting and coloring, and other purposes, by admixture of plastic and solvents, with paints, oils, dye-stuffs, and other coloring matter.

65,268.—ROBERT POOLE, Baltimore, Md.—*Machine for Rubbing and Mixing Paints, Chemicals, &c.*—May 28, 1867.—The circular pan rotates by outside mechanism, and the stirring and scraping feet revolve therein, each one in an epicycloidal course upon the bottom of the same. When discharging a curved scraper is let down to bring the paint to a central opening, which is ordinarily covered by a valve.

Claim.—A pan or other suitable holding vessel, revolving around its support, and a series of rollers or mixers in said pan, revolving around their and a differ-

ent support, and in the same direction with the pan, substantially as described.

Also, in combination with a revolving pan and stirrers, a scraper which, when let down into the pan, will guide and direct the mixed or rubbed material to a central discharge opening in the bottom of the pan, substantially as described.

65,269.—S. L. PORTER, assignor to himself and W. F. EATON, same place.—*Raising and Leveling Railroad Rails.*—May 28, 1867.—The vertical slide plate moves on the bed plate, whose end is slipped under the rail; the crowbar rests on one of the graduated steps.

Claim.—The bed plate A and the slide plate B, combined with a graduated fulcrum for leveling railroad tracks, constructed and operating substantially as herein described.

65,270.—EDMOND QUERU, New York, N. Y.—*Box for Putting up Tooth Powder.*—May 28, 1867.—Veneers are cut into sections by V-shaped cutters, which give miter edges to the pieces by which they are glued together, forming rectangular frames, whose bottoms are glued on and whose tops are fastened by a strip of glued cloth, which forms a hinge.

Claim.—First, the toilet box, constructed of the material and in the manner substantially as herein set forth.

Second, securing the cutter thereon by the fibrous hinge J K and seal L M N, substantially as and for the purpose herein set forth.

65,271.—JOSEPH S. RANDALL, Grand Rapids, Mich.—*Horse Rake.*—May 28, 1867.—The rake-teeth have brace springs and are connected to a rack bar, operated by a jointed connecting rod and a hand lever. The clearer is moved downward automatically when the rake is raised.

Claim.—First, the independent sliding rake-teeth, furnished with springs and arranged upon a hinged bar G, and operated substantially in the manner and for the purpose described.

Second, the combination of the independent sliding rake-teeth, furnished with springs with the hinged bar G, substantially in the manner and for the purpose described.

Third, the combination of slotted bar F, hinged bar G, forked pieces g, and curved rake-teeth J with springs h, arranged upon a frame A, substantially as described.

Fourth, a vertically-adjustable vibrating fork, in combination with a vibrating hay rake, substantially as described.

Fifth, the arrangement of the springs h substantially in the manner and for the purpose described.

65,272.—J. WYATT REID, New York, N. Y.—*Sleeping Car.*—May 28, 1867.—The supporting chains are attached to hooks at one end and are drawn taut by a crank roller at the other. This roller is retained by ratchet and pawl.

Claim.—The bed D, suspended by chains a, horizontal shaft d, provided with ratchet and pawls, hooks i i and s s, when constructed and arranged within the sleeping car, substantially as herein set forth and for the purpose specified.

65,273.—BENJAMIN F. RICE, Boston, Mass.—*Portable Shelf.*—May 28, 1867.—The claws of the bracket are pivoted together, the ends of the lower being turned up for the attachment of the shelf, and that of the other turned down for a brace.

Claim.—The pivoted or jointed parts i d and g k, in combination with a portable shelf or receptacle, as a new article of manufacture.

65,274.—JOHN RICHARDS, Cincinnati, Ohio.—*Hanger for Shafting.*—May 28, 1867.—The box is supported on a bracket vertically adjustable by set screws.

Claim.—A hanger for shafting constructed with the pivoted box support Y and its means of adjustment, operating substantially in the manner and for the purpose herein set forth.

65,275.—JOHN E. RICHARDSON, New York, N. Y.—*Chilling Oils and Fats.*—May 28, 1867.—Instead

of surrounding the tank containing the lard with ice, the two are placed in the tank together and the whole covered with ice shavings.

Claim.—The method of chilling oil substantially as herein set forth, so that the ice is brought in direct contact with the lard in the manner specified.

65,276.—JOHN W. RICKER, Chelsea, Mass.—*Tube Well.*—May 28, 1867.—The lower section of the driven well-tube, which is perforated for the passage of water, is surrounded by a sleeve of wire cloth and an outer coil, which, by partially unscrewing the coupling, causes the joints to open to clear the strainer spaces.

Claim.—In combination with the induction well-tube a coiled spring, arranged to operate substantially as and for the purpose set forth.

Also, in combination with a well tube the concave surfaces and triangular pointed drill, substantially as set forth.

65,277.—J. P. W. RILEY, Montrose, Pa.—*Securing the Tines of Forks and Rakes to their Handles.*—May 28, 1867.—The parts of the tines which enter the socket have counterpart notches and projections by which and the upper wedges they are clamped.

Claim.—First, making the tines of a hay fork in two parts, which are scarfed in a mortise in the handle or ferrule and secured in position by means of keys or wedges, substantially as herein shown and described.

Second, in combination with the double tines C C the double tines D D, which, when inserted in the handle in the manner specified, will convert the device into a manure fork, and can be removed whenever desired, substantially as herein shown and described.

65,278.—BENJAMIN F. ROBERTSON, Cap an Gris, Mo.—*Corn Planter.*—May 28, 1867.—Explained by the claim and illustration.

Claim.—The employment of the partition D for the purpose of dividing and scattering the seed, substantially as described and set forth.

65,279.—OLIVER R. ROGERS, Roxbury, Mass., assignor to self and D. S. BARTLETT, same place.—*Fruit Picker.*—May 28, 1867.—The receiver has an inclined staff socket, and its top is partially covered by a toothed plate, which disengages the fruit.

Claim.—A device for picking fruit, constructed in the manner substantially as herein shown and described.

65,280.—ROBERT E. ROGERS and JAMES BLACK, Philadelphia, Pa.—*Steam Generator.*—May 28, 1867.—The boiler is suspended in the furnace, and its enlarged part connected to its lower end by out-bowed pipes.

Claim.—First, the beveled enlargement a of the boiler, in combination with the curved or bowed tubes B for the circulation of the water, said tubes being attached at their upper ends to said enlargement a, and at their lower ends directly to the body of the boiler in the manner and for the purpose substantially as shown and described.

Second, the construction of the tubes B with a continuous curve from one connection to the other of boiler, substantially as herein set forth.

Third, the screw nuts, in combination with the outside circulating tubes and the shell of the boiler, one at each end, substantially as herein set forth.

65,281.—ROBERT E. ROGERS and JAMES BLACK, Philadelphia, Pa.—*Steam Generator.*—May 28, 1867.—Similar to foregoing, but having vertical traversing flue tubes.

Claim.—The combination of the boiler A, having the beveled enlargement a, with the exterior curved tubes B, for the circulation of the water, and the flue tubes C, in the manner and for the purposes substantially as described.

65,282.—ROBERT ROOKE, Empire City, Oregon.—*Washing Machine.*—May 28, 1867.—A series of pounders operate in the rotating tub, which has a perforated false bottom.

Claim.—The pounders A, in combination with a rotary tub C, placed within a fixed tub A, and all arranged to operate substantially in the manner as and for the purpose herein set forth.

65,283.—W. S. SALISBURY, Adams Centre, N. Y.—*Device for Suspending Hay Forks.*—May 28, 1867.—The points at the end of the jointed clevis arms penetrate the beam, and the ratchet and a spring prevents their opening to disengage the grasp.

Claim.—The two arms A, pivoted together at one end and provided with points E at the other, in combination with the ratchet and spring pawl, substantially as and for the purpose described.

65,284.—J. W. SANDERS, Ripon, Wis.—*Fence.*—May 28, 1867.—The boards of the panels are joined by vertical slats which overlap on each side of one end to form a groove for the end of the next panel. They set on blocks and are stayed by inclined notched studs.

Claim.—The portable sections A, as constructed, when used in combination with the stays *g g*, blocks *f*, and studs, in the manner and for the purposes specified.

65,285.—HUGH SANGSTER, Buffalo, N. Y., assignor to HORACE PARMALEE and WILLIAM H. BONNELL, same place.—*Lantern.*—May 28, 1867.—The spring plates have catches which enter the apertures of the lower ring of the frame and firmly attach the lamp thereto.

Claim.—First, the combination of the springs I I, catches J J, and rim G, with the apertures K, as and for the purposes herein substantially set forth and described.

Second, the springs, when constructed of the parts P P, as shown in figure 5, and put together as described.

65,286.—EJLERT O. SCHARTAN, Philadelphia, Pa.—*Heating Attachment for Oil Lamps.*—May 28, 1867.—The coffee pot has a central flue and sets over the bulb of the lamp chimney beneath. The upper part of the chimney being attached, a heating chamber may be substituted for the boiler.

Claim.—The chamber P, with the kettle J, with the lower half of the jointed glass chimney, when arranged, used, and combined as herein described and for the purposes set forth.

65,287.—JEHYLEMAN SHAW, Bridgeport, Conn.—*Life Preserver.*—May 28, 1867.—The water and food receptacle of the life-preserving float has passages above the water through which the food can be withdrawn.

Claim.—The life preserver, constructed as described, consisting of the water and food receptacles D E, attached to the portion A, the water receptacle D, provided with the air tube G, and drinking tube F, the food receptacle provided with the opening H, closed with the plug I, and the elastic bag J, substantially as described for the purpose specified.

65,288.—JOSEPH H. SHAW, Saco, Maine.—*Pill Machine.*—May 28, 1867.—The upper and lower segments have counterpart grooves, and are reciprocated on each other to bring the pills to a spherical form. The track being curved, causes them constantly to change their axes of revolution and rolls them on all sides.

Claim.—The combination of the two curvilinear grooved plates *a a'*, united and operated by the two radial arms *c d*, the plate *a* moving upon the stationary plate *a'*, and having for its axis the bolt *f*, all as and for the purposes specified.

65,289.—JOSEPH SHERMAN, Burlington, N. J.—*Grate Bar.*—May 28, 1867.—The bar is tubular and has small side and top openings for issue of air. The air is admitted through a hole in the rear end of the bar.

Claim.—First, the horizontal tubular grate bars A, open at B, and constructed with small orifices *a a'*, for the escape of the air on the three sides nearest the fire, and also with an opening C at or near the rear end, substantially as and for the purpose set forth.

Second, ventilated grate bars, constructed with a vertical tubular and perforated extension D, of the horizontal tubular portion of the bars A, substantially as described.

65,290.—WALTER SHRIVER, New York, N. Y.—*Reservoir Damping Brush.*—May 28, 1867.—The reservoir within the handle contains water which passes to the brush. An opening covered by a screw cap admits water, and a thumb valve closed by a spring admits air to regulate the flow of water.

Claim.—As a new article of manufacture, a reservoir damping brush for wetting paper for copying letters, arranged and constructed substantially as and for the purpose described.

65,291.—JOSEPH SMITH, Loth, Belgium.—*Cap for Spinning Machines.*—May 28, 1867.—An adjustable ring is attached to the base of the ordinary cap, beneath which the thread passes in its course from the delivery rollers to the spindle within the cap.

Claim.—The adjustable ring B, in combination with the cap A, and spool or bobbin C, constructed and operating substantially as and for the purpose specified.

65,292.—A. STEERS, New York, N. Y., assignor to THE AMERICAN TANNING COMPANY, same place.—*Apparatus for Tanning.*—May 28, 1867.—The hides are distended upon a cloth within a wired frame, and being suspended from a beam are subjected to the action of followers within the vat, by which they are alternately squeezed and released, to cause the circulation of the liquor and the absorption of the tannin by the hides.

Claim.—First, expressing the exhausted tanning liquor from hides or skins, substantially as herein shown and described, without the use of rollers.

Second, the metallic frame or frames D, with their wire and cloth for keeping the hides or skins distended while being tanned, substantially as herein shown and described.

Third, placing the hides or skins between two cloths, during the process of tanning, substantially as herein shown and described and for the purpose set forth.

Fourth, having the hides or skins attached to the frames D, suspended in the vat by the ropes *f*, and springs *n*, substantially as herein shown and described and for the purpose set forth.

Fifth, the combination of the rammers B with the vat A, substantially as herein shown and described, so as to produce a reciprocating action upon the skins or hides.

Sixth, the use of press platens, immersed in fluid, buoyantly adjusted and operating without friction, substantially as herein shown and described.

Seventh, the combination of spring platens or plates *l*, rammers B, vat A, and frames D, or their substantial equivalents, with each other, substantially as herein shown and described, and for the purpose set forth.

65,293.—JOHN STEPHEN, Womelsdorf, Pa.—*Shaft Coupling.*—May 28, 1867.—The cross-bar on the end of the thill iron is a segment of a cylinder, and while the thill is held vertically is entered in the slot on the upper side of the barrel of the shackle; being then oscillated to the working position it is retained, and the bands around the cross-bar fit in the barrel and prevent rattling.

Claim.—The bar B, provided with grooves, and the rubber *c c*, when used in combination with the barrel D, and when constructed in the manner substantially as and for the purposes specified.

65,294.—EDGAR M. STEVENS, Boston, Mass., assignor to WM. N. ELY, Stratford, Conn.—*Pegging Machine.*—May 28, 1867.—The work is fed by a movement of the awl, and the head so hung as to conform to the surface curvatures of the sole. The awl descends through the peg tube into the work, is moved forward by a cam, raised by another cam and back again by the former cam. The pin withdraws the knife, the peg wood is forced into the tube, the knife splits off a peg. The driver descends and drives the peg into the tube.

Claim.—First, the combination of a vibrating moving awl, with a sliding or vertically moving head, substantially as described.

Second, combination of the feeding awl with the sliding and swinging head, substantially as set forth.

65,295.—FRANCIS A. STEVENS, Chicago, Ill.—*Steam Generator.*—May 28, 1867; antedated May 22, 1867.—Jets of steam are thrown into the sides of the ash pan, and the engine exhausts into an inverted conical receiver, having lower upwardly directed openings through which jets of steam are thrown into the annular smoke space of the stack.

Claim.—First, the ash pan C, having the short tubes c in the sides arranged as herein specified, relatively to the permanently fixed pipes D and nozzles d, discharging steam from the boiler into the tubes c, as specified, and allowing the ash pan to be connected and disconnected without disturbing the steam connection.

Second, the steam jets d, blowing into the ash pan of the locomotive, arranged with reference to the exhaust reservoir H and the ring of jets J for facilitating the exit of the gases, substantially as and for the purpose herein specified.

Third, the exhaust reservoir H, made to correspond in form with and mounted in the interior of the smoke stack I, so as to discharge the steam from the ring of jets J, and urge upward the gases in the space between the two conical casings in the stack, in the manner and for the purpose substantially as herein specified.

65,296.—LEVI STEVENS, Fitchburg, Mass., assignor to NORMAN C. MUNSON, Shirley, Mass.—*Apparatus for Carbureting Air.*—May 28, 1867.—The air is drawn into and through the vaporizer by an air pump. The meter works in hydro-carbon liquid so as to increase the vaporization.

Claim.—The combination of an air-exhausting apparatus with the vaporizer, separate or distinct, in such manner that air may be drawn through the vaporizer, and with the hydro-carbon vapors thereof be drawn out of such vaporizer and into such exhausting apparatus, the whole being substantially as described.

Also, the arrangement and connection of the air-pumping apparatus and the vaporizer, separate or distinct, in such manner that the hydro-carbon fluid may pass freely from one into the other of them, so as to stand at one level in both, and so that the wheel of the pumping apparatus while in rotation may revolve in such liquid as specified.

Also, the combination of the fluid elevator and its operative mechanism, or their equivalents, with the tank E, the vaporizer, and the air-pumping apparatus.

Also, the combination of the wire-gauge disseminator k l with the perforated distributor i and the series of inclined plates or evaporating surfaces arranged beneath the same as specified.

Also, the combination of one or more plates m n o and clothes p p p, arranged together in the vaporizer, in manner and so as to operate as set forth.

Also, the combination of the tortuous passage G at the lower part of the vaporizer, with the series of perforated plates m n o, covered with layers of cloth, as explained.

Also, the arrangement of the tank E with the vaporizer and the air-pumping apparatus, such tank being made to communicate with the vaporizer by means of an overflow pipe x leading up into the vaporizer, as specified.

Also, the peculiar valve apparatus at the top of the vaporizer, the same consisting of the tube e, the box f, the holes g g, and the annular valve h, arranged together as described.

Also, the combination of the fluid elevator and its operative mechanism, or their equivalents, with the vaporizer, arranged substantially as described.

Also, the fluid elevator, or its equivalent, so arranged as automatically to elevate the carbureting liquid to the top or upper part of the vaporizer, substantially as described.

65,297.—ARCHIBALD STEWART, Troy, Wis.—*Draft Equalizer for Horse Powers.*—May 28, 1867.—The power is communicated through a coiled spring to prevent jerking and sudden decrease of speed.

Claim.—The combination of the tumbling rod A, outer cylinder B, coiled spring E, interior cylinder or roller C, and rod D, with each other, substantially as herein shown and described and for the purpose set forth.

65,298.—H. L. STUBBS, Savannah, Ga.—*Apparatus for Removing Water from the Holds of Vessels.*—May 28, 1867.—To put the ejector in operation the cup is lowered so as to expose the base of the bottomless cup in the direction of the vessel's progress. The passage of the water through the cone draws water from the hold through the axial pipe.

Claim.—First, the combination of the horizontal pipe C, bent outlet pipe D, and cone-shaped bottomless cup E, with each other, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the shaft G and crank arms F and H, with the pipe D and bottomless cup E, substantially as herein shown and described and for the purpose set forth.

65,299.—E. B. TAYLOR, South Sudbury, Mass.—*Clothes Sprinkler.*—May 28, 1867.—The reservoir is suspended in an elevated position and communicates by an elastic tube with the nose, a valve opening or closing the passage.

Claim.—The reservoir A, with its pipe B, having extension flexible tube C, terminating in a perforated head or cap, provided with a lever, when all constructed and arranged together substantially as and for the purpose described.

65,300.—JAMES S. TAYLOR, Danbury, Conn.—*Machine for Sizing Hats, &c.*—May 28, 1867.—Improvement on his patent of May 3, 1853. An adjustable vibrating motion is given to the hats as they pass through the machine by the relative oblique position of the rollers.

Claim.—First, the diagonal vibrating felt G, constructed and operating substantially as and for the purposes set forth.

Second, the mode herein described of imparting motion to the roll of goods by means of the felt G, cranks N, pitmans L, and swings H.

Third, the combination and arrangement of screws K, sliding nuts I, and swings H, substantially as described, for the purpose of regulating the pressure of the felt G.

Fourth, the felt G, in combination with two or more rollers C, substantially as and for the purposes set forth.

65,301.—JOHN L. TENNEY and JOHN W. BAILEY, Skowhegan, Me.—*Compound for Coating Oilcloths, &c.*—May 28, 1867.—Nine parts slate and one part clay are pulverized, bolted, and mixed with linseed oil and Japan varnish as a paint.

Claim.—The use of ground slate and clay when compounded in or about the proportions set forth and used in the manner and for the purpose described.

65,302.—JAMES P. and LEMUEL THURMON, Warrenton, Mo.—*Medical Compound.*—May 28, 1867.—For the cure of scrofula, mercurial diseases, &c. Improvement on the patent of John Thurmon, April 4, 1865. To his prescription are added corn-meal, rye-meal, malt, sarsaparilla root, cedar top, bitter root, poke root, wild cherry bark, and burr vine root.

Claim.—The improved medical composition produced substantially with the ingredients mixed together in or about the proportions stated, in combination and in mixture with the medical compound herein referred to.

65,303.—LEONARD TILTON, Brooklyn, N. Y.—*Wood Splitting Machine.*—May 28, 1867.—The wood is dropped into a fixed hopper, through whose nearer side two knives having V-shaped transverse sections are alternately projected and retracted. The under knife projects further than the lower one and splits off slabs of wood which the former has checked. The hopper bottom is shaped like the under knife and reciprocates with it, each forming alternately the hopper bottom. The bottom piece is at a lower level and allows a fall of the wood at each stroke.

Claim.—First, the two reciprocating cutters G G¹ of V form, placed one above the other in reverse posi-

tions, and the lower cutter G^1 , in advance of the upper one G , substantially as and for the purpose set forth.

Second, the hopper H in combination with the cutters G^1 , and the holder K , substantially as and for the purpose specified.

Third, operating the holder K from the slide F , to which the cutters are attached by means of the rod L , connected with the slide as shown, and the spring N , as set forth.

Fourth, constructing the hopper H , of the vertical parts f, f' , one of which, f , is adjustable for the purpose of adapting the hopper to suit the length of the sticks to be split, as shown and described.

65,304.—LEONARD TILTON, Brooklyn, N. Y.—*Device for Transmitting Motion.*—May 28, 1867.—The rotary motion of the shaft is communicated by a belt and pulleys to the shaft of the spiral cam which reciprocates the bar. As the latter reaches the end of its stroke the belt shipper changes the belt to another pulley and runs the cam in the other direction.

Claim.—The cam D , and bar Q , in combination with the pulleys F, I, J , gearing H, C, c^*, c, E , belt H , and belt shipper composed of the arms N, N' , arranged and operated automatically from the bar Q , substantially in the manner as and for the purpose herein set forth.

65,305.—SAMUEL H. TITUS, Pennington, N. J.—*Clothes Dryer.*—May 28, 1867.—The crossing standards, and the spreader arms jointed thereto, carry the suspensory bars; the frame is held at any degree of extension by a spring catch and a ratchet wheel upon the roller, on which the adjusting bands are wound.

Claim.—The combination and construction of a clothes horse having the cross standards A, B and C, D , parallel arms E, F, G, H, E, I and F, H , roller L, L , and belts M, M , ratchet N , spring catch P , and thumb head O , with the clothes bars K, K, K , substantially as above described and for the purposes herein set forth.

65,306.—SAMUEL P. TOWNSEND, Union county, N. J.—*Finishing Iron Work of Plows, Stoves, Pipes, Levees, Dams, &c.*—May 28, 1867.—Omitting the usual finishing of iron work by grinding, polishing, &c., it is galvanized by dipping in a bath of molten metal, by which it acquires a smooth surface.

Claim.—First, the finishing of plows, iron work for levees, dams, etc., piling, and other iron and steel work known mentioned, substantially as described and for the purpose set forth.

Second, the restoration to good condition by the means described of iron and steel work which has been damaged by oxidation or corrosion.

Third, a new article of sheet piling, made substantially as described and for the purpose set forth.

65,307.—JAMES W. TUCKER, New York, N. Y.—*Hoisting Machine.*—May 28, 1867.—The platform is suspended from two ropes which pass over pulleys and unite before reaching the drum, on which they are wound by a windlass. A dog is engaged to hold the platform at any height and a friction band allows its descent at a moderate speed when required.

Claim.—First, the arrangement of the pulleys d, e, f and bifurcated chains F in relation with each other and with the platform C , and winding drums E , substantially as herein set forth for the purpose specified.

Second, the locking dog J , and sliding shaft I , combined in relation with each other and with the gearing which operates to elevate the platform C , substantially as and for the purpose set forth.

Third, the friction brake K and pulley I , arranged with reference to each other and with the sliding shaft I , and the gearing which operates to raise the platform C , substantially as herein described for the purpose specified.

65,308.—WM. TUCKER, Paris, Ill.—*Wood Planing Machine.*—May 28, 1867.—The adjustable rotary planing head can be changed instantaneously to either right or left hand cutting to suit the grain or direction of the wood in any particular spot.

Claim.—The arrangement of the double cutter head E and friction pulleys K, L, L' , capable of being simultaneously shifted for right or left hand cutting, substantially as set forth.

65,309.—WILLIAM TUNSTILL, Paterson, N. J.—*Braiding Machine.*—May 28, 1867.—The thread delivery is from the end of the cop. A case protects the thread from dust. A ratchet wheel aids the delivery of the yarn when the rising finger releases the pawl. The friction wheels may either or both be faced with leather, and an elastic rubber washer compensates for inequalities in the friction surfaces. In starting, a lever is lifted to bring the leather-covered rollers into contact, when it is locked in that position. When a thread breaks a weight falls, and by acting on the lock bar permits the friction wheels to separate.

Claim.—First, the case p fitted upon the carrier d in a braiding machine and containing the bobbin or cop from which the thread passes off upon the line, or nearly so, of the axis of said bobbin or cop, substantially as and for the purposes set forth.

Second, the ratchet pulley q over which the thread passes pawl 2 and finger 6 in combination with the weight r , substantially as and for the purposes specified.

Third, the grooved ratchet wheel q over which the thread passes, pawl 2 and weight r , in combination with the cop or bobbin p' , substantially as and for the purposes specified.

Fourth, friction wheel applied in substantially the manner specified, between the driving pulley k and the main shaft l of a braiding machine, in combination with the stopping and starting mechanism, so that the machine may commence to move gradually instead of suddenly, as set forth.

65,310.—EDWARD A. TURNER, New York, N. Y., assignor to himself and JOHN MORRISSEY, same place.—*Car Coupling.*—May 28, 1867.—The coupling link has lateral projections which limit its entrance into the draw head, where it trips the jointed coupling pin and becomes engaged thereto.

Claim.—The coupling link C furnished near one end with the laterally projecting ears or lugs h in combination with the draw head A and a suitable coupling pin, substantially as herein set forth for the purpose specified.

65,311.—THOMAS URIE, Springfield, Iowa.—*Wagon Brake Lock.*—May 28, 1867.—The brake lever is held by a pawl and ratchet teeth on a segmental rack; the pawl is raised by a rod, whose lateral projection slides in a slot of the lever near the hand.

Claim.—The eccentric c , in combination with the rod d , the slotted lever a and the segment plate b , for locking a wagon brake by means of the connecting rod g , constructed, arranged, and operated substantially as and for the purposes described.

65,312.—JOHN H. VAN SANDT and JAMES J. HURT, Princeton, Ind.—*Rotary Steam Engine.*—May 28, 1867.—The cylinder is divided and traversed by a shaft, which has pistons attached in each chamber. At each end of the shaft is a cam, which actuates the steam valve of its appropriate cylinder, the valves recoiling by the force of springs in time to let the pistons pass.

Claim.—The arrangement of the cams G , springs g , valves F , with reference to the system of cranks e , connections leading from the shaft L , substantially for the purpose specified.

65,313.—WILLIAM VAN WYCK, Belleville, N. J.—*Composition for Filtering Petroleum, Sirup, and other Liquids.*—May 28, 1867.—Dissolved animal matter, as glue, is mixed with chalk to the consistency of gruel, and pulverized wood charcoal is added to the consistency of putty. Carbonize the compound in a closed vessel.

Claim.—The application of the above mentioned compound of soluble animal matter, chalk, and wood charcoal, for the purification of petroleum and other oils, sugars, sirups, and molasses, and spirituous liquors by filtering these substances through the above mentioned compound, or by any mode equivalent to filtration.

65,314.—GEORGE W. VENNOR, Charlestown, Mass.—*Photographic Camera.*—May 28, 1867; antedated May 15, 1867.—The diaphragm is connected to the camera by a sliding frame and folding screen. The sensitive plate is moved so as to bring each part

of it successively opposite to the perforations in the diaphragm.

Claim.—First, the compound sliding frame M and J, made substantially as described and for the purpose set forth.

Second, the method of operating the said sliding frames M and J by means of the bar H, roller I, caps c c or their mechanical equivalent, and the lower part of the adjusting board C.

Third, the folding screws d d', substantially as described and for the purpose set forth.

65,315.—S. H. WADE, Montgomery Centre, Vt.—*Butter Worker.*—May 28, 1867.—The tray is revolvable on a pivot, and resting in a slide may also be drawn in or out under the presser-blocks, which are suspended from a bridge-piece and operated by a lever.

Claim.—First, the combination of the pressers E, sliding beam G, and operating levers H and J, with each other and with the frame of the machine, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the pivoted table D and sliding frame B with each other and with the frame of the machine, substantially as herein shown and described and for the purpose set forth.

65,316.—WILLIAM R. WALDRON, Webster, Mich.—*Device for Unloading and Stacking Hay.*—May 28, 1867.—Two tripods are erected at a distance to admit a wagon between. The hay is raised by a cord running in sheaves suspended from the tripods, and is drawn by a horse.

Claim.—The combination of the poles, pulleys, rope, and anchorage, when arranged substantially as herein described and for the purposes herein set forth.

65,317.—F. M. WELLER, Evanston, Ill.—*Carriage Shackle.*—May 28, 1867; antedated May 16, 1867.—The thill iron has a circular disk with a hook flange at each side; the flanges engage studs on the cheeks of the shackle iron in front of the clip.

Claim.—The carriage shackle constructed and operating substantially as described and specified.

65,318.—JESSE S. WHEAT, South Wheeling, W. Va.—*Car Seat.*—May 28, 1867.—The reversible back is connected to the ends of the seat by slotted links and T-shaped pivoted arms, and is thereby retained at any inclination. The back rests in double inclined racks, which support it at either side of the seat and at any desired elevation. The guide plates confine and protect the connections.

Claim.—First, the cross-head arms D and slotted links c, in combination with the back of the seat C and the ends A, arranged and operating substantially as and for the purposes herein described.

Second, the double inclined racks E, in combination with the guide plates c, arranged and operating as and for the purposes specified.

65,319.—W. W. WHIDDIT, Richmond, Ind.—*Machine for Cleaning Flax.*—May 28, 1867.—A cylinder armed with teeth runs in a box with a grated bottom. The top of the box has an automatic hopper which discharges its contents into the box at given intervals, and the flax is discharged from the box at alternate intervals.

Claim.—First, constructing a machine for cleaning flax, &c., with a door L, or its equivalent, by which said machine is closed and the material confined until cleaned, substantially as set forth.

Second, the octagonal-shaped cylinder I, having flanged ends, substantially as described and for the purpose specified.

Third, the reversible hopper B, operating on journals, substantially as specified.

Fourth, the arrangement and joint operation of hopper B and door L, substantially as set forth.

Fifth, loose pulley c, provided with pin n and ring o, or their equivalents, wheel D, either with or without teeth, provided with cam S, the latter either permanently attached or adjustable, in combination with slide P, detent T, and device W, all arranged substantially as set forth and for the purposes specified.

65,320.—EDWARD WHITE, Philadelphia, Pa.—*Apparatus for Cooling Liquors on Draught.*—May

28, 1867.—The cylinder is lined with zinc and covered with felt. It has a hole above for the introduction of ice, and contains an enlargement of the beer pipe whose contents are to be cooled.

Claim.—A cooler covered with felt ice-chamber, as described, opening a block B and cylinders C, constructed and operating substantially as specified.

65,321.—JOHN R. WILLIAMS, Taunton, Mass.—*Composition to be used as Putty for Stone Work.*—May 28, 1867.—Composed of decomposed slate rock, 1 pound; lime, 1 ounce, and linseed oil, 5 ounces.

Claim.—The improved composition of matter herein described for the purpose specified.

65,322.—JOHN B. WORTHAM, Huntsville, Ala.—*Lamp Burner.*—May 28, 1867.—The wick tube has a brass collar, having teeth at its periphery to enter slots in its surrounding cylinder, which carries the hinged cone. This cylinder slides on the main cylinder, to which the wick tube is attached, and is elevated to position for use by a coiled spring, but may be depressed sufficiently to give access to the wick for lighting.

Claim.—First, the ventilating collar or cylinder c, constructed and operated and for the purposes substantially as herein set forth.

Second, in combination with the cylinder c, the toothed edge of the plate b, or its equivalent.

Third, the plates i and j, for holding the cap open, as described.

65,323.—FRANCIS H. WRIGHT, Richmond, Ind., assignor to himself, WILLIAM C. SLADE and B. M. PRATT, same place.—*Tanning.*—May 28, 1867.—Composed of catechu, saltpeper, glabner salts, Spanish whiting, sulphuric acid, and salt, for tanning leather, and of saltpeper, alum, salt, and sulphuric acid, for tanning furs.

Claim.—The use of the proportion of ingredients named in formule A and B, and the manner of applying the same to hides, furs, and skins, for the purpose of tanning the same rapidly and effectually.

65,324.—JOHN WRIGHT and J. J. JOHNSON, Cold Water, Mich.—*Corn Harvester.*—May 28, 1867.—The machine is drawn by a single horse, and cuts two rows at once. One of each pair of knives has an oblique motion by guides operated by an eccentric shaft. The corn is received on a platform with a curved railing, where it is gathered and shoeked and from which it is discharged by the tilting of the platform.

Claim.—First, the arrangement of the knives B B with double or oblique motion, operated with slotted guides, or their equivalent, in combination with the stationary knives A A, substantially in the manner and for the purposes herein set forth.

Second, the tilting platform K, in combination with the stationary platforms F F, the spring-curved arms M M, and spring catch L, or its equivalent, substantially in the manner and for the purpose as herein described.

Third, the cutting knives, as arranged and operated in combination with the tilting platform, substantially in the manner and for the purpose as herein described.

65,325.—P. ZERN and W. WARWICK, Pittsburg, Pa.—*Machine for Cutting off Cigars.*—May 28, 1867.—The two disks have agreeing countersunk holes varying in size. One of the disks is oscillated by a pressure knob to cut off the cigar end. The disk is restored to position by a spring.

Claim.—The combination of the upright B with opening C and plate E, having similar openings, when the two are arranged and combined together, substantially as and for the purpose described.

65,326.—PHILIP M. ACKERMAN, Webster, N. Y.—*Gate.*—June 4, 1867.—Two of the bars slide on rollers upon two fixed posts, a bar sliding in the gate passes between the rollers, and serves to sustain the advanced end of the gate when nearly closed.

Claim.—The loose sliding bar D, having a suitable supporting head H, in combination with the sliding gate, substantially in the manner and for the purposes herein shown and described.

65,327.—J. B. ALEXANDER, Washington, D. C., assignor to himself and JAMES C. DUNCAN, Olney, Ill.—*Gate*.—June 4, 1867.—The vertical pivots on the beam and sill traverse in the holes, bored axially in the top and bottom of the gate post, as the latter raises by the twisting of the suspension chain, and returns again by gravity when freed.

Claim.—A gate, so constructed as to be suspended by chains attached to and wrapping spirally on the center piece D, causing the gate to close of its own weight, or the same device, composed of any other material, substantially as described and for the purpose set forth.

Also, the pins L and K and the bores R and Q, substantially as described and for the purpose set forth.

65,328.—JOHN BATCHELDER, Norwich, Conn.—*Self-lubricator*.—June 4, 1867.—The drip cap has a side compartment, separated from the main part by a porous division; a rotating disk within this compartment throws the oil into a small conduit, which drips into the oil hole of the journal.

Claim.—First, the revolving plate *c*, the conductor *d*, the vertical flange *e*, the hood *i* and the arrangement of the bar and strainer *g* in the dripping pan.

Second, the combination of the revolving plate *c* and the conductor *d*, or its equivalent, all for the purposes herein described.

65,329.—HORACE R. BALL, New York, N. Y.—*Truss*.—June 4, 1867.—By means of the adjustments described, the pad is made to face up or down, and to press with the required force, either above or below the hoop.

Claim.—First, the bar B, pivot *e*, link D, and set screw C for regulating the lateral set or facing of the pad A, all arranged and acting as herein shown and described.

Second, the bar B, socket *b*, and set screw *g*, in combination with the hoop K and pad A for regulating the vertical facing or set of the pad, as and for the purpose set forth.

Third, a pad A, having a bar B, socket *b*, pivoted to the end of the hoop K by a pivot *f* and set screw *j*, for regulating the pressure of the pad upon the body, arranged substantially as herein shown and described.

Fourth, the combination of the pad A, bar B, with a perforated fan tail H, pivot I, set screw *i*, and hoop K for throwing the pad below or above the hoop, substantially as herein explained.

65,330.—O. C. BARNES, Stowe, Vt.—*Mop Wringer*.—June 4, 1867.—The rectangular water box is pivoted with a lever treadle that moves a follower, placed on perforated platform in the upper part of the box to squeeze the mop.

Claim.—The follower D, with the jointed head block *g*, in combination with the treadle bar *b*, arranged and operating substantially as and for the purpose herein set forth.

65,331.—J. B. BEHRENS, Pearl, Ill.—*Car Coupling*.—June 4, 1867.—The two heads of the jointed coupling bar catch behind transverse abutments in the draw-head, the coupling end slipping up the inclined face of the abutment and falling behind. A lever and arm raises it to uncouple. It is self-declating when one of the cars leaves the track.

Claim.—An improved car coupling, formed by the combination of the peculiarly constructed bumper heads A and B, jointed-coupling bar D, spring E, supporting rod F, uncoupling lever G, and operating rod H, with each other, substantially as herein shown and described for the purposes set forth.

65,332.—C. G. BENNET and S. A. DRAKE, Farmer Village, N. Y., assignor to C. G. BENNET, same place.—*Wagon Brake*.—June 4, 1867.—The brake rod is pivoted to the rear bolster and slides in the slots of two cam levers, which are connected to the hand lever which raises the rubber from the wheels, or depresses them into contact therewith.

Claim.—First, in combination with the brake bar *b*, the relieving or raising cam C, constructed and operating as and for the purposes herein shown and described.

Second, suspending the brake blocks B of wagons

and other vehicles from an axial point, located near that of the ground wheels *w*, substantially in the manner and for the purposes herein shown and described.

65,333.—A. BERARD, Paris, France.—*Manufacture of Steel*.—June 4, 1867.—The gases blown through the molten metal in the first sole plate oxidize and eliminate the substances, which form a complex alloy with the iron. The resulting gas from the air-blast is passed through the fire-bridge between the two sole plates, and carried to the other sole plate to reduce the metal therein. The sole plates are removable for repairs or renewal.

Claim.—First, the peculiar arrangement or construction of a reverberatory furnace with a double movable sole plate, as hereinbefore described and shown in Figs. 1 2 and 3.

Second, the interposition of a bed of fuel in the current of the gas, as hereinbefore described.

Third, the mode of action of the gas of the steam and of the air on or in the interior of the metallic bath, in the manner hereinbefore described.

Fourth, the arrangements above described for causing the scoria to act on the metal for eliminating the phosphorus and other injurious foreign matters therefrom, as hereinbefore described.

Fifth, the reaction of heat from the oxidizing sole plate on the reducing sole plate, as hereinbefore described.

Sixth, the arrangements for operating at will by way of oxidation and reduction, successively for purifying cast iron and for its reduction into steel or iron.

65,334.—MARTIN T. BRIGGS, Schoolcraft, Mich.—*Hane Strap*.—June 4, 1867.—The other two of the three parts which are pivoted together have hooks to engage the hane ends, and the folding of the parts together draws the hanes to the required position.

Claim.—A jointed metallic hane strap, composed of three parts, A, B, and C, constructed and operating substantially as set forth, and provided with a holding device to lock and retain the parts in holding positions.

65,335.—PARCEL BRINKERHOOF, Chillicothe, Mo.—*Measure for Liquids*.—June 4, 1867.—The receiving vessel has interior tubes and apertures, so arranged by turning a tube within the receiving vessel any given quantity of liquid within the capacity of the reservoir will be measured and discharged therefrom.

Claim.—The central tube C, having index levers E, F, spirally arranged, perforations *b*, in combination with the tube B of the vessel A, having corresponding perforations and graduated top G, and operating substantially as described for the purpose specified.

65,336.—R. F. BROWN, Savannah, Ga.—*Steam Rotary Valve*.—June 4, 1867.—The oscillating valve is a chambered-conic frustum with induction and ejection passages. The ports and parts are so arranged and proportioned as to secure an even pressure on the valve in its middle position, and when exhausting to cause the exhaust steam to react against the shell of the seat.

Claim.—The arrangement of the induction passage C, ejection passage D, with reference to the passages C C, and valve B, substantially upon the principle and in the manner as herein set forth.

65,337.—JAMES BUDD, Pittsford N. Y., assignor to himself and J. W. BRIGGS.—*Churn Power*.—June 4, 1867.—An anti-friction roller on the adjustable lever of the dasher traverses a cam groove in the main wheel. The shaft of the said wheel is turned by a winch to raise a weight which acts by a ratchet and pawl to rotate the wheel and reciprocate the dasher.

Claim.—The lever B, in combination with the churn and the wheel W, when the said lever is provided with a variable axial point with relation to the roller *r* as shown at *f*, substantially as and for the purposes set forth.

65,338.—M. D. BUDD, Roscoe, Ill.—*Bolt and Rivet Trimmer*.—June 4, 1867.—To enable the moving jaw to open wider it is jointed, and the portions are clasped together by a spring stirrup which

is pivoted to one piece and engages with such notch on the other piece as may secure the required adjustment.

Claim.—The combination of the spring *g*, the clasp *d*, and the guide *h*, arranged substantially as described.

65,339.—WM. BUTCHER, jr., Sheffield, England, and THOS. SHAW, Philadelphia, Pa.—*Machine for Shoting Metals.*—June 4, 1867.—Melted metal is poured through a funnel upon the disk and thrown off like spray in size proportioned to the speed of the disk, which is cooled by a water passage. The shot falls into a tank.

Claim.—First, the employment of a rotating disk for the purpose of throwing molten metal off in particles, as set forth.

Second, the employment of configured heat-enduring substances, for the purpose described.

Third, the introduction of water passages, substantially as and for the purpose set forth.

65,340.—CHARLES E. BUTLER, Hudson, N. Y.—*Weather Strip.*—June 4, 1867.—The strip has transverse slots with slide pins and springs, which press it toward the door.

Claim.—The elastic weather strips, formed by combining with the slotted strips *B*, the slotted plates *C*, screws *D*, and springs *E*, all made and operating substantially as herein shown and described.

65,341.—C. A. BUTTLES and JAMES COWLES, Milwaukee, Wis.—*Tinners' Stoves for Heating Soldering Irons.*—June 4, 1867.—The furnace is divided by a vertical corrugated partition near the rear side and perforated at the bottom. This partition is carried up to a semicircular damper in the exit flue. In starting the fire direct escape is allowed for the caloric current; afterward it is forced through the bottom perforations of the partition.

Claim.—Dividing the interior of the stove or fire pot by a perforated division or partition plate *d*, in combination with the divided exit flue *e* and its damper *g*, substantially as and for the purpose described.

Also, the bent arm and weight *k m*, in connection with the hinged lid *E*, as and for the purpose described and represented.

65,342.—HENRY G. CARR, Lewistown, Pa.—*Protector for Car Windows.*—June 4, 1867.—The strip is grooved on the side and attached by a hinge to the sash frame of a car window, one on each side. They are opened by the action of the wind and then stand at right angles to deflect cinders, &c., from the open window.

Claim.—The self-acting grooved protector, constructed and operating as herein described and for the purposes set forth.

65,343.—WM. S. CARR, New York, N. Y.—*Basin Plug.*—June 4, 1867.—Instead of guiding the metallic plug into place, it is furnished with guides to keep it vertical and has an elastic disk which turns up at its edges on entering the waterway.

Claim.—The plug for waste waterways, provided with an elastic disk and guided in the manner as and for the purpose set forth.

65,344.—E. P. CARTER, Arcade, N. Y.—*Trunk.*—June 4, 1867.—The encircling bands of the lid are looped to those of the body and form hinge straps. Loops on the band afford attachment for straps.

Claim.—First, as an improvement in the construction of trunks and valises forming the hinges by connecting the ends of the incircling bands of the cover to the incircling bands of the body, substantially in the manner set forth.

Second, providing the front ends of incircling metallic bands of trunks and valises with links for the reception of connecting straps, as and for the purposes shown and described.

65,345.—ALANSON CARY, New York, N. Y.—*Steam and Water Heating Apparatus.*—June 4, 1867.—The cases are heated by steam which passes from one to another; vertical open-ended pipes trav-

erse the cases and afford passage for the circulation of air.

Claim.—The combination and arrangement within the case *D* of one or more series of inclined steam cases *A*, united together at their edges by means of the angular plates, and connected by steam pipes *B*, each plate provided with air tubes *C* passing through them, the tubes in the lower series not being in the same vertical plane with the tubes in the upper series of cases, substantially as described and for the purpose specified.

65,346.—HIRAM L. CHASE, Bath, Maine.—*Press or Cover for Tubs and Barrels.*—June 4, 1867.—The cover lies upon the meat in the barrel, and is kept down below the brine by the engagement of the points of the pivoted arms with the inside of the barrel.

Claim.—The combination of one or more eccentrically pivoted arms *C*, or their equivalent, with the cover or press *A*, substantially in the manner herein shown and described and for the purpose set forth.

65,347.—J. W. CLARK, Iola, Kansas.—*Guard for Circular Saws.*—June 4, 1867.—The cover is pivoted to a hinged frame and rises by the contact of the lumber with a self-adjusting drop in front, which falls just as the last end of the plank is coming to the saw, and prevents the hand coming in contact therewith.

Claim.—The saw guard *B*, provided with the self-adjusting drop *c*, and suspended on the vibrating frame *D*, constructed and operating substantially as and for the purposes herein described.

65,348.—WELLSLY W. CRANE, Auburn, N. Y.—*Self-Lubricating Box and Hanger for Shafting.*—June 4, 1867.—The wrist in the pedestal permits the box to adjust itself to any horizontal deflection of the shaft, and the trunnions of the inner boxing allow the box to conform to vertical deflection. The slots in the inner boxing have a wick which leads the oil to the shaft. Horizontal adjustability is given by the slotted ears of the pedestal, and vertical by the bolt and nuts.

Claim.—First, the adjustable hanger, when constructed substantially as above described, so as to adjust both on the vertical and horizontal planes, as above set forth.

Second, the combination of the vertical and horizontal joints above described, when used for the purpose and constructed in the manner substantially as above specified.

Third, in combination with the above joint, the self-lubricating box, when used as and constructed substantially in the manner specified.

65,349.—WELLSLY W. CRANE, Auburn, N. Y.—*Constructing Self-Lubricating Pulley.*—June 4, 1867.—A chamber in the hub of the pulley is charged with oil and closed up. The pulley revolves around the central shaft which runs through the inner sleeve holes admitting the passage of oil to the shaft. The feather edges of the end cups prevent the collection of oil between them and the shaft.

Claim.—First, the chamber *E*, above described, when used substantially in the manner and for the purpose above specified.

Second, constructing the internal or shaft bearing *A*, independent of the main portion of the pulley, as and for the purpose above described.

Third, feather-edging the ends of the pulleys, for the purpose and in the manner above set forth.

65,350.—FRANCIS P. CULLOM, Dowagiac, Mich.—*Plaster Sower.*—June 4, 1867.—The lower portions of the inclined sides of the hopper are corrugated; one is reciprocated longitudinally by power derived from one of the ground wheels, and the other side is pivoted so as to graduate the width of the opening.

Claim.—First, the construction of the hopper of a plaster sower of stationary ends *a a*, stationary inclined side *b*, reciprocating slide *c*, and pivoted adjustable side plate *b'*, substantially as described.

Second, the corrugating of the inner surface of the slide *c*, in combination with the corrugated side-plate *b'*, and means for regulating the discharge of plaster from the hopper, substantially as described, for the purpose set forth.

65,351.—J. B. CURTIS, Hillsdale, Mich.—*Brick Machine.*—June 4, 1867.—The molds in the box conform in number to the openings in the floor of the jack mold; the box is moved by the lever; the follower descends, pressing the clay; the molds are removed, the edges of the clay-box cutting off superfluous clay. Another mold-box is substituted, and as the latter wear, inclined planes raise the bed.

Claim.—The inclined planes J, carriage K, and molding boxes S, as arranged, in combination with the clay box L, jack mold M, and follower N, when operating conjointly for the purpose and in the manner set forth.

The arrangements of the shafts D G, cranks E H, arm and link Q R, in combination with the carriage K, for the purpose and in the manner substantially as described.

65,352.—WM. MORRIS DAVIS, Philadelphia, Pa.—*Drying Loaves of Sugar.*—June 4, 1867.—Explained by the claim.

Claim.—Forming a loaf of sugar with a hole through or into the interior of the loaf, for the purpose of expediting the operation of drying sugar loaves.

65,353.—JAMES DAYKIN, Cleveland, Ohio.—*Water Drawer.*—June 4, 1867.—As the bucket rises the bottom is tilted forward by the contact of the back part of the rim with a slanting board; the valve rod strikes another board and is opened thereby, discharging the contents into the chute.

Claim.—First, the pivoted head board I, arranged in relation to the valve of the bucket, substantially as and for the purpose specified.

Second, the adjustable head board or plate I and tilting board L, in combination with a chain or rope E, valve rod H, and bucket D, when arranged and operating in relation to each other, substantially as and for the purpose set forth.

65,354.—JOHN DICKASON, Vevay, Ind.—*Gate.*—June 4, 1867.—The equestrian presses the free ends of the lever handles consecutively, which swings the gate open and shut.

Claim.—First, the system of lever handles *n* and *n'*, connecting bars *o* and *o'* and circular lever bar D, in combination with the gate A, all arranged and operating substantially as and for the purposes specified.

Second, in combination with the gate A and the U-shaped lever bars E and E', which operate the cranks *f* and *m*, the connecting bars *c* and *l*, and the vertical lever F, and circular lever bar D, arranged and operating as described.

Third, the adjustable screw bolts *b* and *d*, circular lever bar D, or its equivalent, the post C and gate A, arranged substantially as herein described and for the purpose specified.

Fourth, the latch G, consisting of the latch bar *e*, secured to the spring *p* by the clamping strap *p'*, and the hand lever *r*, as described and for the purpose set forth.

65,355.—JOHN H. DICKINSON, Chicopee Falls, Mass.—*Hay and Straw Cutter.*—June 4, 1867.—The cutter head is hinged to the frame, which is pivoted to the rear portion of the machine so as to oscillate in an arc; the breast of the machine is correspondingly formed. The cutter is reciprocated by crank and pitman.

Claim.—A device for cutting hay and straw wherein the cutter shall rise and fall on the arc of a circle, using for that purpose the levers C C, the cutter A, the connections F, the shaft G, and the swing catch K, in combination.

65,356.—GEORGE W. DISMAN, Upper Sandusky, Ohio.—*Application of Soft Metal Bearings for Carriage and Wagon Boxes.*—June 4, 1867.—Explained by the claim.

Claim.—Making carriage boxes by first preparing soft metal rings of copper or of a composition of which copper is the basis, and placing said rings upon a sand or other core, and laying them in a properly prepared mold, and running molten cast-iron on or around said rings, as and for the purpose described.

65,357.—WALDEN EDDY, Greenwich, N. Y.—*Flow Beam.*—June 4, 1867.—The forward bolt which

holds the adjusting clevis is formed solid with the through portion of the beam. The draft rod is hooked between the bars of the beam to a transverse bolt.

Claim.—First, forming the adjusting bolt B solidly upon and out of the forward end of the plough beam, substantially as herein shown and described.

Second, securing the rear end of the draft bar F in the space between the bars *a* and *a'* of the plow beam A, by a bolt G passing through an eye or hook *f*² formed upon the rear end of the said draft bar F, substantially as herein shown and described and for the purpose set forth.

65,358.—JAMES E. EMERSON, Trenton, N. J.—*Saw-Set.*—June 4, 1867.—The gauging and sharpening swage has lips by which breadth is given to the cutting edge of the tooth. The shaping lips are secured to the swage stock by a set-screw, by which adjustment they are adapted for saws of varying thickness.

Claim.—In combination with the stock or swage head the adjustable or movable lips for giving to the tooth of the saw the shape or form herein shown and represented.

65,359.—B. HOMER FAIRCHILD and EMERY SADLER, Farmington, Mich.—*Gate.*—June 4, 1867.—One or more of the upper slats are extended to form a fence to larger animals, but allow passage to smaller ones when the gate is partially opened. The gate is run longitudinally backward to a balance on the anti-friction roller, and then turned 90° on its pivot.

Claim.—The latch D, constructed substantially as described, in combination with the post A and projecting bar *e'* of the gate C, substantially as herein shown and described.

Second, the pivoting attachment E F G, constructed substantially as described, in combination with the post D and the upper horizontal bar *e'* of the gate, substantially as herein shown, described, and for the purposes set forth.

65,360.—DENNIS L. FALARDO, New York, N. Y.—*Machine for Driving Nails.*—June 4, 1867.—The brads are placed on a revolving perforated disk; as the machine is operated a brad drops through the opening, when it comes directly over another slot in a lower plate, wherein the brad is guided to the place where it is to be driven; a blow upon a piston drives the brad into the wood, and upon the return movement of the piston it revolves the disk so that another brad is fed as before.

Claim.—The revolving wheel reservoir *d*, formed and fitted as described to the tube A, in combination with the tube *o* and the machinery connected therewith, in the manner and for the purposes set forth in this specification.

65,361.—OLIVER W. FARRAR, Pittsburg, Pa.—*Recovering Waste Acid for Refining Petroleum.*—June 4, 1867.—Improvement on the patent of E. G. Loftus, June 14, 1864. Weak acid obtained from the concentration or distillation of sulphuric acid is used instead of water alone. With this addition, the mixture is agitated in lead-lined vessels.

Claim.—The improved process of diluting the spent acid of oil refiners with weak sulphuric acid, as and for the purpose herein specified.

65,362.—M. S. FELLOWS, Livonia, N. Y.—*Washing Machine.*—June 4, 1867.—The rubbing roller is journaled in a pendulous frame, which reciprocates over the corrugated and perforated bed; a hinged roller acts as a pounder on the clothes, and forces them against the dash-board at each alternate reciprocation.

Claim.—The arrangement of the roller F, hinged pounder roller D, corrugated concave B', and dash-board *d*, in connection with the fountain or supply chamber *w*, as and for the purposes set forth.

65,363.—DANIEL H. FERNALD, Bangor, Me.—*Construction of Sewers and Drains.*—June 4, 1867.—The "former" corresponds in shape to the inner and outer circumferential lines of the lower half of the sewer, and is spaced and indexed upon its inner line so as to form a guide for the alignment of each course of brick in the said lower half.

Claim.—The adjustable indexed former D, substantially as and for the purpose specified.

65,364.—JOHN W. FIESTER, Winchester, Ohio.—*Fire-Place.*—June 4, 1867.—The oven is placed in the fire-place over the grate, and rests upon projections, leaving a fire-space in the rear.

Claim.—The combination of the plates D and E, key *a*, when constructed and arranged as described and placed over an open fire-grate, the parts operating as set forth and for the purposes described.

65,365.—A. L. FINCH, Sing Sing, N. Y.—*Building Block Machinery.*—June 4, 1867.—The steel lining plates of the mold are attached by screws from the outside to admit of removal and polishing. The slide that conveys the material to the mold presses out the finished brick beneath a stationary knife which turns the same.

Claim.—First, constructing the mold for building blocks of a detached metal frame with a lining of plates of steel held in place by screws passing in from the outside of said frame, in the manner and for the purposes specified.

Second, the slide *i*, that removes the pressed block and brings the loose material into position for being pressed in combination with the stationary knife for equalizing the thickness of the block, as specified.

Third, a movable board applied to the side of the mold frame, as specified, in combination with the slide *i* and stationary knife, for the purposes and as set forth.

Fourth, the arrangement of the slide rods 5 and *o*, and cams *p*, *q*, 7 and 8, for operating the feeding-slide *i*, and giving a vertical motion to the mold bed, substantially as set forth.

Fifth, connecting the gate of the feeding hopper with the mold-bed by an adjustable connection, so that the supply of material can be regulated and the gate be opened by the motion of the mold, as specified.

Sixth, the shaft *f* and the sectional gear *e* for raising the compressing hammer *c*, in combination with the mechanism moved by the same shaft, substantially as specified, for giving motion to the feeding-slide and to mold-bed *k*, as set forth.

65,366.—E. D. FINCH, Stanton, Mich.—*Soda Fountain.*—June 4, 1867.—The soda-water passes through the annular space between an ice chamber and an outer case containing some non-conductor of heat. Discharge faucets communicate with the soda-water reservoir and the ice chamber.

Claim.—The arrangement of annular refrigerating and non-conducting chambers B C, enclosing a central ice chamber D, and provided with faucets F and H, for the purposes explained.

65,367.—E. A. FLOYD, Macomb, Ill.—*Beehive.*—June 4, 1867.—The smooth metallic strip which forms the lower edge of the inner box opposes the ascent of the bee moth or its larva, and the space between the two boxes is exposed for cleaning by lifting the strips.

Claim.—First, a beehive consisting of an outer case A, resting close on a bottom board and an inner case B, having its lower portion consisting of a strip of smooth metal with its edge fitting tight on the bottom board, with the covered passage-way *n*, leading from the outside to the inner case, as shown and described.

Second, the pivoted bars *a*, arranged to operate in connection with the cases A and B, as described.

65,368.—ARTHUR L. FREEMAN, Manchester, England, assignor to SEWALL S. W. FOLSOM, Boston, Mass.—*Keg and Barrel for Paint and other materials.*—June 4, 1867.—The metallic head sets upon a shoulder within the chine of the barrel; a diametric strap forms a handle, and by lapping over the chine and down the sides of the barrel is the means of fastening the head in place.

Claim.—First, the fastening strap *g*, made as a handle for the keg head and so as to be employed for fastening the head and the upper hoop to the keg, in manner as specified.

Second, the construction of the upper hoop in two sections *m n*, connected by rivets or joint pins, as

set forth, and so applied to the keg as to enable either or both of such sections to be turned up and used as a bail, as specified.

Third, the combination as well as the arrangement of one or more legs or arms *o*, with the keg and said hoop made in two parts or sections *m n*, such arm or arms and sections being applied together and to the keg by means substantially as specified.

Fourth, the construction of the staves or body of the keg or vessel with the annular shoulder I and the head with the raised flanges, and also with the fastening strap, formed either with or without the handle, as above mentioned; the flange by its elasticity serving to make a tight joint, and the fastening strap to hold the flange and the rest of the head in place, relatively to the shoulder, as specified.

65,369.—JAMES FRENCH, Bellvernon, Pa.—*Machine for Washing Sand.*—June 4, 1867.—For washing earthy and vegetable matter from sand. The sand passes through a shaking riddle down a chute into a cistern, where it is stirred and raised by a revolving wheel, which discharges it into a chute leading to the next cistern, when the operation is repeated, being subjected to the action of water at each step.

Claim.—First, washing and elevating sand by a wheel working vertically, or nearly so, in a concave trough, such a wheel being provided on its outer circumference with blades inclined to the plane passing through them and longitudinally through the axis of the wheel to which they are attached, substantially as and for the purpose above set forth.

Second, the method of elevating and discharging sand from one basin into another by carrying the sand up on the blades of one or more elevating wheels and washing it into another basin or cistern by a jet or jets of water playing on such blades, substantially as and for the purposes described.

65,370.—HERMAN FROMM, East New York, N. Y.—*Propeller.*—June 4, 1867.—Explained by the claim and illustration.

Claim.—The combination of a windmill and an ordinary horse-power with the screw-shaft of a vessel, substantially as described for the purpose specified.

65,371.—H. GANNEY, Louisville, Ky.—*Watch.*—June 4, 1867.—The hair-spring passes through one of two parallel arms projecting from the stud, and is attached to the other arm. A set-screw regulates the distance between the arms. The sides of the arms facing inward are of brass, the other sides of steel, to form a compensation. The main spring is not directly attached to the barrel, but to the end of a spring fixed thereto.

Claim.—First, securing the outer end of the balance spring of a watch to a stud formed with two spring arms C C2, having set-screw D, when arranged and connected together, substantially in the manner described and for the purpose specified.

Second, forming each arm C C2 of brass and steel, substantially as and for the purpose described.

Third, securing the outer end of the main spring of a watch movement to and within the barrel by means of a supplementary spring coiled in the reverse direction, substantially as and for the purpose specified.

65,372.—MANSON F. GIBBS, Livonia, N. Y.—*Portable Fence.*—June 4, 1867.—The base piece is notched to receive the superstructure, and has an end projection, serving as a pin to traverse the brace. The uprights pass through an open-ended slot in the brace and are held by a pin.

Claim.—Locking the two vertical stakes or bars C and E together at the bottom by means of pins *c*, or their equivalents, entering the bed-plate B, and at the top by passing the ends *e* through a suitable mortise in the diagonal brace A, the foot of that being similarly locked to the bed B, as and for the purposes set forth.

65,373.—M. F. GIBBS, Livonia, N. Y.—*Car-Coupling.*—June 4, 1867.—The entering end of the link is supported on a spring lever which is thrown down by the approaching drawhead when the link

has entered. The coupling-pin is supported by a spring bolt forced back by the entering link.

Claim.—First, the hinged ball C, with its projecting cam or latch D, in connection with the spring s, substantially as and for the purposes shown and described.

Second, the combination of said spring ball C, and the latch with the automatic "pin dropper," substantially as and for the purpose set forth.

65,374.—CHARLES H. GODFREY, Stewartville, N. J.—*Seed Box for Grain Drills.*—June 4, 1867.—The cams of the seed-agitator have three spurs inclined backwardly and curved spirally.

Claim.—The irregular cams e, on the stirring shaft D of a seed box for grain drills, substantially as and for the purposes described.

65,375.—WILLIAM A. GREENE, Troy, N. Y.—*Cooking Stove.*—June 4, 1867.—The inner side of the grate rests on a tubular attachment to the oven plate, through which air passes from side to side.

Claim.—First, in combination with an oven front plate, a shelf plate a, so constructed and arranged in respect to said oven plate as to form in connection therewith a hollow shelf plate, substantially as and for the purposes set forth.

Second, the detachable shallow shelf plate a, applied below the grate and above the ash-box, in combination with the front oven plate B, and the perforated side plates F, substantially in the manner and for the purposes herein described.

Third, the angular shelf plate a, substantially as and for the purposes described.

65,376.—H. C. GRIFFIN, Franklin, N. H.—*Magic Arrow Toy.*—June 4, 1867.—The bolt has a forwardly entering notch which engages a rubber cord extending from the yoke, and is projected when released.

Claim.—The elastic cord B, attached to a forked or other suitable bar A, and the notched arrow C, all arranged substantially as and for the purpose specified.

65,377.—GEORGE GUENTHER, New York, N. Y.—*Drying Glue.*—June 4, 1867.—The steam-heated cylinder is revolved, and the trough is elevated, charging the surface of the cylinder with a coat of glue; the trough is lowered, the glue on the cylinder dried and removed by a scraper.

Claim.—The mode of drying glue by revolving or rotating metallic surfaces, having their temperature raised either by steam or hot air, substantially as described.

65,378.—GEORGE HALL, Middletown, Ohio, assignor to himself and WILLIAM S. WALDRON, same place.—*Clapboard Gauge.*—June 4, 1867.—The tool is used to assist in scribing the projecting end of a weather-board in line with the corner strip against which the edge of the plate is held.

Claim.—The combination of the rule B with the gauge-plate C, when hinged upon the handle A, in the manner described and for the purpose set forth.

65,379.—WILLIAM S. HARRIS, Eckford township, Mich.—*Wool-packing Table.*—June 4, 1867.—The folded fleece is laid on the packing head; the two opposite long flaps are turned up, entering the pins of one into the holes in the other, the position being sustained by clamps. The short flaps are then raised, being locked by springs on the former. The head is raised by the treadle, the fleece tied both ways and then released.

Claim.—First, the employment of longitudinal and lateral grooves in the upper face of the packing head M, in combination with the notches in the table flaps to secure the baling twines o, when said head is so arranged as to project above the surface of the turned down flaps, substantially as set forth.

Second, the abutment pins F, in connection and combination with the flaps F¹ F², for forming a top abutment over which the fleece may be tied both ways, substantially as specified.

Third, the use of the connected and jointed clamps H H, in combination with the spring stops S, for securing the table flaps when acting as a press box, substantially in the mode herein described.

65,380.—JAMES HASLAM, Philadelphia, Pa., assignor to M. J. COLEMAN, same place.—*Nut Machine.*—June 4, 1867.—The nut is pushed through the feed hole into the recess of the catch, which keeps it square. The punching pin rises and lifts the catch and nut, and holds them while the edges of the latter are squared.

Claim.—The catch G, constructed and arranged substantially as described in combination with a nut machine, for the purpose set forth.

65,381.—JOEL HEACOCK, Marlboro', Ohio.—*Beehive.*—June 4, 1867.—The box stands on feet. An adjustable plate on the inside descends to the platform and forms a barrier to the ascent of moth or larva.

Claim.—The quadrangular sheet-metal slide E, fitting into the lower part of the hive A, and sliding between guides e', its bottom edges resting upon a stand or table between the feet f, and provided with the entrance g, substantially as described for the purpose specified.

65,382.—E. F. HOFMANN, Poughkeepsie, N. Y.—*Pessary.*—June 4, 1867.—The pessary fits around the neck of the uterus; its posterior depression fits the convexity of the sacral vertebrae and its anterior surface to the neck of the bladder. The elevation of the upper surface supports the cul-de-sac and the flat inclined surfaces keep it in position.

Claim.—A pessary made wedge-shaped and provided with concave surfaces b c, an elevation d, and flat retreating surfaces e, substantially as and for the purposes set forth.

65,383.—JAMES HOTCHKISS and EZRA BUSS, Springfield, Ohio.—*Brick Machine.*—June 4, 1867.—The horizontal mold wheel turns intermittently under a vertical pug mill, from which the molds are successively filled, and thence passes under a piston or platen by which the bricks are pressed in the molds, from whence they are subsequently lifted and then turned on edge by a tilter ready for the off-bearers.

Claim.—First, the combination and arrangement of the driving cam wheel C and rock shaft levers E F, for operating the mold wheel and pressing toggles, substantially as herein specified.

Second, the combination of the pawl H I, adjustable in length with the notches J J in the periphery of the mold wheel, or their equivalents, substantially as and for the purpose herein set forth.

Third, the extension of the pug mill beyond the center of the mold wheel so that the latter may extend under the entire bottom of the former without diminishing the diameter of the same, substantially as and for the purposes herein specified.

Fourth, the employment of the bottom plate V of the pug mill as a bearing for the upper journal of the mold wheel, the said plate being secured to the framework by suitable projections a a, substantially as and for the purpose herein set forth.

Fifth, the central depressions w in top of the mold wheel when combined with the extension of the bottom plate of the pug mill downward therein, for the purposes herein set forth.

Sixth, forming the pressure plate n, mortise or guide in an extension of the bottom plate V of the pug mill, as set forth.

Seventh, the combination with each other of the mold wheel W, the arc-shaped groove m' in the bottom of the pug mill, the crescent-shaped apertures R through the same, and the fillers r r, arranged and operating together, substantially as and for the purposes herein specified.

Eighth, the employment of two scrapers P Q, acting successively, one while the clay is under pressure and the other after the clay is relieved from pressure, substantially as and for the purpose herein set forth.

Ninth, the movable scraper A' acting in the opposite direction to that of the stationary scrapers, substantially as and for the purpose herein specified.

Tenth, the lowering of the followers so as to sink the bricks after being molded somewhat further in the molds to receive the pressure of the piston, substantially in the manner and for the purpose herein specified.

Eleventh, the adjusting screws b' b, which support and adjust the followers in the mold when they are

set in lugs *a a'* which project into the mold mortises, substantially as specified.

Twelfth, the construction and arrangement of the toggles *M M* with the spring *m*, and operating upon each other by a cam action, substantially as herein set forth.

Thirteenth, the vibrating tilter *T*, when operated by a lever *U* and cams *T T*, substantially as herein specified.

65,384.—ELIAS HOXIE, Montezuma, N. Y.—*Securing Wagon Seats.*—June 4, 1867.—The bolt engages a nut beneath the seat, and its head is held by a staple fastened to the floor of the bed.

Claim.—First, securing the seat to the wagon sill by means of two or more bolts *F* extending from the sill *A* to the sill *C*, so that no holes are made in either for the said bolt to pass through, nor are they otherwise weakened as set forth.

Second, the bolt *F*, in combination with the nut *D* and slotted plate *E*, all made and operating substantially as herein shown and described.

65,385.—ELIAS HOXIE, Montezuma, N. Y.—*Wheel for Vehicles.*—June 4, 1867.—The metallic band encircles the hub; the ends of the spokes are driven through it and stayed on alternate sides by the zigzag flange which forms partial sockets therefor.

Claim.—The metal ring *B* arranged around the hub *A*, and provided with a zigzag flange *C*, substantially as herein shown and described.

65,386.—MOSES G. HUBBARD, SYRACUSE, N. Y.—*Running Gear for Harvesters.*—June 4, 1867; antedated May 26, 1867.—For throwing the cutting apparatus in and out of gear. A spring upon the shift-lever throws the clutches into engagement without subjecting them to the pressure of the spring, the pressure being sustained by the lever and cam face over which it moves. Bolt plates upon the wooden frame prevent the bolt heads from sinking into the wood and turning therein.

Claim.—The vertical handle *A*, in combination with the cam *D*, formed in the horizontal plate *B*, and with that part of the gear designed to be moved or shifted out of gear, substantially as and for the purpose set forth.

Also, the employment of the bolt plate *L*, constructed as described for securing the bolt, substantially as and for the purposes specified.

Also, the location and arrangement of the spring *G*, upon the shifting lever and in relation to the shifting gear, substantially as and for the purposes described.

65,387.—WILLIAM W. HUBBELL, Philadelphia, Pa.—*Desulphurizing Ores and Extracting Gold and Silver.*—June 4, 1867.—The ore is pulverized, saturated with a solution of saltpeter, mixed with charcoal, and burnt. The heat leaves the ore desiccated and desulphurized. Ashes are removed by water; the remainder is amalgamated by quicksilver.

Claim.—Saturating the pulverized gold or silver ore with saltpeter, and uniting it with charcoal or carbon in other form, and applying fire to desulphurize and desiccate the ore, to extract the precious metal, substantially as described.

65,388.—HENRY JACKSON, Brooklyn, N. Y.—*Padlock.*—June 4, 1867.—The tumblers are attached to the sliding bolt. The spring on the guard drives it toward the serrated edges of the tumblers, and it catches upon them before they reach the stump, when the plate is pressed in that direction by the tentative picking process. The spring arm holds back the bolt when unlocked and is released therefrom as the shackle enters the case.

Claim.—First, the guard *E*, in combination with the tumblers *E* and plate *C*, all arranged to operate in the manner substantially as and for the purpose set forth.

Second, the arm *F*, in combination with the bolt *D*, arranged to operate in the manner substantially as and for the purpose specified.

65,389.—GUSTAVUS A. JASPER, Charlestown, Mass.—*Retort for Revivifying Bone Charcoal.*—June 4, 1867.—The foot of the upper section is contracted

and has ears by which it is bolted to the correspondingly-shaped upper end of the section below.

Claim.—The improvement in the construction of either or both of the two retort sections *A' B'*, as described, in order that they may be connected by screw bolts or screws and nuts, as set forth, and the upper section *A'* be rendered capable of being inserted into and withdrawn from the support plates *c d*, as explained, each section under such improvement being contracted or made with a neck *h* and provided with ears *e e*, or their equivalents, substantially as specified.

65,390.—GILBERT JESSUP, Shortsville, N. Y.—*Plaster Sifter.*—June 4, 1867.—The hopper is suspended between the wheels. The stirrer is suspended by straps to the front and rear sides of the hopper alternately; the parts are actuated by a pivoted yoke and a zigzag cam on one of the driving wheels. The gauge plate determines the size of the delivery openings.

Claim.—First, effecting a parallel adjustment of the delivery or discharge plate *G* by means of the bent or anchor levers *h j k*, as set forth.

Second, hanging the hopper *T* down between the carrier wheels, whereby it is balanced, or nearly so, upon the said wheels, substantially in the manner and for the purposes herein shown and described.

Third, the combination with the vibrating feed bar *D* having a serrated edge, the agitators *s*, when their lower ends are connected loosely to the said bar *D*, and the upper end of each alternate one is pivoted to the front side of the box *T*, and the others to the rear, as shown and for the purpose specified.

65,391.—JESSE JOHNSON, West Fallowfield township, Pa.—*Bolt Cutter.*—June 4, 1867.—The stationary and the movable knife are included between two plates, and the sliding knife is moved by its double rack and the segment gear of the two levers.

Claim.—The combination of knives *A* and *B* with levers *E* and *F*, screw *D*, frame *C*, and top and bottom plates, as in Figs. 3 and 4, all constructed, arranged, and employed in the manner and for the purpose shown and explained.

65,392.—WILLIAM KEISER, Stroudsburg, Pa.—*Grate.*—June 4, 1867.—The grate is made in two parts and each is operated from the outside of the stove. In dumping, the two parts move together when the rod is drawn. In shaking, the upper part moves on the under as the lever is reciprocated.

Claim.—The arrangement and combination of the parts *B* and *C* with the frame *A*, substantially as described; also the straps *d* and the wrench *D* with the pins *h n'*, as and for the purposes set forth.

65,393.—HENRY KELLOGG, New Haven, Conn.—*Machine for Making Paper Hats.*—June 4, 1867.—The article is formed of fiber suspended in water and deposited on the inner surface of a pervious "former," through which the water penetrates as the piston carrying the "former" rises. The pulp collected on the tip of the hat comes in contact with the elastic couching pad, which yields and extends its pressure toward the band; the annular pad couches the brim, and additional pressure consolidates the fibers. The hat is released by the resistance of the air in the cylinder on depression of the piston.

Claim.—First, the combination of the annular piston carrying the pervious former with the cylinder, and the means described, or the equivalent thereof, for controlling the water, substantially as and for the purposes described.

Second, the combination of the elastic couching pad, the annular piston carrying the pervious former and the cylinder, substantially as and for the purpose specified.

Third, the combination of the elastic couching pad, the annular piston carrying the pervious former, the cylinder, and the means for stopping the couching pad to compress the fibers, substantially as and for the purpose specified.

Fourth, the combination of the elastic couching pad, the couching annulus, the annular piston carrying the pervious former, and the cylinder, substantially as and for the purpose specified.

Fifth, the combination of the means for automatically controlling the water in the cylinder, of raising

and lowering the annular piston carrying the pervious former, and the cylinder, substantially as and for the purpose specified.

And finally, the combination of the cylinder, the annular piston carrying the pervious former, the elastic couching pad, and the means for stopping the upward movement of the couching pad, substantially as and for the purpose specified.

65,394.—TIMOTHY KENNEDY, Hamden, Conn., assignor to THOMAS KENNEDY, Branford, Conn.—*Machine for Turning the Heads of Screws.*—June 4, 1867.—The arc-shaped cutter occupies a slot in the holder, eccentric to the center of motion of its shaft, and is moved by a cam on another shaft so as to shave the head of the screw which protrudes from the tube on the standard.

Claim.—First, the combination of the cutter holder B with the cutter E' and the cam F, constructed and arranged so as to operate substantially in the manner herein set forth.

Second, the combination of the segmental cutter E, having its cutting edge formed as described, with the holder B, said holder being arranged to move the said cutter around a central point into cutting position, substantially as herein set forth.

65,395.—THEODORE E. KING, Painesville, Ohio.—*Spring for Holding Cloth in Sewing Machines.*—June 4, 1867.—The steel strip has teeth on the end which are pressed into the folded, or two thicknesses of cloth, to hold the fabric straight while sewing that length.

Claim.—The tension spring constructed substantially as set forth, for the purpose described.

65,396.—GEORGE V. B. LADD, Boston, Mass.—*Skate.*—June 4, 1867.—The runners are pivoted within slots in the pedestals below the sole, and have a certain freedom of motion therein, in a vertical plane.

Claim.—First, the combination of the sectional runners, as specified, with the recessed projection, within which they are hinged or pivoted under the arrangement herein described, so that the rocking motion of the runners shall be limited and stopped at certain points of the said projection or shoulder, as set forth.

Second, the combination of the sectional runners and recessed projections, within which they are hinged, as described, with the elastic foot rest, substantially in the manner and for the purpose set forth.

65,397.—R. M. LAFFERTY, Three Rivers, Mich., assignor to himself and J. E. and J. P. PRUTZMAN.—*Combined Cover Lifter, Hammer, &c.*—June 4, 1867.—Explained by the claim and illustration.

Claim.—The combination of the screw-driver E, tack-drawer G, lifter H, hammer-head I, the corrugation J of the jaw F, engaging with the extension piece K, to form pinners, knife-sharpening plate L, in one implement, constructed as herein described.

65,398.—EMILE LAMM, New Orleans, La.—*Making Crystal Shred Gold for Dentists.*—June 4, 1867.—To 3 parts nitro-muriate of gold add 2 parts of water and 1 part sugar; evaporate and lift the shreds of gold from the bath with an india-rubber spoon; filter, wash, dry, and heat to a dull red in a crucible.

Claim.—The above process, or any other process substantially the same, as specified.

65,399.—EMILE LAMM, New Orleans, La.—*Preparing Gold for Filling Teeth.*—June 4, 1867.—To the nitro-muriate of gold add boiling water and gum-arabic, evaporate in a bath; the gum causes the nitrous acid to pass off in fumes, and the fibers of gold are removed by a spoon or glass rod.

Claim.—The use of all organic substances soluble in solutions of gold, with the exception of saccharine substances, for making crystallized fibrous gold by any process, substantially the same as that herein described for the purpose set forth.

65,400.—THOMAS LEESON, Sharon, Wis.—*Post Hole Auger.*—June 4, 1867.—The pitch of the spiral blade is adjustable by means of the set nuts.

Claim.—The combination of the spiral spring plate C and nuts D and E with each other and with the

shank A, substantially as herein shown and described for the purpose set forth.

65,401.—GEORGE H. LEITHEAD, East Birmingham, Penn.—*Medical Compound.*—June 4, 1867.—Composed of refined sugar, 8 lbs.; alcohol, 2 oz.; borax, 1 oz.; gum-arabic, 1 oz.; laudanum, $\frac{1}{2}$ oz., and soft water, 2 $\frac{1}{2}$ qts.

Claim.—A medical compound consisting of water, sugar, borax, gum-arabic, laudanum or morphia, or other similar opiate, with or without alcohol, about in the proportion named, and for the purposes set forth.

65,402.—VOLNEY LEONARD, Springfield, Penn.—*Beehive.*—June 4, 1867.—The hinged metallic plate is let down to close the apertures, or raised to form an alighting board for the upper portion of the hive. The moth trap consists of grooved and notched strips. The spare honey boxes do not admit the queen.

Claim.—First, the plate D applied to the hive B in relation with the holes g, as shown, in combination with the fastenings or pivoted notched plates j j, substantially as and for the purpose set forth.

Second, the moth-trap composed of the grooved and notched strips h applied to the hive, substantially as shown and described.

65,403.—H. W. LIBBEY, Cleveland, Ohio.—*Carriage Top Prop-rest.*—June 4, 1867.—Formed with a rectangular metallic socket and a cylindrical cover of rubber.

Claim.—The metallic sleeve A, and cushion B, combined as and for the purpose set forth.

65,404.—HENRY LIGHTY, Attica, Ind.—*Evaporator.*—June 4, 1867.—The series of pans are connected together at alternate ends by means of short troughs with strainers. The perforated skimmer drives the scum into the overflow passages.

Claim.—The skimmer G, when constructed and operated, substantially as herein described and for the purpose set forth.

65,405.—WM. LOWE, Bridgeport Conn.—*Steam Generator.*—June 4, 1867.—Explained by the claim and illustration.

Claim.—Constructing cylindrical boilers, commonly known as plain horizontal tubular or flue boilers, with one or more openings in the sides or bottom of said boilers which shall communicate with a combustion chamber inside of the boiler, and connected by tubes or flues with the back end of the boiler, through which the products of combustion are made to pass, substantially in the manner and for the purposes herein shown and described.

65,406.—R. C. LUDLOW, St. Louis, Mo.—*Sifter.*—June 4, 1867.—A flange around the inside of the bottom affords a support for the wire cloth and the hoop.

Claim.—The combination of the batten a, head c, top e, and the sieve h, substantially as and for the purposes herein described.

65,407.—JOHN LUSK, Jr., Eckford, Mich.—*Tourniquet Clamp.*—June 4, 1867.—The metallic tourniquet clamp is furnished with set-screws and a peculiar pair of lips or guides, to be used in castrating animals.

Claim.—The tourniquet clamps A, provided with the guide lips C, and operated by thumb screws B, substantially in the manner and for the purpose herein set forth.

65,408.—ROBERT MACKENZIE and JAMES COOPER, New York, N. Y.—*Fire Escape.*—June 4, 1867.—Explained by the claim and illustration.

Claim.—The fire escape consisting of the inclined track ropes C C, their upper ends secured to the cross-bar B of the window frame, their lower ends to the ground bar D, and forming tracks upon which the car E slides to the latter, being guided by the ears a a fitting around said track ropes, and operated by means of the hoisting tackle F G b, when all are constructed and arranged as described, for the purpose specified.

65,409.—CARLILE MASON, Chicago, Ill.—*Safety Valve for Steam Generator.*—June 4, 1867.—The safety valve has an additional lever connected with the valves proper, so that when any jar deranges the weight or takes it from the main lever, so much of it is transferred to the additional lever and the pressure on the valve maintained equal, notwithstanding the disturbance of the weight. When the valve is lifted by the steam the additional lever does not interfere with its action.

Claim.—First, the lever C, arranged substantially as and for the purposes specified.

Second, the weight supporter D E, provided with a spring k, substantially as specified.

Third, the catches i, when so constructed as to remain in position when the weight is elevated by the main lever, and to project when the weight is elevated from any external disturbance, substantially as specified.

Fourth, the arrangement of the spring k with the lever C, or their equivalents, so as to prevent the escape of steam whenever the weight is agitated from any cause, such arrangement being substantially as specified.

Fifth, the combination of the lever C and spring k with the lever B and weight F, substantially as specified.

Sixth, the combination of the lever C, rod or rods c, and lever B with the valve a, substantially as specified.

Seventh, the combination of the cylinder D and cap E with the spring k and rod h, substantially as set forth.

Eighth, the combination of the weight supporter D E, provided with a spring k and catches i, lever C, and rod c, with the lever B, cylinder A, valve a, and weight F, substantially as and for the purposes specified.

65,410.—WM. MATHEWS, Bridgeport, Conn., assignor to himself and L. W. EATON, same place.—*Ratchet Drill.*—June 4, 1867.—The winch is connected to the operating bevel wheel by two pawls, one of which engages a spur ratchet and the other a crown ratchet to allow rotation in either direction.

Claim.—The combination of the pawl F and dog H with the ratchet wheel G, when constructed and arranged to operate as herein described and shown.

65,411.—F. MCMANUS, Ellenburgh Center, N. Y.—*Axle for Wagons, &c.*—June 4, 1867.—The spindle of the axle is wound with wire, which comes in contact with the boxing of the hub.

Claim.—Winding the part of a wooden axle upon which the wheel revolves with metallic wire, substantially as herein shown and described and for the purpose set forth.

65,412.—WM. D. MENDENHALL, Farmington, Ill.—*Plow Share.*—June 4, 1867.—The mold board and share are a segment of a cylinder whose axis is parallel with the share edge.

Claim.—The method of forming or shaping any plow share or mold board, or both combined, with a concave surface of any desired radius and area extending from the breast c of the plow towards the opposite side d, or in a line parallel, or nearly so, to the cut of the share.

65,413.—S. S. MIDDLEBROOK, Sandy Hook, Conn.—*Felting Machine.*—June 4, 1867.—The frames carrying the endless aprons are reciprocated by pitmans and cranks, and belts on the crank wheels turn spur wheels actuating the lower rollers of the endless aprons.

Claim.—The combination of the endless aprons C C', reciprocating and revolving at different velocities, as and for the purpose described.

65,414.—HENRY F. MOORE and JAMES S. BLAISDELL, Medford, Mass., assignors to HENRY F. MOORE, same place.—*Hanging Wagon Seats.*—June 4, 1867.—The upper leaves of the hinges are secured beneath, and the under leaves to strips which are adjustable by pins on the edge of the wagon box: when in the forward position the seat may be folded over in front.

Claim.—So attaching the hinges C to the body and seat of the wagon that the seat will be allowed to

slide back and forth, substantially as and for the purpose described.

Also, in combination with the above, the pins h, or their equivalents, for locking the seat B in place, substantially as set forth.

65,415.—THOMAS MORRIS, McGregor, Iowa.—*Fence.*—June 4, 1867.—The ends of the panels are joined by entering the end rails of one between the upright slats of the next; notched braces protrude between the upper rails and stay the fence laterally.

Claim.—The panels A and braces C, constructed and combined with each other, substantially in the manner herein shown and described, and for the purpose set forth.

65,416.—M. A. MORTON and D. F. MORTON, Angola, N. Y.—*Fruit Gatherer.*—June 4, 1867.—At the end of the pole is a jaw and bag attached; another jaw is pivoted to the pole and actuated by a rod.

Claim.—A fruit picker, constructed and operating substantially as herein set forth.

65,417.—JOHN NEAL, Sheboygan, Wis.—*Churn.*—June 4, 1867.—The earthenware churn is set within a tub of tempered water; from the sides of the tub rise the standards which support the gearing, giving motion to the rotary vertical dasher.

Claim.—The combination of the earthenware vessel A and the metallic bearing posts H, substantially as set forth and shown, for the purpose of adapting revolving dashers operated by gearing to an earthenware churn.

Also, in combination with the dashers F, the stripper D, substantially as and for the purposes set forth.

Also, in combination with posts H and earthenware vessel A, the hinged cap h, constructed and operated substantially as set forth.

Also, connecting the bearing posts H to the earthenware vessel A by passing a shank of the post through a vertical hole in a suitable lug or projection and securing said shank by a screw nut, or its equivalent, substantially as set forth.

65,418.—A. F. W. NEYENBER, Philadelphia, Pa.—*Boiler Feeder.*—June 4, 1867.—The fall of water from the lower ends of the pipes allows the steam to enter the pipes and the floats to fall; this opens a passage for the steam to the doctor engine and sets it in motion, which continues until the water entering the tubes raises the floats and cuts off the steam from the said engine.

Claim.—First, the construction of the valve A, with reference to the orifice of pipe B, whereby the steam is allowed to flow through pipe B, for the purpose of blowing an alarm whistle attached to pipe C, and raising the piston D, substantially as set forth.

Second, the arrangement of valve A', piston D, lever E, support F, weight G, pipes H and I, substantially in the manner and for the purpose as described.

65,419.—WM. H. NOYES, Franklin, Pa.—*Pump.*—June 4, 1867.—The lower valve is reciprocated, the upper one is stationary and the pitman rod slides through it. The whole valve apparatus may be introduced or withdrawn by the pitman, a collar on the same pushing the upper valve box down to place.

Claim.—The pump herein described, constructed with the collar E', upon the plunger rod E, valved plunger C D, and a valve box G, adapted to be removed by the plunger C, and forced down into the converging pump barrel by the collar E', all substantially as and for the purposes herein specified.

65,420.—LEVERETT H. OLMSTEAD, Newark, N. J., assignor to WRIGHT & SMITH, same place.—*Tightening and Loosening Wheels on Shafts.*—June 4, 1867.—Radially sliding blocks in the shaft are driven out against the inside of the pulley hub, by the conical end of an axial screw pin.

Claim.—The combination and arrangement of the slide B, screw y and pin or block X, constructed and operating as described, for the purpose of tightening or loosening wheels on shafts, as set forth.

65,421.—P. PARADIS and R. REILLY, Rochester, N. Y.—*Center Plate for Stove Tops.*—June 4, 1867.—

The plates are divided, as stated, to prevent straining of the metal when expanded by heat.

Claim.—Dividing the center plates of cooking-stove tops transversely through the narrow portion and connecting them by loose or sliding joints, substantially in the manner and for the purpose herein shown and described.

65,422.—GARDNER R. PARKER, Worcester, Mass., assignor to DODGE & WELLINGTON, same place.—*Centering and Squaring Chuck.*—June 4, 1867.—Improvement on the patent of N. F. Newell, January 29, 1861. Two cutters are used for squaring up the end of the bar, whose inner corners support the drill. The drill is held in the slotted socket, whose segments are sprung together upon it by a set screw.

Claim.—The particular combination and relative arrangement of the head A, slotted thimble B, drill *a*, and cutters A', substantially as and for the purposes above described.

65,423.—W. F. PARKER, Meriden, Conn.—*Automatic Feeder of Bolt Blanks.*—June 4, 1867.—As the slide is reciprocated the shanks of the blanks drop into the slot and the blanks are carried out of the hopper down the incline.

Claim.—Beveling the upper and slotted end of the vertically moving bar, as described and shown, in order that the screw blanks may, by the force of gravity, slide off the end of said bar, substantially as set forth.

65,424.—THOMAS PATTERSON, New York, N. Y.—*Pump.*—June 4, 1867.—The oscillation of the piston draws the water alternately through each side opening and discharges it through the other. The piston is actuated by the segmental rack attached to a lever and engaging a spur wheel on the piston shaft.

Claim.—First, a pump having an oscillating piston I within the cylinder A, which cylinder is provided with a partition or abutment E, and connected with two channels *c* and *d*, all arranged substantially as described.

Second, the semi-cylindrical chambers *c d e* and *f*, provided with the valves *g h i* and *k*, and divided by means of a partition E, all substantially as set forth.

65,425.—CASSIUS C. PECK and FRANCIS E. ENGLEHART, New York, N. Y.—*Manufacture of Durogel.*—June 4, 1867.—Artificial ivory; composed of glue, sulphuric acid, bichromate of potash, and sulphide of calcium.

Claim.—First, the use of bichromate of potassa with the addition of mineral acids, such as sulphuric or sulphurous acid, and in combination with pentasulphide of calcium, or their respective equivalents, substantially as and for the purpose set forth.

Second, the use of chloride of lime in addition and combination with common glue, substantially as set forth.

65,426.—RUFUS PEET, Castile, N. Y.—*Subsoil Plow.*—June 4, 1867.—The share and wearing parts of the landside and sole are made detachable for removal.

Claim.—First, the combination of the parts E F G H with each other and with the upright D and standard B, said parts being constructed and arranged substantially in the form and manner herein shown and described and for the purposes set forth.

Second, forming a projection *d* upon the landside of the forward edge of the upright D, substantially as herein shown and described and for the purpose set forth.

65,427.—HENRY PITCHFORTH and WM. BENSON, Muscatine, Iowa.—*Machine for Destroying Potato Bugs.*—June 4, 1867.—The reel whips the bugs from the vines, and they are crushed between the rollers in the box beneath the hopper.

Claim.—First, the combination of the reel P, hopper O, and rollers K with each other, substantially as herein shown and described and for the purpose set forth.

Second, operating the rollers K, from the drive wheel C, by means of the gear wheels E F N M L, substantially as herein shown and described.

Third, operating the reel P, from the rollers K, by means of the band R and pulleys S and T, substantially as herein shown and described.

65,428.—WM. H. POLLARD, Seneca Falls, N. Y., assignor to JAMES H. GOULD, same place.—*Axle Box.*—June 4, 1867.—The box has circumferential corrugations at each end and serrated leathers at the larger end, all to give firm bearing to the hub.

Claim.—The box A, provided with the corrugations *a a*, operating in connection with the hub, as herein set forth.

65,429.—FREDERICK B. PORTER, Detroit, Mich.—*Telegraph Signal Key.*—June 4, 1867.—An additional point of metal is placed above the key, similar, and connected similarly to the ordinary one beneath, so that the key can be worked in both directions, usually alternately, beginning, generally, with a downward movement after each pause.

Claim.—First, the supplemental point, or its equivalent, for the completion of the circuit O, connected, arranged, and operating substantially in the manner and for the purpose described.

Second, the additional spring, or its equivalent, R, arranged, and operating substantially in the manner and for the purpose described, in combination with the above.

65,430.—G. W. PUTNAM, Peterboro', N. Y.—*Dredging Box.*—June 4, 1867.—The box has a transverse partition containing a valve, and has side perforations.

Claim.—The sprinkle, consisting of the vessel A, having valve E and cross partition D, forming compartments B C, substantially as described.

65,431.—WM. H. RAGAN, Fillmore, Indiana, assignor to himself and N. R. JONES, Terre Haute, Ind.—*Cheese Press.*—June 4, 1867.—The screw is socketed in the follower and rotated by a fixed spur wheel, which engages the elongated pinion. The platforms rest on horizontal rails, on an inclined bed, having rollers resting on the latter during part of their movement towards the press.

Claim.—First, the arrangement of the vertical screw C in the frame A, in combination with the elongated pinion *p*, actuating it by means of the spur wheel *p'*, substantially as and for the purpose herein specified.

Second, the inclined bed E, provided with level rails *d d*, in combination with the platform *h*, arranged and operating substantially as and for the purposes set forth.

65,432.—JOHN RALSTON, Slippery Rock, Pa.—*Sheep Shears.*—June 4, 1867.—One of the arms carries a three-pointed cutter and the other is pivoted to and actuates the pivoted-cutter blade.

Claim.—First, the cutter C, when pivoted to the face of the cutter A and secured to the spring B, substantially as and for the purpose herein shown and described.

Second, the stationary notched bar A, when secured to the spring B, in combination with the movable cutter C, which is pivoted to the plate A and secured to the slotted end *e* of the opening B, all as set forth.

65,433.—WM. H. RANNELS, Oakland Mills, Pa.—*Harness Pad Block.*—June 4, 1867.—The pad leather is placed on the form, and the presser brought down upon its edges and clamped in place by the hinged link.

Claim.—The bow presser B, having its legs curved outwards and hinged to oblique staples *g g*, in combination with the block A, when constructed as herein specified.

65,434.—J. C. RICHARDSON, Benton, Maine, assignor to himself and WM. SIMPSON, same place.—*Potato Digger.*—June 4, 1867.—The machine is drawn across the rows, and when the digger teeth are inserted beneath the potatoes the axle is thrown around by the hand lever, to deposit the potatoes and earth upon the screen—an attendant raking the former into a box, the latter falling through the screen.

Claim.—First, attaching the teeth D of the digger

directly to the axle A of the machine, substantially as herein shown and described.

Second, operating the digger to lift the potatoes from the ground by means of the lever J attached to the axle A, substantially as herein shown and described.

Third, the combination of the screen G and receiving box H with the axle A and teeth D, substantially as herein shown and described and for the purposes set forth.

65,435.—F. RICHTER, Milwaukee, Wis.—*Pump*.—June 4, 1867.—The valve box is upon the side of the cylinder and contains an air chamber. The pump is double acting, the two pairs of valves being so arranged that while one end of the cylinder is filling the other is discharging, and *vice versa*.

Claim.—The arrangement of cylinder B, plunger L, valve chest C, and valves H with the water passages and air chamber K, as described.

65,436.—JOHN L. RILE, New York, N. Y., assignor to ASA L. SHIPMAN, same place.—*Paper for the Manufacture of Letter and Invoice Files*.—June 4, 1867.—The paper is prepared by coating one-half of each surface with mucilage in narrow strips. The coated strips on one side come opposite to the bare strips on the other.

Claim.—The preparation of paper and other similar sheets in the manner substantially as described and for the purposes specified.

65,437.—HENRY F. ROBERTS, Fayette City, Pa.—*Steam Engine*.—June 4, 1867.—The steam is exhausted from the smaller cylinder into the larger one, and acts on the piston therein, both by pressure and condensation.

Claim.—The large steam cylinder D, furnished with a piston and piston rod, and with the pipes k and m for admitting and discharging water alternately at its opposite ends, in combination with a high-pressure steam cylinder A, when such cylinders are connected together by exhaust steam pipes ff', substantially as and for the purposes hereinbefore described.

65,438.—J. H. SARDAM, Wellington, Ohio.—*Feather Cleaning Machine*.—June 4, 1867.—The rotating cylinder has doors for ingress, and contains steam pipes which may communicate with the inside of the cylinder by valve ports. The steam passes through the tubular journals of the cylinder.

Claim.—First, the pipes E, provided with holes H and valve I, as arranged, in combination with the central pipe E' and chambers E P', for the purposes and in the manner as described.

Second, the chambers F F' and pipes E E', in combination with the cylinder A, pipes G and G', and faucet R, as and for the purpose set forth.

65,439.—J. W. SHIVELEY, New York, N. Y.—*Railway Chair*.—June 4, 1867.—Improvement on his patent, July 10, 1866. The web of the rail is transversely slotted to embrace a rib upon one of the cheek pieces. The said rib has tenons which traverse the other cheek piece transversely and are secured by keys. The upper flange of the rails is partially cut away, counterpart inner projections of the cheek pieces entering these cavities. The rail ends are scraped together.

Claim.—First, the recesses in the rail ends, in combination with a cheek bar which fits into said recesses, substantially as and for the purpose herein shown and described.

Second, the combination of the longitudinal rib f, its equivalent with the cheek bar, substantially as and for the purpose herein shown and described.

Third, making the cheek bars B and B, and central rib f, one piece, with the chair C, substantially as and for the purpose herein shown and described.

65,440.—NELSON SYLVESTER, Weymouth, Ohio.—*Horse and Cattle Poke*.—June 4, 1867.—The tongue is held to a forward inclination by the spring, but when pressed against the fence, swings downward and uncovers the spikes, which are otherwise hidden in the cross-piece.

Claim.—The spring E, plate F, and spikes e, in combination with tongue C, cross-piece D, pin b, and bow A, substantially as and for the purpose set forth.

65,441.—S. D. SIMMONS, Brooklyn, N. Y.—*Bread Cutter*.—June 4, 1867.—Improvement on his patent, July 25, 1865. The knife is attached to the pivot bar and has a draw cut on the loaf set to a gauge on the box cover. The slices fall into the open compartment.

Claim.—The box A, provided with two compartments b b', in combination with the knife B, having the bar D attached about at right angles with pivots e, at its end, to work in bearings f, and a slit or space e, allowed at the top of the box for the knife, as it is brought down to work into the compartment d', substantially as and for the purpose specified.

65,442.—THOMAS P. SINK, Fairton, N. J.—*Roller for boarding Oyster Dredges*.—June 4, 1867.—Explained by the claim and illustration.

Claim.—The right and left hand screw roller, as attached to the gunwale of an oyster boat, for the purpose of boarding an oyster dredge, as herein described.

65,443.—GEORGE SPRAGUE, Spring Hill, Kan.—*Machine for Marking Corn Ground*.—June 4, 1867.—Of the four marking wheels the outer ones are axled on hinged wings and may be thrown up by levers.

Claim.—First, the hinged side wings E E, with wheels B' B', on their outer ends, combined with the truck frame A, with wheels B B, and levers a a, arranged and operating substantially as and for the purpose described.

Second, the guide rod d, on the tongue D, and the measuring line e, in combination with the truck frame A, employed as herein described.

65,444.—ROBERT STUART, Elmira, N. Y.—*Engine Governor*.—June 4, 1867.—The governor weights are attached to the elliptic springs at midlength and operate by the longitudinal contraction of the springs to decrease the ports of the throttle valve.

Claim.—First, the elliptical springs E E, and hinges c c, when attached to cross heads C D, constructed and operating as described and for the purposes set forth.

Second, the weight balls G, operating in combination with axes o, and hinged springs E, substantially as and for the purposes described.

Third, the combination and arrangement of the hinged springs E E, and cross heads C D, hollow shaft B, and valve-rod A, constructed and operating as described, and for the purposes set forth.

65,445.—CURTIS R. STICKNEY, Hartford, Conn.—*Match Box and Candlestick Combined*.—June 4, 1867.—The matches and candle are carried in parallel cases, and the cover of the former is adapted to protect the wick.

Claim.—First, the combination of a match box and a self-acting candlestick, when formed of two parallel tubes, substantially as herein set forth.

Second, the combination of the tube e with the outside shell d, and the cover D, substantially as herein described and for the purpose set forth.

Third, the cover D, having a receptacle for the wick of the candle, substantially as herein described.

Fourth, the placing of the roughened surface E in such a position that one of the tubes shall serve as a guide for the match when passed over its surface, substantially as herein described.

65,446.—EDWIN D. STURDEVANT, Germantown, Ohio.—*Revolving Stand for Pictures*.—June 4, 1867.

—The revoluble frame has several stories, and its various panels afford frames for the display of pictures.

Claim.—First, the rotary frame g' g', pivoted in the manner described, when arranged upon revolving chambers, substantially as and for the purpose specified.

Second, the series of revolving chambers furnished with brackets h h, and arranged to exhibit two or more tiers of rotary double picture frames, substantially as and for the purpose specified.

65,447.—SEMAN TABER, St. Joseph, Mo.—*Lifting Jack*.—June 4, 1867.—The foot of the standard and the hook of the lifting bar are inserted beneath the rail; the latter is raised by depressing the lever, which is suspended by a link from a tooth on the

rack of the standard. Spring pawls engage the rack to maintain the position attained.

Claim.—The construction and arrangement of the pawls or dogs F I, springs G M and *t*, levers H, lifting hook D, bar B, and socket K in the handle L, substantially as described for the purpose specified.

65,448.—VERLIN G. TANSEY, Quincy, Ill.—*Fire Kindler.*—June 4, 1867.—The wick receives burning fluid from the reservoir and sponge and is lighted and placed under fuel to kindle it.

Claim.—An improved fire kindler, constructed and arranged substantially as herein shown and described and for the purposes set forth.

65,449.—ISAAC C. TATE, New London, Conn.—*Vise for Holding Wood.*—June 4, 1867.—The bulb on the stem of the vise is held in a socket whose portions are clamped upon it by a set screw. The vise has thus a universal motion within a given range, to present the work as required.

Claim.—The universal joint D, constructed as described, consisting of the shank A, arm B, to which the cup lever C is pivoted and adjusted by means of the set screw *b*, adapted to support and adjust the ball G in any desired position, substantially as described for the purpose specified.

65,450.—HENRY THOMPSON, Rockland, Me.—*Windlass for Vessels.*—June 4, 1867.—The chain as it comes on board passes over a roller which is supported on a standard and moved by one of the pawl cases to which it is attached, so as to push the coil away by a succession of impulses and prevent the overriding of the chain.

Claim.—The arrangement as well as the combination of the vibratory standard F and its roller *c*, or the equivalent thereof, with the windlass A and one of its pawl cases C C, so as to be operated by such pawl case, substantially in the manner and for the purpose as hereinbefore specified.

Also, the combination and arrangement of the vibratory standard F, its roller *c*, or the equivalent thereof, the stay G, and the connection bar *d*, as described, the whole to be applied to the deck and windlass of a vessel, and the pawl case of such windlass of a vessel, substantially as and for the purpose hereinbefore explained.

65,451.—THEODORE R. TIMBY, Saratoga Springs, N. Y.—*Ventilating Door.*—June 4, 1867.—Explained by the claim and illustration.

Claim.—Ventilating rooms by means of the holes *a* or slots *a'* at the top or bottom of doors, provided upon each side with beveled or hollowed-out deflectors B or B', immediately above the said holes and projecting over them, substantially as herein shown and described.

65,452.—WM. H. TOPHAM, New Haven, Conn., assignor to himself and PECK, BROTHERS & Co., same place.—*Motor Regulator and Register Attachment for Organs.*—June 4, 1867.—To operate the bellows by water-power. The valve is connected to stops by which the power is regulated by the organist. The rising top of the bellows is connected by toggle levers to the connecting rod of two bell cranks, to change their position and regulate the flow of water through the valve.

Claim.—First, the combination of the plates K K with the plug G and cylinder D of the valve, substantially in the manner and for the purpose herein set forth.

Second, in combination with the plug G and its spindle H and bearing I, the cap *h*, and the nut or nuts upon the spindle, substantially as and for the purpose set forth.

Third, the combination of a regulator valve with an organ register V, when constructed and arranged so as to operate substantially in the manner set forth.

Fourth, the combination of the rod W, the register V, and the rod R, with a regulator valve and the bellows, when constructed and arranged so that the register operates substantially as set forth.

65,453.—J. F. TROXEL, Bloomsville, Ohio.—*Steam Engine.*—June 4, 1867.—The headless cylinder has three pistons, the outer two of which are attached to the axial piston rod which is connected to one

arm of an oscillating lever. The other piston has two rods attached to a cross-head which is connected to the other arm of the oscillating lever, said lever being connected to the crank. The outer pistons move the slide valve by pins in the same which enter the cylinder through slots.

Claim.—First, the special arrangement of the pistons B B', rods C C', cross-head G, and links F, in combination with the lever D, link H, and crank wheel I, for the purpose and in the manner substantially as described.

Second, the sliding valve *a*, as arranged in combination with the pistons B B', and operated in the manner as and for the purpose herein substantially set forth.

65,454.—SAMUEL VANSTONE, Providence, R. I., assignor to himself and JOHN STUART, same place.—*Making Car Wheels.*—June 4, 1867.—The rim and web of the wheel are forged from wrought-iron, and the hub cast thereto.

Claim.—Constructing a car wheel by first forging or stamping the part B with the lugs C around the central hole *b*, and then casting the hub thereon, substantially as described.

65,455.—ENOCH WAITE, South Natick, Mass.—*Felting Machine.*—June 4, 1867.—The material is placed on a feed apron, passes between two fluted rollers to a card cylinder, and is then taken between two endless aprons over the series of tables, and beneath the longitudinally and transversely reciprocating platens. A circumferentially grooved roller rests upon the endless apron and card cylinder housing, to arrest flying filaments blown up by the said cylinder and transfer them to the card surface.

Claim.—The combination of the card cylinder, the feeding mechanism, the carrying aprons, and one or more felting tables, and the platen or platens thereof, working longitudinally of the machine, the whole being arranged substantially as described.

Also, the combination of the transversely-grooved roller N, the card cylinder, the carrying aprons, and one or more sets of felting beds or platens, arranged substantially and so as to operate as specified.

Also, the combination of one or more sets of felting platens and mechanism for moving them transversely to the sheet of felt, with one or more sets of such platens and their mechanism for moving them longitudinally of the sheet or felt, the whole being substantially as and for the purpose as hereinbefore described.

Also, the combination of the feeding mechanism, the card cylinder, the two endless aprons, the beds, and longitudinally and transversely-working platens, provided with machinery for operating them, substantially as described.

65,456.—ENOCH WAITE, Franklin, Mass., assignor to himself and THE ELLIOTT FELTING MILLS, same place.—*Machine for forming Bats for Felting Wadding, &c.*—June 4, 1867.—The mechanism of the endless apron, and that of the auxiliary carder are so connected that the transverse bat will be delivered fairly on the other. The doffer of the auxiliary carder has a portion of its circumference equal to the width of the endless apron, unclothed. The bat is taken from the doffer of the feed roller and carried to the transverse card-clothed bars of endless belts running at right angles to and over the endless apron. The bat is removed from the card bars by a frame which is automatically depressed upon it.

Claim.—The combination of the endless apron C, and the feeding drum I, of the auxiliary carding engine, by or with mechanism, whereby the speed of the said drum may be controlled by, or increased or diminished with, that of the apron, substantially as and for the purpose specified.

Also, the endless carrier and the striker made and arranged in manner and provided with mechanism for operating them as described.

Also, the application of the projections of the striker to their bars by hinges, or mechanical equivalents therefor, in order that the projections may vibrate or move relatively to the bars so as not to impede the motion of the carrier.

Also, the combination of the endless apron C, the feeding drum I, and the doffer H, by or with mechanism whereby the speeds of both the drum and doffer are

varied with that of the endless apron, the same being for the purposes or objects explained.

65,457.—ADAM WEBER, New York, N. Y.—*Kiln for reburning and purifying bone black.*—June 4, 1867.—For revivifying bone charcoal. The furnace is erected on iron pillars. The retorts are so arranged in relation to each other and the fire flues that the heat is retained in contact with the retorts until it escapes to the chambers under the drying floor. The retorts are suspended on hanging rods.

Claim.—First, the columns *A'*, having cast upon their upper ends the plates *s*, in combination with the angle plates *p p*, supporting the fire bricks *q q*, the bed plates *a a*, and ash pan *L*, substantially as described for the purpose specified.

Second, the arrangement of the inclined partitions *h h* between the single retorts *D D*, and cast upon them and between the fire spaces *k k* and *m m*, in the rear of said retorts, substantially as described for the purpose specified.

Third, the horizontal fire flues *K K'*, and dampers *n n*, in combination with the retorts, substantially as described for the purposes specified.

Fourth, the hanging rods *e*, extending in sections from front to rear under the coolers, and suspended from the plates *a*, by means of the hangers *d*, arranged to support a series of retorts, as herein set forth for the purpose specified.

Fifth, the suspended iron ash pan *L*, in combination with the furnace *C*, substantially as described for the purpose specified.

Sixth, the flanges *v*, cast upon the upper ends of the lower sections of the retorts *E*, arranged in such a manner as to form partitions between the upper retorts and lower retorts *E* and *E'*, substantially as described for the purpose specified.

65,458.—WENDELIN WEIS, St. Paul, Minn.—*Apparatus for the Manufacture of Vinegar.*—June 4, 1867.—Improvement on his patent, March 5, 1867. The vertical series of shelves incline alternately in contrary directions, having passages on their lower sides for the overflow of the liquid, over which the hot and cold air is passed. The sides of the case open for convenience of cleaning.

Claim.—The vinegar apparatus which is constructed so that the vinegar and the air pass in zigzag lines over and around shelves *B*, in opposite directions to each other, and which is provided with hot and cold air pipes, and with removable end boards or such that can be opened, all substantially as and for the purpose herein shown and described.

65,459.—ABEL WHITLOCK, Danbury, Conn.—*Lamp Burner.*—June 4, 1867.—The flexible band passes through a loop on one side of the burner, and is tightened by a screw on the other side. It rests upon a foot flange of the chimney to maintain the latter in position.

Claim.—The flexible strap *B*, in combination with the screw *F*, or its equivalent for the purpose set forth.

65,460.—JOHN B. WILLETT, West Meriden, Conn.—*Plate Lifter.*—June 4, 1867.—The hooked arms pass through holes in the head plate of the handle and their upper ends are attached to the spring lever whose depression by the thumb draws up and contracts the hooks upon the plate.

Claim.—The combination of the handle *A*, the lever *D*, and hooked arms *C*, three or more constructed and operating substantially in the manner as herein set forth.

65,461.—EDWARD F. WOODWARD, Brooklyn, N. Y.—*Coffee Pot.*—June 4, 1867.—Improvement on his patent, March 25, 1862. The percolator is for use in an ordinary coffee pot. The heated water ascends through the central conical tube and is discharged through the foraminous plate, upon the coffee, from whence it drains, and again follows the same course.

Claim.—The detached fountain percolator constructed as described, consisting of the taper metal tube *A*, upon the inverted cup *B*, and supporting the cylindrical cap *C*, with the perforated bottom, through which the taper tube *e* passes, tube *i*, cap *D*, with the perforated plate *g*, tube *E F*, branch tubes *h'*, cup top *F*, and cover *k*, combined and operating substantially as described for the purpose specified.

65,462.—CHARLES F. WORCH, New York, N. Y.—*Apparatus for Destroying Moths.*—June 4, 1867.—The air-tight receptacle has a heating compartment below and a heated compartment above in which the infested article is placed and kept heated to 120° F., for a few hours.

Claim.—First, an apparatus for destroying moths that is made and operated substantially as herein shown and described.

Second, the device for regulating the heat in the box *A*, consisting of the box *E*, pipes *G* and *H*, dampers *a* and *c*, and door *F*, all made and operating substantially as shown and described.

Third, the use of the air-tight boxes in which racks or shelves *B*, are arranged for holding furniture and clothing from which all the moisture is removed without an excessive heat.

65,463.—JOHN ASHCROFT, New York, N. Y.—*Steam Engine Lubricator.*—June 4, 1867.—The cap has an annular rib which is pressed to the rubber ring in the cup edge by the projection and screw of the cap which engage a shoulder of the cup.

Claim.—First, the lid, or cover *B*, constructed and operating in the manner substantially as shown and described, and for the purpose set forth.

Second, the combination of cover *B*, and cup *A* constructed, arranged and operating in the manner substantially as shown and described and for the purpose set forth.

65,464.—HENRY B. BARBER, Scott, N. Y.—*Press.*—June 4, 1867.—The ratchet bar is fixed and is engaged by two pawls which are attached to sliding plates of the follower. These plates are actuated by a lever and each pawl operates alternately as a holder and a mover. When fully depressed a transverse key may be driven above the follower when the sliding plate and lever may be withdrawn for use upon another press.

Claim.—The sliding plate *C*, with its pawls *a e*, and eccentric lever *D*, when used in combination with the rack bar *B*, and follower *D*, and frame, substantially in the manner and for the purpose set forth.

65,465.—JOSHUA B. BARNES, Fort Wayne, Ind.—*Pipe and Stud Wrench.*—June 4, 1867.—The end of the handle has a serrated portion to form one jaw, in opposition to the pivoted jaw, whose position is maintained by a pawl engaging another serrated portion on the same end of the handle as the former.

Claim.—First, the handle *a* when the back portion of the upper end shall be provided with a rack, in combination with jaw *e* as and for the purpose specified.

Second, the pawl *d*, spring *e*, all combined and operated as and for the purpose described.

65,466.—E. E. BEAN and W. H. MUMLER, Boston, Mass., assignors to themselves and NATHANIEL CUMMINGS, same place.—*Lighting Gas by Electricity.*—June 4, 1867.—When the electric connection is made the rock shaft is vibrated, releasing the detent on the wheel, and also the escapement, allowing the train of clock gearing to rotate the gas cock 90°, turning the gas on or off as the case may be. The lighting wires are insulated by a non-conducting sleeve around the burner tip, and are connected to a separate circuit of wires by which the ignition is accomplished.

Claim.—First, in combination with the escape wheel *p*, the arm *n*, rock shaft *f*, and the detent *e*, when constructed and operated in the manner substantially as described.

Second, the non-conducting sleeve *H*, having the wires *l m* imbedded therein, in combination with the tip of the burner, substantially as described.

Third, imbedding the wires *l m* in a sleeve *H* of non-conducting material, surrounding the tip of the burner, or in the non-conducting tip of the burner itself, substantially as and for the purpose set forth.

65,467.—JOHN BELLERJEAN, Philadelphia, Pa.—*Lamp Chimney.*—June 4, 1867.—Explained by the claim and illustration.

Claim.—First, the metal chimney *E*, when supported by upright bars *D* and secured to an annular plate *C*, substantially as and for the purpose herein shown and described.

Second, a lamp chimney, consisting of the lower

glass or transparent chimney F and the upper metal chimney E, which are so arranged that the same do not come in direct contact with each other, substantially as herein shown and described.

Third, the glass chimney F in combination with the metal strips or bars D, arranged inside of the glass chimney, substantially as herein described, for the purpose specified.

65,468.—INNOCENT ANTONY BEGRATH, Nashville, Tenn.—*Toilet Powder.*—June 4, 1867.—The white clam or mussel shell is burnt and powdered for a cosmetic.

Claim.—The manufacture of this particular toilet powder, and from the material as herein set forth.

65,469.—VIRGIL W. BLANCHARD, Bridport, Vt.—*Stone Channelling Machine.*—June 4, 1867.—The frame is mounted on car wheels. The free end of its jointed section is supported by set screws engaging an arm pivoted to that section at the upper end and axled to a car wheel at the other. This section carries the rotating chisels and saws.

Claim.—First, the employment of a hinged frame when used substantially as and for the purpose set forth.

Second, the employment of one or more chisels, or one or more saws, to which a rotary motion is given for the purpose of channelling petrous substances, when attached to a hinged frame, substantially as described.

Third, the employment of a hinged frame to which are attached an elevating arm or arms and springs, as and for the purpose specified.

Fourth, the employment of a feed apparatus in combination with a hinged frame, substantially as and for the purpose described.

Fifth, the tooth rack L, on the track upon which the frame rests, in combination with said frame, substantially as set forth.

Sixth, the employment of the lever I, cog wheel H, when used as and for the purpose specified.

Seventh, in combination with the above the screw shaft E, substantially as and for the purpose set forth.

65,470.—P. BLOOMSBURG, Jr., and J. MOLYNEUX, Bordentown, N. J., assignors to BORDENTOWN MACHINE COMPANY.—*Rotary Valve for Steam Engines.*—June 4, 1867.—The valve has three disks. The inner one is actuated by the stem, and directs the passage of steam to and from the cylinder. The intermediate disk is fixed. The outer disk is fixed to a sleeve on the stem, and connected thereto by a pin that traverses a spiral groove in the sleeve. The longitudinal movement of the stem by adjusting collar, or governor, changes the relative position of the two outer disks and regulates the cut-off.

Claim.—First, a rotary valve composed of the disk F, with its passage *f* and opening *h*, and the disk D, with its opening *l*, in combination with the within described ports in the valve face of the cylinder, and the intermediate disk E, with its openings *j* and *j'*, the whole being constructed and operating substantially as and for the purpose herein set forth.

Second, the disk F and spindle G, with its vertical slot *g*, in combination with the disk D, the tubular spindle H and its spiral slot, and the adjustable collar I, the whole being arranged for altering the relative positions of the said disks, substantially as set forth.

65,471.—WM. F. BROWNE, Washington, D. C.—*Apparatus for Stacking Hay and Grain.*—June 4, 1867.—The haystack is built upon an elevated platform, which furnishes shelter for stock. The mast, crane and ladder, and incidents of the stack-building are explained by the claim and illustration.

Claim.—The combination and arrangement of the sheltering platform, the mast with its elevating crane, and the ladder for ascending the mast or stack, substantially as and for the purposes herein specified.

65,472.—R. W. CARPENTER, Brattleboro', Vt.—*Tremolo Attachment for Melodeons, &c.*—June 4, 1867.—The rotary valve of cut-off form is arranged within the main swell, is applicable to blast or suction, and is set in motion by a tremolo stop worked by a wheel and air blast.

Claim.—The attachment to a melodeon or other wind instrument of like character of a rotary tremolo

valve or swell, constructed to form an intermittent cut-off to the current and arranged to control the same in its action on the reeds, substantially as specified.

65,473.—THOS. J. CHUBB, Brooklyn, N. Y.—*Making Steel Direct from Ore.*—June 4, 1867.—Fully explained by the claims.

Claim.—First, treating purified iron sands or mechanically purified ore, by preparing, mixing, forming, or packing it into lumps, balls, or cylinders, and afterwards deoxidizing, carbonizing, melting, casting, and hammering or rolling the same at one, or continuous though varying, heat, substantially as described.

Second, the combination of the furnace A with the melting pot or chamber A', constructed and arranged for deoxidizing, carbonizing, converting, and melting iron ore into steel or metal having some of the properties of steel, substantially as described.

Third, preparing, mixing, and forming iron ore into lumps, balls, or cylinders, and packing the same into casings made of clay, cast or sheet iron, or any suitable material, for the purpose or purposes specified and substantially as described.

Fourth, the employment of a long, narrow, nearly horizontal or slightly inclined chamber A, so constructed that ore in the form of lumps, balls, or cylinders may be fed in at one end of the said chamber or furnace and discharged at the hollow end in the form of steel sponge, chemically changed as to the volatile matter combined with or contained in the said ore or metal, substantially as described.

Fifth, the employment of a long, narrow chamber A, so constructed that it may be opened or closed at either end by gates, or their equivalents, for the admission of the substances to be melted or converted into cast steel or similar metal, and for the admission and discharge of air and gases, and for manipulating with bars or otherwise the substances under treatment therein, said chambers being also provided with a tap hole and suitable movable partitions, or their equivalents, substantially as described.

Sixth, the arrangement of a mold chamber H, in combination with a melting chamber A', substantially as and for the purposes described.

Seventh, converting purified iron sands or mechanically purified iron ore into steel sponge or into a deoxidized spongy mass, by aid of a gas or gases arising from a gas generator when the same is passed through a reheating operation, substantially as described.

Eighth, the combination of a gas-generating furnace or apparatus, or passage leading therefrom, a gas and air heating or a heat reclaiming or regenerative furnace and apparatus with a chamber or chambers employed for chemically changing the volatile matter combined with iron ore or iron sponge, substantially as described.

Ninth, the combination of a gas-generating furnace or passage leading therefrom and a reheating or regenerating furnace and apparatus with a mold chamber H, for the purpose of heating or reheating this chamber, the mold or ingot or casting therein, for the purpose or purposes specified and substantially as described.

Tenth, the employment of intensely heated molds for casting ingots therein, when employed for retaining the heat in the castings preparatory to and for hammering or rolling the same, substantially as described.

Eleventh, the employment in a heated mold, while casting or pouring the melted metal therein, of gas or gases for excluding the atmospheric air therefrom, substantially as described.

Twelfth, the combination of a gas-generating furnace or apparatus operated in connection with a gas and air-heating or a heat-regenerating apparatus with a deoxidizing and carbonizing furnace or chamber for the purpose of heating the same, substantially as described.

Thirteenth, the combination of a gas-generating furnace operating in connection with a gas and air-heating or a heat-regenerating apparatus with a deoxidizing and carbonizing furnace or chamber, for the purpose of heating the same, substantially as described.

Fourteenth, the combination of a gas-generating furnace operating in connection with a gas and air-heating or regenerating apparatus with a melting

chamber, furnace, or pot employed for melting or reducing steel sponge and deoxidized sponge or carburet of iron in the form of sponge into cast steel, or metal similar to or having some of the properties of cast steel, substantially as described.

Fifteenth, the combination of a gas-generating furnace or apparatus, or passage leading therefrom, with a stationary chamber for deoxidizing magnetic proto or peroxide of iron containing or not the oxide of titanium or other metal or refractory matter.

Sixteenth, the combination of a gas-generating furnace or apparatus, or the passage leading therefrom, with a stationary chamber for reducing, heating, or melting of deoxidized sponge or ore in the form of sponge.

Seventeenth, the combination of a gas-generating furnace or apparatus, or passage leading therefrom, with a chamber for heating molds or the castings in the chamber in which they are formed.

Eighteenth, the combination of a gas-generating furnace or apparatus, or passage leading therefrom, with reheating tubes, or a chamber containing heated tubes, constructed for and applied to the deoxidizing, heating, melting, or reduction of ores or metallic substances containing iron and in the form of sponge, before, during, or after such treatment or treatments, substantially as described.

Nineteenth, the employment of a heat-reclaiming or a heat-regenerative furnace or apparatus, in combination with a chamber employed for heating a vessel or crucible containing iron ore or metallic sponge, converting, cementing, and melting the same into steel.

Twentieth, the combination of a heat-reclaiming or heat-regenerative furnace, or apparatus with a stationary vessel or chamber or chambers, employed for converting, melting, and cementing steel or metallic substances into steel.

Twenty-first, the immersion of steel sponge or carburet of iron sponge into a bath of molten steel, or metal similar in nature or quality to the sponge, so that the sponge may be melted and also a homogeneous liquid mass formed of it and the metal constituting the bath, substantially as described.

65,474.—DANIEL C. COLBY, Washington, D. C.—*Coffee Can and Crusher.*—June 4, 1867.—The coffee mill forms a base for the canister above and is charged therefrom.

Claim.—Combining with a coffee canister a grinding or crushing device of any desired structure, substantially as described and set forth.

65,475.—WM. DAVIS, Portland, Me.—*Beverage.*—June 4, 1867.—Composed of water, 1 gall.; sugar, 7 lbs.; essence of lemon, 64 oz.; citric acid solution, 1 oz.; tincture of ginger, 1 oz.; carbonate of magnesia, 2 oz. Fill into bottles containing 2 oz. simple sirup and charge with carbonic acid.

Claim.—The compound of ingredients herein specified, for a beverage, as set forth.

65,476.—FREDERICK W. DEVOE, New York, N. Y.—*Can and Box for Paints, &c.*—June 4, 1867.—The external groove forms a seat for the gasket, which is pressed by the rim of the can against the external bead.

Claim.—The groove *a*, external rib *b*, and gasket *c*, arranged in relation with each other and with the upper part *a'* of the body *A*, and the rim *b'* of the cover, substantially as herein set forth for the purpose specified.

65,477.—JAMES F. DRUMMOND, New York, N. Y.—*Can or Box for Holding Paints, &c.*—June 4, 1867.—The can has protruding and intruding circumferential beads. The rim of the cover fits down over the latter and forms an air-tight closure; being cut around at that level it subsequently forms a lid.

Claim.—First, the circumferential groove *a*, in combination with the overlapping rim *d* of the cover, and the soldered joint *a'*, substantially as herein set forth for the purpose specified.

Second, the external circumferential rib *b*, arranged with reference to the groove *a*, rim *d*, and soldered joint *a'*, substantially as herein set forth for the purpose specified.

65,478.—WM. H. ELLIOT, New York, N. Y., assignor to LOWELL L. JOHNSON, Binghamton, N. Y.—*Hay Loader.*—June 4, 1867.—The belt is run by power derived from the ground wheel, and the weight throws the windlass drum into action to lift the fork and its load.

Claim.—First, the combination of the swinging frame *g*, or its equivalent, a lifting rope *m*, and an elevating fork, so arranged that the loaded fork will operate the frame to produce the necessary friction to raise the load while said frame will drop, and the elevating mechanism cease to act, when the fork is unloaded.

Second, the combination of the lifting rope *m*, swinging frame *g*, pulley *h*, belt *k*, and tightening pulley *l*, arranged and operating substantially as described.

Third, the stop *m'* upon the rope *m*, in combination with ring *n'* and swinging frame *g*, for the purpose of decreasing the friction at the proper moment, so as to hold the fork suspended, as set forth.

Fourth, constructing a tripping fork so that it may be released for the discharge of the load by simply turning its handle and pressing against the same.

Fifth, the combination of the spring catch *r*, head *p*, and handle of the fork, substantially as and for the purpose set forth.

65,479.—HENRY FEYH, Columbus, Ohio, assignor to himself, GEORGE T. EMERY and WM. B. HAWKES, same place.—*Steam Generator.*—June 4, 1867.—Improvements on his patents Nos. 60,496 and 60,870. The pipes are inclined upward and forward and connected in front by coupling pipes running rectangularly to them; the lower ends of the coupling pipes are exposed outside the fire front, and are stopped with screw-plugs. The lower ends of the main pipes extend outside the furnace and have coupling caps, by whose removal they are exposed for cleaning.

Claim.—First, the arrangement of inclined pipes or cylinders of different diameters or capacities, communicating as described, for the purpose of producing a forced circulation of water in all parts when exposed to the action of heat, substantially in the manner shown.

Second, the arrangement of pipes *G H* with pipes *D* and *E*, the ends of said pipes projecting outside of the furnace walls, substantially as and for the purpose described.

Third, the arrangement of ball couplings *J*, and pipes *G H*, said pipes being of different diameters and in communication with one another by means of the chamber on which the ball-joint seats for the pipes are formed, substantially as and for the purpose herein described.

Fourth, a steam superheater *A*, in conjunction with a steam generator operating upon the principle substantially as specified.

Fifth, a steam receiving chamber *B*, in combination with a series of pipes of different diameters connected together at their ends and arranged substantially as described.

Sixth, the combination of pipes *G* and *H* with pipes *D E*, substantially in the manner and for the purpose described.

65,480.—EDMOND THEODORE GAMERON, Paris, France.—*Machine for Hulling Rice.*—June 4, 1867.—The rice from the hopper passes between several pairs of rollers, in which a fluted metallic and a rubber-covered roller are placed oppositely to pull the rice, which passes between them. Below each pair is a suction spout, which draws in the hull and chaff, allowing the grain to descend by its superior gravity.

Claim.—First, the arrangement of the suction chamber *I* and its nozzles or passages *H*, with relation to the cylinders *C D F G*, for operation substantially as specified.

Second, the valve *N*, in combination with the chamber *I* for regulating the draft through the passages *H*, without varying the velocity of the fan or other devices producing the suction.

65,481.—HENRY C. GEE, New York, N. Y.—*Apparatus for Annealing Wire.*—June 4, 1867.—The rotating longitudinally grooved cylinder has an outer jacket to keep the wires in the grooves, and a pipe conveying gas to be burned within it. Stationary

fingers run in circumferential scores of the cylinder to remove the wires at a certain point.

Claim.—First, the fluted chamber cylinder A, with hollow journals B B, perforated pipe E and jacket C, all arranged and operating substantially in the manner and for the purpose set forth.

Second, in connection with the annular *i i* in the cylinder A, and the stationary fingers *c c*, substantially as and for the purpose herein described.

65,482.—HUGH M. GIBSON, Grand Rapids, Mich.—*Stump Extractor.*—June 4, 1867.—The windlass to which the chain is attached is rotated by two ratchet wheels and pawls, actuated by levers.

Claim.—First, the arms C C, lever A A, connecting bars B B and pawls O O, all being combined, arranged, and operating as and for the purpose specified.

Second, the roller D, hooks G G, ratchet wheels K K, pawls O O and arms C C, when all arranged and operated as and for the purpose described.

65,483.—J. E. GILLESPIE, Boston, Mass.—*Rotary Steam Engine.*—June 4, 1867.—The cylindrical case has an inner, eccentric, rotating cylinder, and three radial pistons, whose guide rings are concentric with the outer case, and keep the edges of the pistons in contact with the inner periphery of the latter.

Claim.—First, the combination of the sliding and revolving radial wings or pistons, and loose eccentric rings E for operation, together essentially as specified.

Second, the loose eccentric rings E, made adjustable from the exterior of the cylinder or case, substantially as herein set forth.

Third, the blocks *a* to the wings or pistons F, made adjustable from the outside of the cylinder or case, essentially as described.

65,484.—RICHARD A. GILPIN, Chester county, Pa.—*Construction of Piers, Docks, and Wharves.*—June 4, 1867.—The main piles are driven accurately in the line of the face of the wharf, the plates are slipped into the grooves on the sides of the piles, and the combing is put on. The earth from behind the face wall is excavated, and a concrete wall backing is added, to which the face wall is tied by bolts.

Claim.—The construction, arrangement, and combination of piles *a a*, plates *b b*, ties *d d* and walls *h h*, in the manner and for the purpose herein described.

65,485.—J. T. GREENWOOD, J. WILSON, Beloit, Wis.—*Soap for Cleaning and Polishing Wood, Metals, and other Materials.*—June 4, 1867.—Composed of equal parts of pulverized quartz, Roman cement and bar soap.

Claim.—A new article of manufacture—an improved soap for cleaning painted work and polishing metals, tin, gold, silver, and plated ware, composed of the ingredients herein stated in about the proportions specified for the purpose set forth.

65,486.—JOHN L. HEALD, Boston, Mass.—*Winch or Capstan.*—June 4, 1867.—To dispense with the services of an attendant to take up the slack of the rope, a roller is brought up against it to prevent its retraction.

Claim.—First, a roller L, when employed in connection with the drum C, of a winch or capstan, substantially as and for the purpose set forth.

Second, supporting the shaft of the roller L in sliding bearings *n*, operated by levers K, or their equivalents, substantially in the manner and for the purpose described.

Third, the internal gearing F, in combination with the pinion E on the crank shaft D for reducing the speed of the revolution of the drum C of the winch, as and for the purpose specified.

Fourth, in combination with the above the gears H I for insuring the simultaneous revolution of the shafts B J, substantially as set forth.

65,487.—LOUIS HOFFMAN and AUGUSTUS A. HOFFMAN, Buffalo, N. Y.—*Boot Heel.*—June 4, 1867.—The heel has a plate, with spurs, which penetrate the tap secured thereto by a screw.

Claim.—The connecting plate C, constructed and applied as described, and provided with the spurs *ff*, in combination with the screw *e* and reversible or

removable outer portion A of a heel, arranged and operating substantially in the manner and for the purpose set forth.

65,488.—JAMES C. JAY and JOSEPH YOUNCE, Wabash, Ind.—*Churn.*—June 4, 1867.—As the chair rocks, the feet of the rods are brought to the ground alternately and move the dasher in the churn.

Claim.—First, the devices for giving motion to the dasher in combination with the chair.

Second, utilizing and applying the power of the rocking-chair in motion, and its easy and convenient motion for the purpose of churning.

65,489.—LUCIUS JORDAN, Southington, Conn.—*Wrench.*—June 4, 1867.—The square through-bar has the stationary head; the movable one is sleeved thereon and operated by a screw collar.

Claim.—The arrangement of the bar A, sleeves D and E, nuts F and H, and handle G, the several parts being constructed and arranged in the manner and for the purpose herein specified.

65,490.—JOHN V. KARR, Goshen, Ind.—*Gas Chamber and Valve for Forges.*—June 4, 1867.—The valve is placed between the bellows and the tuyere of the forge. A blast of air opens the valve; the latter prevents the reflux of heated air toward the bellows.

Claim.—The box A, made of any suitable shape and provided with an inlet and outlet pipe and air opening E, when used with the valve D, constructed and applied as and for the purpose specified.

65,491.—F. C. LA RIVIERE, Minneapolis, Minn., assignor to LUCIAN D. NEWALL and MOSES E. GREELEY, same place.—*Machine for Cutting the Locks in Hoops for Barrels.*—June 4, 1867.—The hoop is placed on the inclined part of the plate; the knife frame is brought down by the treadle; during the motion a pin on the frame actuates the lever to clamp the hoop.

Claim.—The use of the lever E, when constructed and operated to automatically clamp the hoop while the knife cuts the lock, in the manner and for the purpose substantially as set forth.

65,492.—CHARLES D. LETHERBURG, Chester, Pa.—*Shoe.*—June 4, 1867.—The leather on each side of the side seams is left full so as to form a gore and admit the foot with ease. It is formed into a fold by the contracting strap when the gaiter is on.

Claim.—The within covering for the foot, consisting of the parts B and C and the flap D, when cut of two pieces of material arranged as described.

65,493.—B. F. LIVINGSTON, Chicago, Ill.—*Cooking Stove.*—June 4, 1867.—The openings into the stove are all in the top plate, some of them being hinged. The oven door is also in the stove top. The fire pot is removable. The stove shell is double, allowing water between the two walls.

Claim.—First, the openings to the grate and the oven, arranged in the top of the stove, substantially as and for the purpose set forth.

Second, the combination of the plates C F with standards H, forming a double oven door, as and for the purpose set forth.

Third, the arrangement and combination of the ash pan R, fire box Q, and draft flue P, with the door O, substantially as described and set forth.

65,494.—ROBERT M. LIVINGSTON, Mobile, Ala.—*Composition or Paste for Articles of Food.*—June 4, 1867.—Composed of cheese, 32; olive oil, 5; mustard, 2; salt, 1½; pepper-vinegar, 1; and pulverized biscuit, 8 parts.

Claim.—A cheese compound or paste, substantially as above described.

65,495.—ELISHA MATTESON, South Brooklyn, N. Y.—*Paddle Wheel.*—June 4, 1867.—The paddles are obliquely placed on their arms, are divided and nearly meet at a median line. Their length depends on their position in reference to the crank, the longest ones being submerged when the crank is in the most effective positions.

Claim.—The use of two sets or series of paddles inclining inward, and arranged to gather and discharge the water, while they are made of gradually increasing and decreasing length to correspond with

the increasing and decreasing power of the crank, substantially as herein specified.

65,496.—WILLIAM R. McCUTCHEON, Washington, Iowa.—*Churn*.—June 4, 1867.—The respective dashers are connected to the central and the sleeve shafts, which are rotated in opposite directions by the single master wheel.

Claim.—In churns where there are two shafts rotated in opposite directions, the wheel dasher having the inclined faces on the one shaft and below the perforated dasher, having its inclined faces on the other shaft, the two being operated as and for the purposes herein set forth.

65,497.—GEO. W. MCGILL, Washington, D. C.—*Spike*.—June 4, 1867.—Explained by the claim.

Claim.—A split spike having one prong longer and larger than the other, and the smaller and shorter prong so bevelled at its point that on being driven into the wood it will diverge and spread from the main prong so as to operate as a brace and barb, substantially as and for the purpose described.

65,498.—CHAS. D. MILLER, West Meriden, Conn., assignor to himself and C. H. WARNER, same place.—*Attaching Thills to Carriages*.—June 4, 1867.—The thill iron has a cross-bar which enters through the opening in the shackle and occupies a slot in the pivot bolt; being then rotated, the front bar of the shackle passes through the slot in the thill iron, and the bar pulls against the hook of the shackle.

Claim.—First, the combination and arrangement of the bar *b*, extending between the heads *E*, with the socket *C* and pivot *D*, each constructed with a slot their entire length to receive the bar *b*, and so as to operate substantially in the manner herein set forth.

Second, the arrangement of the groove *h* on the pivot *D*, and the pin *e'* in combination with the socket *C*, substantially as and for the purpose specified.

65,499.—JAMES MILLER, Ovid, Michigan.—*Bag Fastener*.—June 4, 1867.—One end of the string is tied to the disk, and the string, after passing around the neck of the bag, is rove through the holes in the disk and the end secured by a hook to the bag.

Claim.—The piece of sole leather or other substantial material *a*, the leather strings or other strong cords *B* and *b*, and the iron hook *c*, combined and arranged substantially as described.

65,500.—DANIEL NEEDHAM, Groton, Mass., assignor to himself, JESSE A. LOCKE, and C. M. HOVEY.—*Apparatus for Charging Soda Fountains*.—June 4, 1867.—One of the gas-producing agents is enclosed in a tube which is screwed into the casing of the fountain, and a valve raised to allow its discharge to the other agent, in solution within said casing.

Claim.—The tube *B*, or its equivalent, for containing one of the gas-producing ingredients, operated in the manner substantially as described, in combination with the casing *A* of a fountain for soda and mineral waters and other effervescing beverages, substantially as set forth.

65,501.—W. NELSON, New York, N. Y.—*Machinery for Forming Molds for Stereotype or Electrotype Plates*.—June 4, 1867.—Impressions in a surface of soft material are made by types successively presented and impressed by keys struck by the compositor. The surface of soft material is moved progressively, and to the extent required for the reception of each type. The type are carried by a wheel, which is moved as required and stopped by pressure on a key, so that the corresponding type is brought into position to be impressed.

Claim.—First, communicating motion to the lever that impresses the types by an end motion of the pulley *9*, when the cylinder *e* is stopped, substantially as set forth.

Second, the lever *h*, incline *i*, and sliding pulleys *9*, in combination with the key barrel *l*, substantially as set forth.

Third, the projection *19*, swinging frame *20*, with diagonal cam *21*, actuating the lever *p*, in combination with the spacing block *g*, the parts being arranged and acting substantially as set forth.

Fourth, the auxiliary carriage *l'*, in combination

with the beds *k* and *l*, and levers *31* and table *m*, substantially as and for the purposes set forth.

Fifth, the scale boards *36*, keys *35*, and levers *31*, in combination with the auxiliary carriage *l'*, as and for the purposes set forth.

65,502.—JOHN W. POST, Castile, N. Y.—*Skate*.—June 4, 1867.—The screw shanks enter slots in the back edges of plates fixed to the heel and sole, the heads passing above the plates. The screws are kept in position by a spring which rises before the heel.

Claim.—First, the screw buttons *e' f' g'*, arranged substantially as and for the purposes described.

Second, the spring bar *i*, provided with a lug *h*, passing through a hole *e''* in the top part of the runner *B*, substantially as and for the purposes described.

Third, the combination of the spring bar *i*, provided with a lug *h*, with the screw buttons *e' f' g'* and plates *a'* and *d*, provided with slots *a'' b''*, and *c'*, substantially as and for the purpose described.

65,503.—JOSEPH M. PRUGGER, New York, N. Y.—*Button*.—June 4, 1867.—Explained by the claim.

Claim.—A button having a shank whose base *a* is concave, in the center of which is secured at an obtuse angle the wire coil *c*, whose convolutions are in the same plane with the base, whereby the button is uniformly supported while holding the cloth clamped in the concavity of the base, substantially as described.

65,504.—EDWARD F. PRYOR, Dayton, Ohio.—*Ice Crusher*.—June 4, 1867.—The ice chamber has a sliding floor, which is retracted to allow its discharge through the funnel at bottom. The top is hinged to the base, and its spring plunger has spikes which pass through the foraminous plate and traverse the ice chamber.

Claim.—The ice chamber *B*, when provided with the chambered cover or extension *A*, for containing the toothed plunger *D* and perforated diaphragm *F*, either with or without the hinge *C*, constructed substantially as described and set forth.

Second, the perforated diaphragm *F*, or its equivalent, when arranged for use in an ice crusher, substantially as and for the purposes specified.

65,505.—ANDREW RANKIN, New York, N. Y.—*Water Closet*.—June 4, 1867.—The disk discharges behind the partition, to which it is hinged, and is raised with the lid, before the partition is a receptacle to receive a deodorizing substance. The said receptacle has a perforated top to permit the escape of gases therefrom.

Claim.—The pan or dish *D* and perforated receptacle *E*, in combination with a water-closet bowl, all arranged together and operating substantially as and for the purpose described.

65,506.—JONAH L. REES, Peoria, Ill.—*Cog Gear- ing Spring*.—June 4, 1867.—The bevel wheel is on the shaft between a collar and a keyed hub, having arms inclined down between the arms of the bevel wheel and driving wheel, by rubber blocks impinging against the said arms. The arms are kept in position by screw bolts.

Claim.—The hub *D*, with its arms *E*, rubber spring *G*, adjusting bolt *I*, and tightening tap *L*, or their equivalent, in connection with the arms *F* of bevel wheel *A*, working in the manner and for the purpose specified.

65,507.—J. J. RIDDLE and W. S. GRAY, Pittsburgh, Pa.—*Petroleum Vapor Stove*.—June 4, 1867.—The petroleum is carried through a pipe coiled around the flame, where it is vaporized, the vapor passing to an adjustable discharge within a pipe covered by a foraminous plate, above which the gas is ignited. Water is brought to the flame by a pipe containing some capillary substance, and steam is furnished in fine jets. When the oil is heavy, water is mixed with it in small quantities by a pipe containing fibrous material.

Claim.—First, a coiled, curved, or other ordinary-shaped continuous conduit heater *P*, within the flame and of sufficient length to vaporize any of the different grades of petroleum oils, in combination with foraminous cap *E* and mixing chamber *H*, for the uses and purposes mentioned, substantially as described.

Second, the carrying of water from a vessel *R* into

the flame in chamber F, by means of tube W, filled with any ordinary capillary substance W, for the uses and purposes mentioned, substantially as described.

Third, the carrying of steam from a closed vessel C, by means of tube S, into the flame in chamber F, for the uses and purposes mentioned, substantially as described.

Fourth, the carrying of water into the cold oil from a vessel B by means of the capillary substance *d* and tube *h*, for the uses and purposes mentioned, substantially as described.

65,508.—AMOS C. RODGERS, Philadelphia, Pa.—*Sash Fastener.*—June 4, 1867.—The side of the sash is grooved and one side of the groove lined with metal to receive the impingement of a plate which is operated by a screw, whose head projects from the framing.

Claim.—A sliding frame or door B, with its plate *b* at the edge, in combination with a plate F and with screw D, whereby the plate F may be brought firmly against, or removed from contact with, the plate *b*, the whole being constructed and operating substantially as and for the purpose described.

65,509.—MATILDA C. ROOT and ELISHA COLT, Hartford, Conn., and HARRIS COLT, New York, N. Y., executors of E. K. ROOT, deceased.—*Revolving Fire Arm.*—June 4, 1867.—The breech piece is raised slightly to free it from its holding notch, and then slid back to expose the cartridge chamber, the extractor withdrawing the shell simultaneously. The needle slides in the breech piece and impinges against the cartridge near the flange edge. The seer spring has an upper arm engaging a dog which holds down the rear of the breech piece when the gun is charged. The hammer is enclosed in the lock, and the gun is cocked by a cock lever outside.

Claim.—First, the employment in construction with the open breech barrel and frame of a sliding breech piece, constructed and arranged to operate in the manner substantially as set forth.

Second, the extractor-shoe or piece, in combination with the sliding breech piece, and the frame in which both said parts work, arranged and operating substantially as set forth.

Third, the double-acting spring S, in combination with the seer R and catch bar T, the whole constructed to operate substantially as set forth.

Fourth, the hammer M, constructed as described, in combination with the sliding rod or bar *w* and check pin *n*, substantially as described, for the purpose set forth.

65,510.—MATILDA C. ROOT and ELISHA COLT, Hartford, Conn., and HARRIS COLT, New York city, executors of E. K. ROOT, deceased, assignors, as executors, to COLT'S PATENT FIRE-ARM COMPANY, Hartford, Conn.—*Revolving Fire-arm.*—June 4, 1867.—The cartridge cylinder is held in place by a pivoted front pin and a retractable base pin, which occupy an axial perforation through the said cylinder.

Claim.—First, the employment, in combination with a removable breech block or cylinder, of a vibratory base pin, substantially as and for the purpose set forth.

Second, the employment, in combination with a rotary base pin, of a cylinder bored through, when the whole is so constructed and arranged that the cylinder may be placed in the said base pin and engage therewith with either end forward, as and for the purpose set forth.

Third, the employment, in connection with the stock barrel and a swinging cylinder, of a frame A' of the shape substantially as described, so as to permit the removal and replacement of the cylinder, in the manner set forth.

65,511.—JAMES SANDERS, East Boston, Mass., assignor to himself and NOAH H. MARSTON, Boston, Mass.—*Steam Gauge Cock.*—June 4, 1867.—The conical plug is fitted to turn in a suitable bore of the shell, and has a discharge opening agreeing with the spout of the same.

Claim.—The hollow conical plug B, with its spindle C and opening *d*, in combination with the shell or casing A, the interior of which is of a tapering form, all arranged and operating substantially as and for the purpose set forth.

65,512.—THOS. SHEEHAN, Dunkirk, N. Y.—*Composition for Converting Iron into Steel.*—June 4, 1867.—The composition described in his patent, September 4, 1860, is saturated with carbonic acid gas. Lye is poured into the barrel in a small stream while the gas is passing from the retort.

Claim.—The saturation of the liquid combination described in my former patent with carbonic acid gas, substantially for the purpose set forth.

65,513.—G. W. SHINGLETON, Auburn, N. Y.—*Car Coupling.*—June 4, 1867.—The coupling link is held by a pin in one draw-head and its pivoted claw arms enter the other. They are dislodged from their engagement by the treadle, which acts upon two levers to press-in side springs of the draw-head for that purpose.

Claim.—First, the levers *k k*, in combination with the treadle B, operating substantially as and for the purpose set forth.

Second, the springs *n n*, when operated upon by levers *k k*, as and for the purpose specified.

Third, the pivoted connecting pin, when constructed and used substantially as and for the purpose described.

65,514.—TILMAN SHIVER, Newburgh, Ind.—*Lifting Jack.*—June 4, 1867.—The end of the vibrating bar is drawn so far back over the lever fulcrum as to render the device self-sustaining when in its raised position.

Claim.—The construction and arrangement of the laterally-vibrating bar C pivoted at its lower end to the part B and at its upper end to the lever G, which is pivoted to the part A of the jack, the said parts A and B being recessed as at *e d*, substantially as and for the purpose described.

65,515.—A. B. SPENCER, Rochester, N. Y.—*Filter for Pharmacists and Others.*—June 4, 1867.—The filter rests on a packing on the lip of the bottle. The air is withdrawn from this latter to increase the rate of filtering.

Claim.—First, in an atmospheric filter composed of the tunnel A, bottle or jar B, and air pump C, the employment of a packing *h* for the purpose of producing an air-tight joint between the tunnel and bottle, the whole combined and operating as herein set forth.

Second, the arrangement of the filtering medium *d d* with the removable perforated diaphragm *f*, when operating in connection with the shoulders *c c*, as herein set forth.

65,516.—BENJAMIN S. STOKES, Manchester, N. H.—*Furnace for Heating Articles of Steel in the Process of Tempering.*—June 4, 1867.—The muffle is of fire clay or iron and has a series of longitudinal cells to receive the articles to be tempered. The flue is over the front part of the furnace.

Claim.—The cellular muffle K, substantially as and for the purpose set forth.

Also, placing the flue C at or near the front of the furnace, for the purpose described.

Also, forming an air space *g* within the door F, substantially as and for the purpose set forth.

Also, the cellular muffle K, in combination with a furnace provided with a flue C and a double door F, constructed and operating substantially as described.

65,517.—J. B. SWEETLAND, Pontiac, Mich.—*Sawing Machine.*—June 4, 1867.—The circular saw is carried on a frame loosely pivoted to its driving pulley shaft, and may be swung around to bring it to act upon the wood in the trough. The drag pin is driven by a crank pin on the driving wheel, and a cam wheel on the same shaft has eccentric cam grooves operating the feed mechanism of the drag saw when the latter is raised.

Claim.—The arrangement of lever P with the cord S, box *d*, and pin *q*, and shaft M, for raising the saw and throwing the roller in gear to move the timber at the same operation, substantially as set forth.

65,518.—GEORGE L. WARNER, Rochester, N. Y., assignor to himself and CORNELIA HAWKS, same place.—*Railway Switch and Signal.*—June 4, 1867.—The switch lever has a cord connected to a transversely-sliding hanging signal; a weight keeps it taut. A transverse rock shaft has eccentric plates to

lock the rails in either position by the oscillation of a lever of the rock shaft.

Claim.—The combination and arrangement with the switch B C of the elevated and isolated signal L, connected by the cord *c* and provided with counter-balance weight *f*, operating in the manner and for the purpose specified.

Also, specially beating the cam shaft G in the ends of the shifting rails, and providing it with cams that couple the ends of the rails directly together, as herein set forth.

Also, the arrangement as a whole, consisting of the weighted signal L, cord *c*, switch B C, cam shaft and cams G *a*, and the standard frame I K, with guide B and screen *g*, as set forth.

65,519.—JAMES B. WEBB, Muscatine, Iowa.—*Farm Gate.*—June 4, 1867.—The upper journal of the gate passes through a pivoted head piece connected to a double crank bar in the track, over which the wheel of the vehicle passes; impact of the wheel changes the inclination of the hinge post and swings open the gate. A similar device on the other side closes the gate.

Claim.—The combination of the gate A, post B, adjustable head piece C with the rods and levers D E F and F' and double crank rods G and G', arranged to operate substantially in the manner and for the purpose set forth.

65,520.—GEORGE E. WHITMORE, Housatonic, Mass.—*Folding Chair.*—June 4, 1867.—The arms are attached to the side bars by straps whose slots permit their oscillation from an upright position when in use, to a position side by side when the chair is folded.

Claim.—The combination of the arm posts B, straps D, and headers A, with their stop pins and slots G, constructed and arranged in a folding chair, in the manner and for the purpose set forth.

65,521.—GEORGE E. WHITMORE, Housatonic, Mass.—*Hub for Wheels.*—June 4, 1867.—The inner flange is attached to the boxing, the outer one is sleeved thereon and tightened by a nut. The hub is clamped between the two to prevent splitting when the spokes are driven.

Claim.—The combination by which the wooden parts of the hub are encased and supported at both ends and on its periphery by the iron flanges, enabling the wheel makers to drive the spoke firmly into the smallest hub, and thus attaining the desired qualifications of elasticity and strength.

65,522.—A. T. WRIGHT, New Vienna, Ohio.—*Beehive.*—June 4, 1867.—The base chamber has a feed box and the place of entrance above this is a section containing the triangular comb-frames, and an upper section containing the rectangular frames having triangular upper bars.

Claim.—First, the honey-frames R and broad frames R', as constructed, when used in the manner herein specified, with the triangular strips *a*³, for closing the openings between the frame sections F F' as set forth.

Second, the combination and arrangement of the bars G, pieces K, and eccentrically-tenoned locks L with the frame sections and connecting boards X, as constructed, when used for the purposes set forth.

Third, the frame sections A, having a concavity *a*' at its top, slanting board *b*², and receptacle for feed box D, ventilating screens *h* and *e*, with door *b*, and adjustable bottom *c*¹ *c*², when constructed and arranged in the manner and for the purposes specified.

Fourth, providing the under part of the beehive stand with rubber bands *x*, or their equivalents, in the manner substantially as specified and for the purposes set forth.

Fifth, the feed box H, constructed as herein specified, having a lid with screen *v* and cleats on its under side for allowing a space between the said lid and box for the egress and ingress of the bees, as specified.

65,523.—WILLIAM W. WRIGHT and JOHN BOODY, Ellsworth, N. Y.—*Dolt Cutter.*—June 4, 1867.—The lower bar has a plate to which are pivoted the cam bar and upper jaw of the cutter. The latter is opened by a spring.

Claim.—The combination and arrangement of the

bars A and B, lever E, plates C and D, and spring F, constructed and operating in the manner and for the purpose specified.

65,524.—THOMAS YATES, Dubuque, Iowa.—*Heating Stove.*—June 4, 1867.—Used either as a heating drum or stove. For the former, there is a hole in the base plate with a collar to receive a stove pipe. When used as a stove this opening is closed. The caloric current passes into the annular chamber around the top, from whence it may, by dampers, be made to pass down the pipes of one side, across the base chamber, and up the pipes on the other side of the chimney.

Claim.—First, the arrangement of the open-top fire-chamber A in combination with the upper draft-chamber *f f*, so that the draft can be directed around the open-top fire-chamber A, as specified.

Second, the arrangement of the two dampers *g* and *h* in the upper draft-chamber *f f*, so that the draft can be changed in the different directions, as specified.

65,525.—P. M. ACKERMAN, Webster, N. Y.—*Ladder.*—June 11, 1867.—The hook by which the upper ladder is sustained from the rounds of the lower section is pivoted to a weighted tumbler, which, by striking the rounds of the lower section, raises the hook and permits it to pass in raising and lowering the upper section.

Claim.—First, the combination of the ladders A and B, the latter being provided with the flat windlass H and having the rope *b* arranged as shown and described.

Second, the hook D having the weighted tumbler E, provided with the pin or stop *o* pivoted to it, and arranged to strike the rounds of the ladder, and thereby raise the hook and let it pass the round both in ascending and descending, substantially as described.

Third, in combination with the ladders A and B and the flat windlass H, the ratchet *d* and pawl *e*, arranged as set forth.

65,526.—W. W. ANDREWS, J. CUMMER, J. F. GANWEILER, and JOST STENDEL, Croton, Mich.—*Fire Alarm.*—June 11, 1867.—Cords saturated with pitch are placed in various apartments, after passing out of which wires are substituted so as not to be severed by fires out of the special apartment of each. The different wires are conducted to one place and weighted to indicate the locality of a fire.

Claim.—First, the employment of cords B B, when said cords are saturated with some inflammable material, for the purpose of more effectually enabling them to be consumed or severed in case of fire, substantially as described.

Second, the employment of rods C C, in the manner specified, for the purpose of indicating the exact room or locality in which the fire originated, in combination with levers G and weights F F, substantially as described.

65,527.—GEORGE ASMUS, Houghton, Mich.—*Bottle Pump.*—June 11, 1867.—The elastic bulb drives air into the bottle and expels the liquid through the pipe and nozzle.

Claim.—A bottle pump, constructed and arranged substantially as described, as an article of manufacture.

65,528.—A. C. BACON, Cleveland, Ohio.—*Mop and Brush.*—June 11, 1867.—The scrubbing brush is clamped by its top and one edge between the frame and its finger, and by the other edge by the set screw. It is thus adapted to be used on the end of a long handle.

Claim.—First, the frame B, provided with the head B', fingers *b*, arms D C, screw E, and for the purpose substantially as set forth.

Second, the herein-described holder, in combination with the brush or mop, substantially as and for the purpose specified.

65,529.—EPHRAIM BALL, Jr., Canton, Ohio.—*Plow.*—June 11, 1867.—By the arrangement described the beam and handles remain unchanged, but the mold-board, point, and landside are shiftable, and may be all or either of steel or of iron.

Claim.—First, so conducting a metal plow beam

that the parts that are attached thereto can be made either of cast iron or steel, or of both, substantially in the manner herein specified.

Second, the combination of a steel mold-board, point, and landside with cast-iron plow beam, when said plow beam serves for the purpose of a support to the mold-board, point, and landside, and also for a plow beam, substantially in the manner herein specified.

Third, the brace K, and bar O, when used in connection with the plow beam A, substantially in the manner and for the purpose herein specified.

Fourth, the groove *t* in the plow beam A, when arranged in the manner and for the purpose herein specified.

Fifth, the dovetail at *h*, in the top of the groove *s*, when used in connection with the projections *n* on the landsides K and M, substantially in the manner and for the purpose herein specified.

Sixth, the attachment of the cutter P to the cast-iron plow beam A, in the grooves *a* in said beam, in the manner herein specified.

Seventh, the L-shaped block G in cast-iron point, when said point is used as a part of the cast-iron attachments, in the manner herein specified.

Eighth, the block H and I, the hooks L and N, constructed and arranged in the manner herein specified.

65,530.—JOSEPH B. BANCROFT, Hopedale, Mass.—*Lubricator for Spinning Machines.*—June 11, 1867.—The bracket has an annular oil chamber around the cylindrical sleeve, and the driving gear has a chamber similarly situated. The chambers are connected by a spiral groove on the sleeve, which is pierced with holes to lead the oil to the spindle.

Claim.—The combination and arrangement of the oil chambers *c d*, the groove *f*, and the hole or holes *e*, with the bracket D, the neck H', and the gear E, the whole being substantially as described.

65,531.—E. H. BARNEY and JOHN BERRY, Springfield, Mass.—*Skate.*—June 11, 1867.—Lips punched downward from the foot plate form guides for the clamp plates whose upturned ends clasp the sole of the boot. A collar on the clamping screw operates against a pin on the clamping plate to release the grasp.

Claim.—First, as a new article of manufacture, the pieces *f f*, when punched or upset from the foot plate A, in combination with the clamps *a* and *a'*, having beveled edges *h h*, all made substantially as herein described and for the purposes set forth.

Second, the pin *e*, when attached to the clamp *a*, and operating in the groove *e*, or against the collar *i*, on its outside, when made substantially as herein described and for the purpose herein set forth.

65,532.—SOLOMON E. BICKFORD and FREDERICK FLANDERS, Franklin, N. H.—*Graduated Bevel Square.*—June 11, 1867.—The two blades are pivoted together; one of them has an inner and outer scale, and the end of the other has indicator edges by which any required miter or bevel may be determined.

Claim.—The within-described bevel square, consisting of the blade A, with its inner and outer scales, and the blade B, with its indicators *e*, connected by the screw-pin *b* and nut C, or their equivalents, arranged and operating substantially as set forth.

65,533.—LEVERETT BISHOP, Paris, N. Y.—*Manufacture of Stopples for Bottles.*—June 11, 1867.—Artificial cork-wood is wrought into cylindrical pieces whose diameter is equal to the base of the conical stopple required. These are immersed in dilute sulphuric acid and compressed, to give them elasticity when coming in contact with liquid.

Claim.—The right to make and use in the fabrication of stopples for bottles a substance called lignine, or an approximation thereto; also light, porous, woody fiber, as both herein specified, by means of compression into molds or forms herein mentioned and described.

Also, compression as above only for the specific purpose of securing to such stopples the quality of rapid expansion by moisture, and somewhat of cork-like elasticity, and for giving them certain definite, artistic shapes.

65,534.—A. MCK. BLAIN, Deerfield, Va.—*Apple-paring, Coring, and Slicing Machine.*—June 11, 1867.—The apple is revolved on its shaft and pared by the knife which is applied by hand; is halved by the oscillating knife blade; is cored, and then cut into pieces by a knife with several blades.

Claim.—First, the coring blade L, shaft M, clutch pulley N, and bent spring P, in combination with the horizontal frame K, frame-work A, and prong shaft B, constructed and operating substantially as herein shown and described.

Second, the arrangement of the prong shaft B, halving knife H, coring knife L, and slicing blade T, with each other and with the frame A, when all are constructed and operating as herein described, and for the purpose specified.

65,535.—ALEXANDER BOUDROU, Philadelphia, Pa.—*Boot Blacking.*—June 11, 1867.—Composed of alcohol, 1 gall.; gum shellac, 2 lbs.; sweet oil, 20 drops; lampblack, 1 oz.; for boot blacking. Proportions varied for other purposes.

Claim.—The composition composed of the ingredients named, for blacking leather boots and other articles of leather, stoves and other articles of iron, and for coloring polished iron, substantially as described.

65,536.—R. BRAYTON, S. CURTIS, and DAVID JUNE, Fremont, Ohio.—*Steam Engine.*—June 11, 1867.—To change the engine from high pressure to low pressure, the link is hooked to the rock shaft, so as to throw up the puppet at the instant of exhaustion, and pass the steam to the condenser, thus diverting it from the outer exhaust pipe. Unhooking the link restores it to the high pressure.

Claim.—First, the cam *d*, yoke *e*, stem *b*, and valve *a*, as arranged in combination with the chamber P', valve *i*, and pipes O' and R, for the purpose and in the manner as herein described.

Second, the link K, rock shaft J, and link *e'*, as arranged in combination with the cam *d*, yoke *e*, stem *b*, and valve *a*, for the purpose and in the manner set forth.

65,537.—WM. D. BROWN, Milwaukee, Wis.—*Bottle Stopper and Coupling.*—June 11, 1867.—The coupling or stopper is made of rubber, and its extended elastic flange laps over the lip of the bottle.

Claim.—First, the bottle A, tube B, and coupling C, in combination, substantially as and for the purpose described.

Second, coupling C, when made with flange or flap D, as described.

Third, flexible stopple E, when made with flange or flap F, substantially as described.

65,538.—WM. BRUCKNER, San Francisco, Cal.—*Furnace for Desulphurizing Ores.*—June 11, 1867.—The inclined partition in the cylinder is of rhombal shape, and has obtuse ends; its office is to forward the roasting ore through the cylinder, the surfaces of each being lined with fire-resisting material.

Claim.—The inclined partition D, in the form of a deviating square, or any other shape, placed at any inclination or angle, to insure a constant passing around it of the material to be treated, said partition to be constructed of iron plates in sections or as a whole, and covered with fire-proof material, with surfaces flat or double concave, substantially as described, and for the purposes set forth.

65,539.—E. G. BUDD, Budd's Lake, N. J.—*Water Wheel.*—June 11, 1867.—The buckets rise, resting on the inner perimeter, and when they reach the top are tilted over by contact with a roller, which gives them a position to receive the water, the position being further removed from the axis than during their ascent.

Claim.—The wheel proper, C C C C, D D D D, E E E, and L, the leverage buckets H H H H with levers I I I I, the adjustable wheel F with arm G, constructed substantially as and for the purposes set forth.

65,540.—SAMUEL S. BURT, Marquette, Mich.—*Railway Chair.*—June 11, 1867.—Explained by the claims and illustration.

Claim.—First, a three-part railway chair which is adapted for a reversible H rail, and so constructed that the base of the rail will be received and closely held partly by a recess *e* in the chair base and partly by recess *j*, the side supports B, substantially as described.

Second, in combination with a double-headed rail, constructed with flat shoulders at *c c*, a three-part chair A B B, with the lower head or base of the rail fitted into a recess *e* in the chair base A, and the lips of the rail heads, sustained by the upper portion C' C' of the side plates B B, substantially as described.

65,541.—CORNELIUS L. CAMPBELL, Binghamton, N. Y.—*Wagon Axletree.*—June 11, 1867.—The hollow portion of the skein is a conical frustum in the main, and has flattened parts at the larger end to fit suitable spots in the axle. The butting flange is cast upon it.

Claim.—Making the skein of the same angle from end to end, in combination with the depressions G G on the large end or shank of the skein, substantially in the manner and for the purpose herein described.

65,542.—HENRY C. CARDEN, Paris, France.—*Metronome.*—June 11, 1867.—The verge wheel is attached to a wheel having equal raised surfaces and depressions around its periphery, and these act on one end of a pivoted lever, whose other end is connected by a fine thread to an indicator attached to a spiral spring.

Claim.—The combination of the ratchet wheel *f*, mounted on an escapement wheel *e*, with the rocking lever *u*, the thread *v*, and the spiral spring *z*, in the manner and for the purposes substantially as herein set forth and shown in figures of the annexed drawing.

65,543.—CYRUS CLAY, Scranton, Pa.—*Boot-jack.*—June 11, 1867.—The boot toe is depressed by the cup while removing the boot.

Claim.—The concave toe cup C, handle *d*, and bail *e e*, as constructed and attached to the prongs *a a*, in combination with the metallic bootjack A, substantially as herein described.

65,544.—GEORGE COLLYER, Philadelphia, Pa.—*Turning Curves of Railroads.*—June 11, 1867.—The outer tread of the wheel is of less diameter and traverses the correspondingly shorter main track, which is proportionately elevated.

Claim.—The main rails A and B and the auxiliary rail C, when used in combination with car wheels, each having two treads *e f*, the whole arranged and operating substantially as set forth.

65,545.—S. CONSTANT, Peekskill, N. Y., and JOHN SMITH, Brooklyn, N. Y.—*Seasoning and Preserving Wood.*—June 11, 1867; antedated March 17, 1867.—Heated air is driven from the generator into the chamber containing the wood, the vapor escaping from the upper pipe. When the wood is dry wood tar is introduced into the generator and the resulting fumes impregnate the wood.

Claim.—The chamber A, generator D, in combination with blowers, bellows, or other suitable device to drive the heated air and smoky vapor out of the generator into the chamber, the connecting pipes H and I, and escape pipe K, all arranged and applied substantially as and for the purpose specified.

65,546.—HIRAM A. COPPES, Greenville, Ohio.—*Machine for Draining Sugar.*—June 11, 1867.—The inclosing cylinder rests upon a frame, and the rotating strainer, formed as the frustum of a cone, is attached to the cone within. This cone is attached to the motive shaft, which is stepped in the frame and has a tight and loose pulley. The cone has radial ribs to throw out the sirup. The strainer is a foraminous plate lued with gauze.

Claim.—First, the rotating strainer of the form of the frustum of a cone, as and for the purpose described.

Second, the combination of the conical distributor with the radial ribs, substantially in set forth.

Third, the rotating strainer A, in combination with the conical distributor B, the vertical shaft S, the fast pulley H', and the loose pulley H, in the manner explained.

65,547.—WM. CRUGHTON, WM. WILLS, and LOUIS RASTETTER, Fort Wayne, Ind.—*Feed Water Heater.*—June 11, 1867.—The center pipe has alternating convex and concave-topped disks, which cause an alternate outward and central discharge of the water therefrom during its descent. The steam passes up the center pipe and issues through holes in the side thereof.

Claim.—The center pipe *c* in combination with concave and convex disks, for the purpose of distributing the water and steam, in the manner and for the purposes described.

Second, the water and steam distributor E, the same being constructed in the manner and for the purposes described.

Third, the concave disk D in combination with the water and steam distributor E, the same being constructed and operated in the manner and for the purpose described.

65,548.—A. P. CURRY, Chagrin Falls, Ohio.—*Milk Can.*—June 11, 1867.—Between the plates of the bottom, which are concave inside, is an interposed rubber packing.

Claim.—The concave bottom B, auxiliary bottom C, and packing D, as constructed and arranged in combination with the can H, for the purpose and in the manner set forth.

65,549.—GEORGE S. CURTIS, Chicago, Ill., assignor to himself and ELLIS G. L. FAXON, same place.—*Attaching Draft to Vehicles.*—June 11, 1867.—The double-tree acts upon the rubber blocks through the bolt attached to its holding jaws.

Claim.—The combination of the ordinary whiffletree M and pole A with the bed plate B, the jaw E, the rod C, the rubber spring G, and the washer J, and the nut N, for the purpose of tightening and loosening the spring G, when all are constructed and operate substantially as and for the purposes herein described.

65,550.—WM. P. DUNLAP, Maquoketa, Iowa.—*Wrench.*—June 11, 1867.—The socket plate is pivoted between the prongs to allow oscillation. The sides of the block have varying openings.

Claim.—A wrench constructed substantially as and for the purpose set forth.

65,551.—DANIEL S. EARLY, Hummelstown, Pa.—*Meat Cutter.*—June 11, 1867.—The gearing rotates the chopping block and the shaft above. The shaft has cams which raise the cutters consecutively, and the latter drop by gravity.

Claim.—The combination of the rotating cutter block D, gearing E F G I, cam shaft J, and vertical spring choppers F, constructed and operating substantially as described and represented.

65,552.—Cancelled.

65,553.—Cancelled.

65,554.—ADAM ERNST, Milwaukee, Wis.—*Stove-pipe Drum.*—June 11, 1867.—The drum is placed above the stove, the vertical axial pipe or the serpentine course in the annular outer chamber affording a passage for the caloric current according to the adjustment of the damper in the vertical pipe.

Claim.—First, the herein-described heating apparatus, the same consisting of a drum or radiator capable of being applied to a stove or pipe of ordinary construction and provided with flues, arranged substantially in the manner and for the purposes herein shown and described.

Second, the combination and arrangement of the inner or direct smoke flue and annular air chamber surrounding the same with the outer helical flue or radiator, and the pipes or tubes for connecting the sections into which the said flue is divided, substantially as herein described.

65,555.—JAMES B. EUSTIS, New Orleans, La.—*Change Box.*—June 11, 1867.—This is a means of communicating with the street-car driver. The money is placed in the hopper, which is then oscillated to expose its contents outside, striking the bell on its passage. The change or tickets are substituted for the money, and the box restored to its former position.

Claim.—First, the oscillating box C pivoted at its ends to the flanges of plates B B, substantially as and for the purpose set forth.

Second, the oscillating box C pivoted at its ends in plates B B, in combination with the bell D, or its equivalent, arranged and operating substantially as described and for the purpose set forth.

65,556.—J. S. FARRINGTON, Milwaukee, Wis.—*Bed Bottom.*—June 11, 1867.—The pendent guide rods pass through double conical openings, at whose waist is a transverse plate of india-rubber, to prevent creaking of two wooden surfaces together.

Claim.—Top and bottom frame E with bell-shaped openings, with rubber B, guide rods A and pins D, all combined and arranged substantially as and for the purpose described.

65,557.—W. M. H. FLINN, Nashua, N. H., assignor to himself and JAMES N. KENDALL, same place.—*Tool for Cutting Wire.*—June 11, 1867.—Improvement on his patent May 8, 1866.—The stationary and movable die plates have corresponding openings of diameter to suit varying sizes of wires. One is reciprocated upon the other by a segment lever. The obliquity of the holes compensates for the inclination of the wire due to the impact of the cutters upon its opposite sides when fitting loosely in the holes.

Claim.—An improved wire or rod cutter made as described, viz: with each cutting hole of each pair of such holes of the plates B and c, arranged obliquely to the touching faces of such plates, substantially as and for the purpose hereinbefore described.

65,558.—CHARLES W. GAGE and JAMES NOR THRUP, Homer, N. Y.—*Mop Wringer.*—June 11, 1867.—The roller jaws are attached to a pail, are approached by a clasp spring, and opened by pressure on a treadle.

Claim.—First, in connection with the mop pail A, stationary roller B and swinging roller b, operated by the foot levers D d and springs H, when so arranged that the rollers are opened by the foot levers and the wringing done by the springs, substantially as and for the purpose set forth.

Second, the joint formed between the levers D d, by severing them at the foot-rest f, and pivoting their ends thereto, substantially in the manner and for the purpose set forth.

Third, the employment of the C springs H, as herein shown, and the method for regulating the pressure, substantially as set forth and for the purpose described.

65,559.—CHARLES GOOCH, Cincinnati, Ohio.—*Ice Cream Freezer.*—June 11, 1867.—One of the scrapers gives a centrifugal and the other a centripetal motion to the cream.

Claim.—The combination of the concave scraper I, to remove the frozen cream from the walls of the can D, the convex agitator H, extending from near the center of said can, arranged with a space i between them, and adapted to operate as herein described.

65,560.—DENNIS GOODYEAR, Ithaca, N. Y.—*Last Lock.*—June 11, 1867.—The plug passes through the last block into the last and its spur is secured to the latter by a partial revolution.

Claim.—First, the described device, composed of the parts G, the plug or pin F, the sheath and its dog or tooth and handle D, or other convenient equivalent, for turning and thus locking the same in the last as described.

Second, the device of a pin or plug thrust through the last block into the last and held there by friction, a dog or tooth or other convenient means, when the locking is done by the cam-like action of the pin or plug, as described.

65,561.—S. W. GOODYEAR and W. F. PARKER, Meriden, Conn., assignors to CHARLES PARKER, same place.—*Bolt-heading Machine.*—June 11, 1867.—The wire is fed through an opening in one of the dies into the circular plate, whose movement cuts it and presents another die to the same wire, and so on. Two headers attached to the same slide successively upset

and finish the head. In the first operation a spindle forms the back of the die, and in the second the blank touches the plate behind the die. The blank is forced out of the die by a plunger.

Claim.—First, the combination of the two heading punches f and c and spindle I with the revolving die plate C, all constructed, arranged, and operating substantially as set forth.

Second, the combination of the solid movable dies with the upsetting spindle I, arranged as described, so as to recede after the blank is upset and allow the complete head to be formed after the said spindle has so receded.

Third, the cam h, slide m, and pawl n, in combination with the pawl P and ratchet R, arranged and operating substantially as herein described.

65,562.—ARTHUR GRAY, Naples, N. Y.—*Joiners' Plane.*—June 11, 1867.—The "back iron" is screwed to the stock, and projects within the aperture. The cutter is placed between the back iron and the clamp, passing through a stirrup in the latter, which catches on the projection of the back iron. A screw in the clamp binds against the cutter.

Claim.—The combination of projection e on the back iron with the staple k and thumb screw m on the clamp, when arranged as and for the purposes set forth.

65,563.—JULIUS HACKERT, New York, N. Y.—*Metallic Compound or Alloy.*—June 11, 1867.—Composed of cream of tartar, $\frac{1}{2}$ lb; saltpeter, 1 oz; copper, $\frac{1}{2}$ lb; borax, 1 oz; zinc, 1 oz; and tuty, (impure protoxide of zinc,) 1 oz.

Claim.—A metal compound, made of the ingredients herein specified, and mixed together, substantially in the manner and about in the proportions set forth.

Also, the addition of saltpeter and cream of tartar to a compound of copper and zinc, substantially as and for the purpose described.

65,564.—GEORGE HADLEY, Buffalo, N. Y.—*Still.*—June 11, 1867.—The pipe rising from the still has successive condensers in ascending series, the liquid in which is gradually cooler as they recede from the still.

Claim.—First, a series of jackets of graduated temperature applied to the pipe of a still to eliminate by successive stages a fluid of given tenuity, and return the heavier condensed vapors.

Second, a tube a, leading from the still, and provided at different points in its length with a succession of condensers adapted to condense successive portions of the vapor therein.

65,565.—JAMES HALL, Monroe Township, N. Y.—*Machine for Making Cordage.*—June 11, 1867.—The cords are fed by rollers on the truck, actuated by a belt upon a pulley of the axle, as the truck is drawn by the endless rope, and recedes from the revolving spindles.

Claim.—The arrangement of the spindles 1 2 3, drum D, truck T, ways W W and rollers E E', with the endless rope or belt B, all operating together in the manner and for the purpose set forth.

65,566.—JOHN J. HARRIS and ISAAC H. MOSHER, Greene, N. Y.—*Door Holder.*—June 11, 1867.—The bolt is pointed to engage the floor at any place, and hold the door in the required position.

Claim.—As a new article of manufacture the bolt A, constructed and operating substantially as and for the purposes specified.

65,567.—HARVEY J. HARWOOD, Utica, N. Y., assignor to himself and J. F. LYMAN, same place.—*Screw Machine.*—June 11, 1867.—The blank is passed between rotating dies, by which the thread is impressed upon it without removal of metal.

Claim.—First, the combination of the dies I and K and the guides M M, constructed and operating substantially as described, and for the uses and purposes mentioned.

Second, the combination of the said dies and guides, and the set screw M', constructed and operating substantially as described, and for the uses and purposes mentioned.

65,568.—HORACE R. HAWKINS, Akron, Ohio.—*Lathe for Turning Wood.*—June 11, 1867.—The driving center is placed eccentrically in the face plate.

Claim.—The combination with a turning lathe of ordinary or suitable construction of a face plate and eccentric or driving center under such an arrangement that the arm of the axle placed in the machine may be turned with a combined gather and pitch, in the manner herein shown and specified.

65,569.—AZRO HEALY, Kalamazoo, Mich.—*Lifting Jack.*—June 11, 1867.—The ratchet bar is raised to the axle by a draw cord and held up by the clevis pawl on the lifting bar, which is pivoted to and raised by the secondary lever, raised in turn by the hand lever and carrying a segmental ratchet engaged by a pawl. The ratchet bar is released by a draw rod which draws up the clevis pawl.

Claim.—First, the arrangement and combination of the prime lever L, lifting chain M, and secondary lever N, with the end ratchet R and foot pawl P', substantially as and for the uses herein set forth.

Second, the aforesaid arrangement of combined parts used in connection and combination with the lifting bars F and E, lifting pawl P², and manipulating cords or wires e and f, the several parts being arranged relatively with the frame of the jack and with each other, and constructed and operated substantially in the manner and for the purposes herein described.

65,570.—A. E. HEBERD, Homer, N. Y.—*Well Tube.*—June 11, 1867.—The tube is slotted vertically; has a spirally grooved drill point riveted to its lower end, and a cap to its upper end, over which may be placed an anvil block.

Claim.—The combination of the auger D secured to the tube C by bolt F, cap A, anvil B, bar G, with the tube, all constructed, arranged, and operated as described.

65,571.—HENRY HELM, Pittsburg, Pa.—*Feed Cutter.*—June 11, 1867.—The knife plate is curved on its cutting edge and is set eccentrically on its block by screws and slots, by which it may be set forward as it wears. Its prominent corner enters the guiding groove of a curved bar attached to the box.

Claim.—First, the rotary eccentric knife g provided with slots h h', in combination with the knife block f, substantially as and for the purposes described.

Second, the projection p on the knife of a feed cutter in combination with the curved bar l provided with a notch or groove l', substantially as and for the purpose above described.

65,572.—GEORGE WM. HOLDEN, Claremont, N. H., assignor to himself and JAMES P. UPHAM, same place.—*Water Wheel.*—June 11, 1867.—The wheel has a central discharge. A guide at the rear side of each bucket directs the water to the next. A gate at the end of the scroll water-way gives passage to obstructions. The step is restricted to a vertical path and adjusted by a rack and pinion.

Claim.—First, the guides m applied at the backs of the buckets of the water wheel, substantially as and for the purposes specified.

Second, the reverse curves l at the outer ends of the water wheel buckets, in combination with the guides m at the back and outer ends of the buckets, substantially as and for the purposes set forth.

Third, the curved lower edge n of the bucket in combination with the guide m, substantially as and for the purposes specified.

Fourth, the movable curved section u hinged to the swinging section s that moves with the shaft t, substantially as and for the purposes set forth.

Fifth, the segmental gate p in combination with the movable curb section u and swinging section s, as and for the purposes specified.

Sixth, the lever v, fitted substantially as specified, in combination with the swinging section s and curb section e, for the purposes set forth.

Seventh, a horizontal shaft x extending from the step for the shaft c to the outside of the water-way, to one end of which mechanism is applied to turn the same, substantially as specified, and the other end is fitted to act upon the step to raise or lower the same, by substantially the means specified.

65,573.—JAMES HOLLINGSWORTH, Chicago, Ill., assignor to J. M. WANZEI, same place.—*Horse Rake.*—June 11, 1867.—The rake teeth pass through blocks which are strung on their pivot bar and are held by set screws. The teeth have an upper bearing in a perforated flanged pin, one end of which is surrounded by a spiral spring, by which a certain oscillation is allowed to the teeth. The rake is thrown up for discharge by a pivoted lever.

Claim.—First, the construction of a rake tooth bearing J with three passages at right angles to each other, when said bearings are of a form to abut directly against one another and the teeth extend clear through the top passage of the bearing, substantially in the manner and for the purposes described.

Second, the construction of the eye bearings g for supporting the rake teeth T, and holding the spring, substantially as described.

Third, the combination of the jointed bearings J and eye bearings g with a rake tooth of the form substantially as herein described.

Fourth, the combination of the bearings J with set screws l, the rocking frame with its arms and the eye bearings g, with their springs, substantially in the manner and for the purposes described.

65,574.—EDWIN J. HORNER, Wilmington, Del.—*Car Spring.*—June 11, 1867.—A semicircular notch in the side of each plate at its mid-length engages the vertical rib of the box.

Claim.—A series of oblong metallic semi-elliptical plates, each having an opening x near its center arranged together, as herein shown, with full elongated ellipses between semi-elongated ellipses placed within a box A, having a vertical rib d, whereby they are alone secured in their proper places and held by the pressure of a grooved block B, in the manner as herein specified.

65,575.—JOHN S. HOWELL and CHARLES W. CARTER, Portsmouth, N. H.—*Lozenge Machine.*—June 11, 1867.—The cutters on the traversing carriage pass up into holes in the clearing board, which is supported on springs and depressed by the roller to sufficiently unmask the cutters. The lozenges fall upon the receiving board beneath.

Claim.—The combination and the arrangement of the roller a and the traversing carriage f, carrying the cutters c, clearing board e, and receiving board g, all combined for joint operation, substantially as set forth.

65,576.—H. P. JONES, Davenport, Iowa.—*Wind-ing Tattling Shuttles.*—June 11, 1867.—The tattling shuttle is secured to the rotating arm by thimbles which slip on the arm and clasp the points on each end of one shell of the shuttle. The thread is guided by an eye as it comes from the spool.

Claim.—The employment of sliding tubes or rings a a, upon the ends of the rotating rod D, so as to receive and secure in place tattling shuttles of different lengths, substantially as and for the purpose described.

65,577.—JOHN KILLGORE, G. D. CLAPSADDLE, and EDWARD SNART, Arcola, Ill.—*Post-hole Auger.*—June 11, 1867.—The pin in driving sinks into its socket and the wings enter the soil. In raising, the pin slips out partially and allows air to enter below the auger, which is lifted by throwing the band-wheel into engagement.

Claim.—The arrangement of the sleeve J, and its pin K, with the shaft H, frame B, and band G, substantially as and for the purpose herein specified.

65,578.—ROBERT B. KILLIN, Canton, Ohio.—*Corn Dropper.*—June 11, 1867.—The separator may be used to keep the seeds from falling together or by removal allow them to fall in a bunch. The spring prevents the leakage of seeds when the valve standard is pushed up. The latter is made partly of wrought and partly of cast iron.

Claim.—First, the separator J, attached to the valve standard B, in the manner and for the purpose herein specified.

Second, the spring H, attached to the valve standard of this or any other seeding machine, substantially in the manner and for the purpose herein set forth.

Third, the mode of construction of the valve stand-

ard B, the red X being made of wrought iron and the part Y of cast iron, substantially in the manner and for the purpose herein specified.

65,579.—GEORGE W. LADD, Providence, R. I., assignor to JOHN A. BROWN, same place.—*Making Side Bands of Watch Cases.*—June 11, 1867.—The side band is made of three portions; a central band and two rims, one on each side; the latter have grooves into which the snapping edges of the lids fit. The pieces are made separately, and they are afterwards soldered together.

Claim.—The method of constructing the side bands for watch cases, substantially as herein described for the purposes specified.

65,580.—CHARLES L. LEGE, San Antonio, Texas.—*Medical Preparation.*—June 11, 1867.—For the preparation of poultices, or as a medicine, for the remedy of scurvy. The fleshy parts of the cactus opuntia are dried and reduced to powder.

Claim.—The invention of making this powder and its application as a poultice and a medicinal remedy against the scurvy, as herein described.

65,581.—WILLIAM P. LEWIS, Pittsburg, Pa., assignor to himself and WILLIAM H. SIMS.—*Casting Tweers.*—June 11, 1867.—The central pipe has a groove around its outer surface on which the heads of the outer shell are cast, making a water-tight joint. One or both ends of the centre pipe have a removable tip.

Claim.—The method of beveling the ends of the centre pipe of a twee, substantially as described, and casting the ends of the outer shell of the twee onto and around the surfaces so beveled or flanged, substantially as and for the purposes set forth.

65,582.—SAMUEL MALES, Cincinnati, Ohio.—*Safety Guard for Railway Cars.*—June 11, 1867.—The guard casing extends in front of both wheels, and between the pedestals it is vertically adjustable on its supporting eye bolts.

Claim.—First, the adjustable guard made in sections encasing the wheels, substantially as and for the purpose set forth.

Second, the arrangement of ratchet bow, catch, links, bolts, nuts and springs which admit of the perpendicular adjustment of the guard, substantially as described.

65,583.—GEORGE MEADER, Prairie Centre, Ill.—*Potato Digger.*—June 11, 1867.—The two outer tines form the ends of a yale pivoted to a foot-bar, and act as a support to the other tines when the potatoes are raised from the ground.

Claim.—The combination of the standards D, and the fork C, or its equivalent, provided with suitable handles, and arranged and operating substantially as and for the purposes specified.

65,584.—GEORGE MEADER, Prairie Centre, Ill.—*Mop Head.*—June 11, 1867.—The pivoted jaw is oscillated so as to clamp the cloth against the cross-head, where it is maintained by a latch.

Claim.—The combination of the handle A, plate B, jaw C, and latch D, all arranged and operating substantially in the manner and for the purposes specified.

65,585.—ISAAC M. MILBANK, Greenfield Hill, Conn.—*Breech-loading Fire-arm.*—June 11, 1867.—The breech-block is held down by a segmental pin having a lever which is held between a projection of the cock and a pin in the stock to prevent its turning when the cock is down. At half-cock the lever may be thrown up to release the breech-block.

Claim.—First, the segment of a cylinder *i*, within a recess at the rear end of the swinging breech-block *c*, in combination with the lever *f*, that is employed for both turning the said segment *i* and opening or closing the breech by the block *c*, substantially as and for the purpose set forth.

Second, supporting and guiding said segment *i*, by the cylindrical portion at *z*, as set forth.

65,586.—EUGENE WILLIAM NOHI, Ripon, Wis., assignor to himself and EDWARD DANIELS, Chicago,

Ill.—*Furnace for Reducing Metallic Ores.*—June 11, 1867.—Explained by the claims.

Claim.—First, a furnace provided with short pipes or passages for introducing the gas, hot from the generator, into the furnace, and also with a blast of air, the meeting currents of gas and air directing the flames upon the ore, substantially in the manner and for the purposes set forth.

Second, the raised center of the bed of the furnace for supporting the ore, and allowing the fused metal to flow away from the central heat and be drawn off without being overheated or burnt, substantially as described.

Third, a gas generator provided with a blast, in combination with a furnace for burning the gas before cooling, substantially in the manner and for the purpose specified.

65,587.—I. G. NORTHWAY, Kenosha, Wis.—*Brace for Supporting Thrashing Machines.*—June 11, 1867.—The brace and dog are hinged to the base piece, the latter engaging a ratchet of the former.

Claim.—The combination of bed A, brace B, and dog C, when arranged substantially as set forth.

65,588.—A. M. OLDS, New York, N. Y.—*Self-adjusting Wrench.*—June 11, 1867; antedated May 27, 1867.—The outer jaw is pivoted to the shank, and has a rectangular inner bend to engage the nut which is forced in contact with the serrated surface of the other jaw.

Claim.—The above-described wrench as an improved article of manufacture.

65,589.—A. M. OLDS, New York, N. Y.—*Pliers.*—June 11, 1867; antedated May 27, 1867.—The segmental arm on one of the handles passes through a slot in the removable jaw, and by its spiral form opens or closes the jaw and retains it in the position to which it is adjusted.

Claim.—The combination of the handles, segmental spiral arm, and movable jaw, substantially as arranged and described.

65,590.—JAMES A. OLNEY, Providence, R. I.—*Machine for Making Paper Tubes.*—June 11, 1867.—A strip of paper of the requisite width is fed from a roller, passed between the presser and the gummy, endless belt, and is wound upon the fluted roller, coil upon coil, the surfaces adhering. The fluted roller is then raised above the shears which cuts the strip; the discharger slips the paper tube from its mandrel, which is then lowered upon the strip and the work is resumed.

Claim.—The combination as well as the arrangement of the endless pasting or covering belt B, the trough F, the presser G, the fluted roller H, the discharger K, and the scissors O, the said belt, scissors, roller and discharger being provided with mechanism for operating them, substantially as described.

Also, the combination as well as the arrangement of the endless pasting belt B, the trough F, the feed roller M, the fluted roller H, the discharger K, and the scissors O, the said belt, feed roller, scissors roller and discharger being provided with mechanism for operating them, substantially as described.

Also, the combination as well as the arrangement of either or both of the devices *t u*, the endless carrying and pasting belt B, the trough F, the presser G, the fluted roller H, the discharger K, the scissors O, such belt, scissors, roller, and discharger being provided with mechanism for operating substantially as hereinbefore described.

65,591.—CALVIN H. PAINE, Providence, R. I., assignor to himself and WM. D. HILTON, same place.—*Gate.*—June 11, 1867.—The gate is made on the principle of the lazy tongs, and when fully expanded or retracted its ends enter recesses in the posts.

Claim.—The combination of the chambered posts, or their equivalents, and the folding gate made of the crossed bars connected as described.

Also, the combination of the chambered posts, or their equivalents, the folding gate and mechanism, substantially as described, for operating such gate in manner as explained.

65,592.—CALVIN H. PAINE, Providence, R. I., assignor to himself and WM. D. HILTON, same place.

—*Fence*.—June 11, 1867.—The filling of the panel consists of pivoted strips which are expanded from post to post and between the upper and lower rail when in use; but may be removed from their adjuncts and collapsed for transportation.

Claim.—The fence as made with the lazy tonges, or folding section or body, arranged and combined either with grooved posts or the same and rails, substantially as specified.

65,593.—WM. P. PARROTT and J. J. BORDMAN, Boston, Mass.—*Apparatus for Amalgamating and Collecting Gold and Silver from Ores*.—June 11, 1867.—Explained by the claims and illustrations.

Claim.—A combination consisting of not only one or more rollers and one or more troughs of mercury or for holding mercury, but of one or more scrapers, or their equivalents, for removing the amalgam from the surface or surfaces of such roller or rollers, the whole being substantially as described.

Also, the arrangement of two rollers and their mercury troughs, so that the said rollers while in revolution may take up the mercury from the troughs, and by their combined action press it against or cause it to adhere to and spread evenly on their surfaces.

Also, the construction of the mercury trough so as to extend up between the two rollers and guide the mercury up to their bite while they are in revolution, the same being as exhibited in Fig. 6.

Also, the combination of the heating chamber E, or a means of heating the trough of mercury or the same and its roller or rollers, with the said trough, the roller or rollers, and the scraper or scrapers thereof, as specified.

Also, the arrangement of the auxiliary rollers R R with the main rollers B C, their scrapers, and mercury trough, as explained.

Also, the combination as well as the arrangement of the riddle O with the trough D, one or more rollers B C, and one or more scrapers N N.

Also, the combination of mechanism for imparting to either or both of the rollers B C endwise movements under circumstances as set forth, with such rollers, the mercury trough, and the scrapers or their equivalents, the whole being substantially as specified.

65,594.—F. S. PEASE, Buffalo, N. Y.—*Blast Apparatus for Carbureters*.—June 11, 1867.—The four cams, at 90° apart on the shaft, come consecutively into action upon the bellows, and thus keep a constant tension of air in the main air chamber above.

Claim.—The arrangement of the shaft A, cams B B, dividing the circle and operating the bellows of corresponding numbers, which are adjusted as to capacity by the check string c, the whole constructed and operated substantially as described and represented.

65,595.—F. S. PEASE, Buffalo, N. Y.—*Blast Apparatus for Carbureters*.—June 11, 1867.—The eccentrics on the rotating shaft divide the circle, so as to give a continuous blast of air from the upper bellows, which receives air from the lower bellows consecutively.

Claim.—First, the double bellows A, so constructed that the sections are reciprocally operated by the same impulse from crank or eccentric on a rotary or vibrating shaft, substantially as described.

Second, the combination of the rotary or vibrating shaft G, provided with cranks or eccentrics, the connecting rods H, and series of double bellows A A, substantially as described.

65,596.—GEORGE B. PERKINS, Bridgeport, Conn., assignor to BURLOCK MANUFACTURING COMPANY, same place.—*Shirt Bosom*.—June 11, 1867.—The supplemental bosom consists of two side pieces with corded edges, which are attached to the shirt by their outer sides.

Claim.—A bosom attached to the shirt over the bosom proper thereof, expanding in width from its attachment to the collar band, and narrowing in its approach to the waist, as shown, and strengthened longitudinally by cording, all substantially as described.

65,597.—C. W. PIERCE, Albany, N. Y.—*Construction of Pots for Charring or Burning Bones*.—

June 11, 1867.—The bottom is radially slotted to prevent fracture by unequal expansion from heat.

Claim.—In the construction of pots for use as described, the division of the bottoms of the pot into parts, separated from each other by slots, constructed and arranged as described and for the purposes set forth.

65,598.—EDWIN S. PIPER, Indianapolis, Ind., assignor to himself and ATKINS & Co., same place.—*Hardenings Saws*.—June 11, 1867.—The saw plate is clasped and rigidly held while being lowered into and during immersion in the oil baths.

Claim.—First, the preventing of springing of saws during the process of hardening.

Second, the construction of the clamps.

Third, the combination of the lever N, cam M, hook K, rim L, double hook T, plunger G, and knuckle joints H H with the clamp D and clamp F, all arranged and operating substantially as set forth and for the purpose described.

65,599.—JOHN PLAYER, Norton, England.—*Hot Blast Stove*.—June 11, 1867; antedated April 21, 1866.—Improvement on his patent March 29, 1865. From the fire chamber the calorific current passes to a combustion chamber, and from thence through apertures in a brickwork arch to the chamber containing the heating pipes.

Claim.—The constructing and arranging of a hot blast stove to be used with coal or solid fuel, with three distinct chambers, in the manner herein described.

Also, the use, in conjunction therewith, of a steam jet as herein described.

Also, the use of a steam jet to draw down the gases from the top of the blast furnace and to force it into the stove for heating the blast.

65,600.—JOHN PLAYER, Norton, England.—*Apparatus for Heating the Blast for Furnaces*.—June 11, 1867; antedated March 25, 1865.—The gases from the blast furnace pass into a combustion chamber, and from thence through openings in the arch of the same to the chamber containing the air-heating pipes.

Claim.—The constructing or arranging of a hot blast stove in the manner herein described, whereby the waste gases are ignited and consumed in a chamber separate from the chamber within which the pipes are contained.

65,601.—JAY W. POWERS, Evanston, Ill.—*Hinge*.—June 11, 1867; antedated May 28, 1867.—The cam is pivoted to two leaves of the hinge, passes through a long slot in the other one, and has a vertical pin engaging its further side. The said cam governs the relative movement of the leaves.

Claim.—The cam D, applied to a triplicate hinge, constructed and operating substantially as and for the purposes herein set forth.

65,602.—STEPHEN PUFFER, Oxford, N. Y.—*Car Coupling*.—June 11, 1867.—The ends of the coupling link are extended beyond the pivot, to be acted on by the detachable cam block of the other bumper, to cause automatic coupling.

Claim.—First, the combination of cams c with the pivot ends of a detachable swivel-jointed coupling link E, when said ends are so arranged as to be struck by the collision of the cars when thrown back upon the bumper.

Second, the combination of a detachable bumper block with either bumper of a railway car and with a swinging coupling link, all substantially in the manner and for the purposes set forth.

65,603.—PATRICK QUINN, South Newmarket, N. H.—*Ferrule for Stopping Leaks in Boiler Tubes*.—June 11, 1867.—Improvement on patent No. 39,717. The expander is conical on its outer side and screws into the inner end of the gland, and is made hexagonal on the inner side to enable it to be turned by a key.

Claim.—The gland and the expander, as made not only with the male and female screws, and with either or both tapering as specified, but as having a keyhole formed in the bore of the expander, as set forth.

65,604.—N. B. REYNOLDS, Auburn, N. Y.—*Forming Projections on the Caps of Plane Irons.*—June 11, 1867.—The buttons made by punching rivet holes in boiler plates are inserted in the chamfered holes in the caps for plane irons. They are settled therein by a savage blow and then bored and dressed.

Claim.—The method of construction substantially as described.

65,605.—SAMUEL RICHARDS, Philadelphia, Pa.—*Snow Ploa.*—June 11, 1867.—The wedge and its pivoted flap may be used on either side or centrally and is moved by an endless chain and windlass.

Claim.—The combination of the inclined plane A, A', and the movable wedge block B, and the pivoted flap c, arranged and operating substantially as described.

65,606.—GEORGE RICHARDSON, Lowell, Mass.—*Let-off for Looms.*—June 11, 1867.—The whip-roll finger rests on a spring bar connected to one end of a strap brake on a grooved pulley whose shaft is engaged to the yarn roller.

Claim.—The combination of the whip-roll finger e, tension rod f, tension spring k, grooved or equivalent shaped wheel o, and strap or band n, arranged and operating together substantially as and for the purpose herein specified.

Also, the combination of the cam h, adjustable finger g, rod j, and strap n, for producing a positive stop to the let-off motion while beating up the woof, substantially as herein specified.

65,607.—B. S. ROBERTS, United States Army.—*Breech-loading Fire-arm.*—June 11, 1867.—The breech block swings vertically on a curved abutment formed on the frame to which the barrel is secured. On the front end of the breech piece is a rocking block which fits against the rear of the bore, and a groove on the block operates the cartridge-case loosener.

Claim.—First, the combination with a breech piece B, which springs about a curved abutment e, a rocking block g, so applied to said breech piece as to allow of the opening and closing of the breech of the barrel for the insertion or withdrawal of a cartridge, substantially as described.

Second, the lever B', formed on the rear curved end of the swinging breech piece B, and adapted to move about the solid abutment e, in combination with a rocking block g, which will admit of the opening and closing of the breech, substantially as described.

Third, the groove m, in the rocking block g, operating on the lever at the shoulder n, so as to extract the cartridge, substantially as described.

65,608.—WILLIAM ROBERTSON, Plymouth, Ind.—*Hanging Window Sash.*—June 11, 1867.—The pulley block is fitted in the top of the groove in the jamb casing and affords a means of hanging the sash so as to be removable, the pulley block occupying the same groove as the parting strip.

Claim.—The pulley block F, when constructed and arranged substantially as and for the purpose set forth.

65,609.—ROBERT ROSS and B. E. LEHMAN, Bethlehem, Pa.—*Lubricator.*—June 11, 1867.—Oil is admitted from the mouth to the reservoir, by depressing the spindle which opens the oil communication, and turning the upper set screw which permits the passage of air. Turning the spindle brings into correspondence the openings in the cap of the spindle and the branch which leads to the machinery and permits oil to flow to the latter.

Claim.—First, the combination of the spindle D, its valve f, cap k, spring m, projection n, and passages p p', the whole being constructed and arranged in respect to the mouth and reservoir of the oil cup, substantially as and for the purpose herein set forth.

Second, the combination of the above and the hollow spindle D, its vent hole b, and the set screw F, for the purpose specified.

Third, the ring C, resting with its notched under edge in the mouth A, and forming a rest for the spring I, all as set forth.

Fourth, the detachable annular strainer H, constructed and combined with the ring C, spindle D, and spring I, as described.

65,610.—A. P. ROUTH, Liberty Mills, Va.—*Seeding Machine and Fertilizer.*—June 11, 1867.—The rotating seed roller carries down the fertilizer and seed to a common spout. A brush clears the seed from the top of the seed cavities, and a reciprocating agitator having two upper and two under projections acts on the fertilizer.

Claim.—First, the furrowing tooth C, having the broad reversible plate or shovel w, and the brace v, substantially as and for the purpose specified.

Second, the agitator M, in the fertilizer box, having the arms z z' z'' z''', substantially as and for the purpose described.

Third, the construction of the conducting tubes, feed box, and distributing roller in such a manner as to show at S the distributing roller N, and the interior of the conducting tube H, substantially in the manner and for the purpose specified.

65,611.—JOSEPH RYAN, St. Louis, Mo.—*Scuttle Door for Buildings, Dry Docks, and Vessels.*—June 11, 1867.—The scuttle door admits of inspection of the enclosed space and permits the entrance of nozzles or hose for extinguishing fire; they are otherwise water tight.

Claim.—The combination and arrangement of a scuttle door B, having one or more fire safety openings d', and conducting and distributing hose or pipes d² d³ d⁴, with decks, ropes, &c., substantially in the manner and for the purposes herein set forth.

65,612.—HENRY C. SERGEANT, Columbus, Ohio.—*Brick Machine.*—June 11, 1867.—The clay is pressed from the pug mill into the mold, while the latter is underneath and the follower depressed. The follower travels on a track by which it is raised to press the brick against the arm, which travels with it a short distance. The bricks then pass below the striker and are ejected by another rise of the follower.

Claim.—First, lowering the followers at intervals, or continuing the lowering while under the pug mill as the molds are being filled, to facilitate the filling of the corners of the molds.

Second, the adjustable striker plate, having a bolt or slot for clamping, as shown and described.

Third, the arm D, having an intermittent motion in combination with the rise in the track, as shown and described.

Fourth, the pins or projections on the rim of the mold wheel for giving motion to a pressure plate or arm D, or its equivalent, as shown and described.

65,613.—HENRY C. SERGEANT, Columbus, Ohio.—*Brick Machine.*—June 11, 1867.—The mold wheel has a series of inclined tracks on its periphery which come beneath the axis of the roller to raise it from the face of the mold wheel. The axis of the roller is hinged to a collar on the central shaft and the action of the roller is to press the upper faces of the bricks.

Claim.—First, the weight E, with its arm when made to hinge and turn upon the shaft of the mold wheel for the purpose specified.

Second, the inclined tracks when attached to the periphery of the mold wheel for raising or dropping a weight upon the face of the brick for finishing, as shown and described.

Third, the arm, toe, and incline on the end of arm for facilitating the rising and getting the weight back to its place.

Fourth, the stop i, attached to the arm or weight E, when operated to drop into holes or notches for the purpose of preventing the weight from sliding on the brick when being raised up, as shown and described.

65,614.—REUBEN SHALER, Madison, Conn.—*Cover for Gridirons.*—June 11, 1867.—The recessed cover has a central hole with a disk attached below it.

Claim.—A cover having an opening C, and protected from below by a plate D, substantially as and for the purpose specified.

65,615.—WILLIAM H. SHURTLEFF, Providence, R. I.—*Button-lacing Hook.*—June 11, 1867; antedated May 9, 1867.—The disk-shaped end has prongs, for attachment to the garment; the shank is bent into a hook form and the end turned up and attached to a button.

Claim.—First, making a button hook, in which the hook is within the periphery of and eccentric to the bottom of two, separate and distinct, united together at or near the center of the button, substantially as herein shown and described.

Second, as a new article of manufacture, a lacing hook and button, in which the button is made of horn, hoof, rubber, or other like material, and the hook of metal, the two being combined together, substantially in the manner herein shown and described.

65,616.—DANIEL M. SKINNER, Sandwich Center, N. H.—*Plate Lifter.*—June 11, 1867.—The loop jaws embrace the rim of the plate when the spring handle is compressed.

Claim.—The plate lifter, made as described, viz: Of a wire, bent as shown at *a b c d f g h i k l*, so as to form the elastic handle portion *A*, and two open jaws *B B*, as represented.

65,617.—AMBROSE TOWER, New York, N. Y.—*Cap for Upholsters' Springs.*—June 11, 1867.—The cap rests upon the upper coil, has arms to afford extended bearing for the mattress, and eyes by which it is attached to similar, neighboring caps.

Claim.—A grooved metallic cap for upholstery springs, having arms *A* and *B*, eyes *G*, and attachments *D*, constructed and arranged substantially as herein specified.

65,618.—JOHN H. TREADWELL, Swampscott, Mass.—*Tart Cutter.*—June 11, 1867.—The outer cylinder cuts the margin and the inner block makes the depression to hold the jam.

Claim.—The tart cutter, as made with the die *C* and the cutter box *A*, arranged as specified.

Also, the combination of the handle *B*, the cutter box *A*, and the die *C*, arranged as specified, the said box being provided or not with air holes, as described.

65,619.—H. B. VAN VOORHIS, Pittsburg, Pa.—*Gate.*—June 11, 1867.—The upper pintle of the gate moves in an oblique slot in a horizontal plate on the top of the post, and is moved by a slotted, oscillating lever, which is actuated by wires from distant levers, within reach of an equestrian. The action is to tilt the gate in one direction or the other to open or close it.

Claim.—First, the combination of the slotted plate *A*, slotted lever *B*, and pin *C*, substantially as and for the purpose set forth.

Second, the combination of these devices with the catches *L* and *N*, as and for the purpose set forth.

65,620.—AARON VOTAW, New Garden, Ohio.—*Churn.*—June 11, 1867.—The case is charged with cream and the lid fastened; it is then rotated and the cream dashes against the ribs and beaters.

Claim.—The arrangement of the breakers *E* and ribs *H I*, in combination with the case *C*, when operated in the manner and for the purpose substantially as set forth.

65,621.—W. W. WAKEMAN, JR., New York, N. Y.—*Lamp for Burning of Paint.*—June 11, 1867.—The alcohol, vaporized by the lamp, passed in a stream across the flame, and being lighted, impinges in a jet upon the surface of paint.

Claim.—First, the reservoir *A* placed over the lamp *L*, substantially as and for the purposes herein set forth.

Second, the expanded mouth *G* of the pipe *F*, or its equivalent, substantially as herein described.

Third, the independent lamp *L*, operating substantially as and for the purpose herein specified.

65,622.—JOHN N. and THEODORE WALLIS, Fleming, N. Y.—*Wagon Axle and Box.*—June 11, 1867.—A collar is screwed to the inner end of the axle arm, and a thimble on the axle is screwed into the box of the hub.

Claim.—First, the collar *D*, in combination with the thimble *E*, and box *B*, when all are constructed, arranged, and operated substantially in the manner and used for the purpose specified.

Second, securing the sand band *C* to the box *B*, as and for the purpose specified.

65,623.—CHAUNCEY E. WARNER, Syracuse, N. Y.—*Churn.*—June 11, 1867.—The central axis and its sleeve are revolved in different directions by their pinions and the master wheel. The dashers are pivoted and expand as they revolve.

Claim.—First, the hinged beaters *e f*, in combination with the shafts *B C*, and gears *b c d*, all constructed and operating as and for the purpose herein shown and described.

Second, in connection with the above, also the sliding hub *m*, for adjusting the upper beaters to varying quantities of cream, as and for the purpose set forth.

65,624.—JAMES WHAIT, Springfield, Mo.—*Foot Scraper.*—June 11, 1867.—Shucks or fiber are clamped in the jaws which rise from each end of the scraper plate.

Claim.—The hinged hollow sides *D D*, in combination with the scraper *B*, all constructed and arranged as and for the purpose set forth.

65,625.—NORMAN W. WHEELER, Brooklyn, N. Y.—*Water Anchor.*—June 11, 1867.—The cruciform frame has (when in use) a belying canvas attached, to whose middle portion is suspended a ballast weight. The frame spreads by tension of its ropes, and is collapsed by the spilling line to be hauled on board.

Claim.—First, the water anchor herein described, when the ropes *f f* are so arranged in reference to the cross-pieces *C D* as to expand the anchor by their tension, in the manner and for the purposes described.

Second, in combination with the above, the spilling line attached, and operating substantially as and for the purposes described.

Third, the combination of the weight *l*, canvas *E*, and cross-pieces *A A*, when arranged in the manner described.

65,626.—WM. H. WHITE, Kent Island, Md., assignor to himself and GEORGE W. WHITE.—*Dish Cover.*—June 11, 1867.—The wire skeleton is covered with netting.

Claim.—The combination of a skeleton frame and a fabric cover, when the former is shaped and constructed to hold in place a fabric cover, and the latter made detachable from the frame, for the purposes herein shown and described.

65,627.—AARON S. WINNER, Clark county, Ill.—*Quilting Frame.*—June 11, 1867.—Gains in the benches receive the shafts of the roller on which the quilt is wound. Ratchets on the ends of the rollers and pawls on the benches admit of and then maintain the required adjustment of the rollers.

Claim.—The construction of the self-supporting trestles or benches with the gains, in combination with the wheels and catches, arranged in the manner and for the purpose described.

65,628.—LEWIS W. WORTH, Sonoma, Cal.—*Paper Reel for Telegraphic Register.*—June 11, 1867.

—The ribbon of paper issuing from the telegraph register is strained by winding upon a drum, which is revolved by a weighted cord which passes around a pulley and is then wound round the axis of the drum. The latter is secured by pawl and ratchet to its axis, which permits the cord to be wound on the latter.

Claim.—The reels *B C*, adjustable drum *F*, with ratchet *P*, pawl *R*, and spring *S*, with cord *L*, arm weight *W*, for the purpose herein specified as set forth.

65,629.—WM. J. ANDREWS, Columbia, Tenn.—*Beehive.*—June 11, 1867.—The boxes are detachable, and the intercommunication is governed by a slide to each; the slides are moved simultaneously to confine the bees in each apartment, the grated cover stopping exit from the chamber at the entrance while the transfer of boxes or bees is being made.

Claim.—First, the semicircular pieces *F F*, the movable covers or caps *G G*, and the upright bar *H*, when used in the manner and for the purpose as herein specified.

Second, the moth trap *K*, when it is provided with the grated cover *I*, and feeding trough *L*, arranged in the manner and for the purpose specified.

65,630.—JONAS C. BAGNALL, St. Louis, Mo.—*Checking the Draft in Furnaces.*—June 11, 1867.—By opening the door in the smoke stack, atmospheric air is admitted, and the draft of the furnace checked.

Claim.—The arrangement of a door *b* in the smoke stack of a reverberatory furnace, and above the reverberatory line thereof, substantially as and for the purpose described.

65,631.—D. A. B. BAILEY, St. Johnsbury, Vt.—*Combination Square.*—June 11, 1867.—The triangular frame slides upon one arm of the square, and has an adjustable face hinged at one end, and secured by a set screw on its arc guides, and carrying a point which acts in apposition to a corresponding one on the face, which stands rectangularly to the arm of the square.

Claim.—The frame B B', the face pieces D, the circle E, and the points *g g*, the whole constructed, arranged, and held in position substantially as herein shown and described, in combination with the square, for the purposes set forth.

65,632.—D. B. BAKER, Rollersville, Ohio.—*Bag Fastener or Tie.*—June 11, 1867.—The halves of the clasp are hinged to a loop, and the hook of one engages one of the series of holes in the other to tie the neck of the bag.

Claim.—The metallic clasp for bags, constructed as described, consisting of the semicircular parts A A', whose wide sides rest against the bag, connected at one end by the link B, the opposite ends fastened by means of the triangular projections *b*, catching into the perforations *c*, the part A provided with the finger rest *d*, as herein shown and described.

65,633.—JOHN BANNIER, Hempstead, N. Y.—*Velocipede Sled.*—June 11, 1867.—The segment rack of the lever rotates the wheel, whose pivoted claws engage the ground and propel the sled.

Claim.—The claws *n*, pivoted on wheel C, on each side of a sled, in combination with the levers D, or their equivalent, for rotating the wheels, constructed and operating substantially as herein set forth.

65,634.—N. S. BEAN, Manchester, N. H.—*Hose Carriage.*—June 11, 1867.—Explained by the claims and illustration.

Claim.—First, in combination with the reel and its shaft, a winding shaft *i*, arranged upon the frame *a*, and connected to and rotating the reel shaft through the pulleys and their chains, substantially as shown and described.

Second, the arrangement of the reel shaft in bearings directly on the frame *a*, and directly over the carriage axle, when such axle is bent to permit the reel heads to run free from the same, substantially as set forth.

Third, the construction of each reel head of a concave disk, having shrunk upon the perimeter thereof a grooved ring or tire, substantially as shown and described.

Fourth, in combination with the reel the fuel boxes arranged on each side thereof, and under the frame of each box, having a discharge opening and a gate in its bottom, substantially as set forth.

65,635.—CHRISTOPHER BECKER, Flint, Mich.—*Brick Press.*—June 11, 1867.—Three sides of the mold are movable; one is formed by the horizontal presser, one by the movable top, and the lower one by the plunger, which rises to eject the brick when the cover is removed. The movable portions are actuated by levers, and the action is alternate in the two molds.

Claim.—A brick press, consisting of a combination of the box A, block B, plungers D D', and sliding covers H H', with each other, and with a suitable mechanism for operating the same, all made substantially as herein shown and described, and operating in such a manner that the bricks are pressed alternately in the molds G G', as set forth.

65,636.—MYRON H. BECKWORTH, Camden, N. Y.—*Corset.*—June 11, 1867.—The parts of the corset are sewed together by a seam which encircles the waist, and the seam is strengthened by a belt.

Claim.—A belt applied over and upon the seam around the waist part of the corsets, substantially as and for the purposes set forth.

65,637.—E. L. BOLSTER, Waterbury, Conn.—*Blacking Dish and Knife.*—June 11, 1867.—The sharpened end of the handle affords a cutting edge for stove blacking, &c., and the fragments fall into the dish.

Claim.—A dish provided with a knife or cutter blade, substantially as and for the purpose described.

65,638.—PETER BROADBOOKS, Batavia, N. Y.—*Wire Cutting Pincers.*—June 11, 1867.—The jaws are closed by the motion of the leg, which is shackled to the head of the stationary jaw, and presses by a knuckle joint upon the head of the movable one.

Claim.—The legs *b b'* and spring *d*, secured together by means of the rectangular collar *a* fitting over and working upon the heads *c c* of the legs *b b'* and spring *d*, the latter connected to the leg *b'* by means of the knuckle joint composed of the knuckle *g* and socket *h*, all constructed and arranged substantially as described for the purpose specified.

65,639.—GEORGE BROWN, EDWARD E. BURNHAM, and JOHN MORRISSE, Gloucester, Mass.—*Metallic Surface Coating Composition.*—June 11, 1867.—To protect from atmospheric influences and oxidation. Composed of rosin, 200; carbonate of lime, 300; linseed oil, 20; native oxide of copper, 5; sulphuric acid, 5 parts. For use, dissolve in naphtha.

Claim.—The composition made substantially in manner and of the ingredients set forth, and especially its combination with naphtha or the equivalents thereof, the whole being substantially as and for the purpose as hereinbefore specified.

65,640.—HENRY BUEHLER, New York, N. Y.—*Divan and Bed.*—June 11, 1867.—The back is lowered to form a head piece, and is supported by a hinged leg; when raised it is sustained by a bolt. The seat folds over forward and exposes two sections, which compose the body of the bedstead.

Claim.—A divan constructed substantially in its seat and back portions so as to be used and adjusted substantially as described for the purposes specified.

65,641.—L. BURNS, Portchester, N. Y., assignor to himself and JOSIAH WILCOX, same place.—*Dies for Forming Thill Couplings.*—June 11, 1867.—The coupling is formed of one piece by swaging it from a blank in a succession of dies, which form the tail piece and also the ears between which the thill iron is fastened by a bolt.

Claim.—First, the thill coupling constructed as described, by swaging the blank A in the dies D E and M N, as herein shown and described for the purpose specified.

Second, the dies D E, provided with the holes F and opening H, the dies M N, with equal shoulders L, all constructed as described for the purpose of forming the thill coupling, substantially as herein set forth.

65,642.—WILLIAM BUTCHER, JR., Sheffield, England, and THOMAS SHAW, Philadelphia, Pa.—*Forming Wheels, Tires, &c., by Castings.*—June 11, 1867.—The metal is cast in a revolving mold, which purifies the metals of their gases and brings the atoms in proper relation in respect to their affinities, making it more homogeneous. The metal is rubbed and wrought until its inertia is overcome, and then consolidated by the centrifugal pressure.

Claim.—First, the method of forming tires, wheels, and other articles of metal by casting, supporting the mold while the melted metal is being poured into it, upon being unconfined to a revolving disk, substantially as and for the purposes specified.

Second, in combination with a mold and revolving disk as set forth in the foregoing clause, the two rings *h* and *i*, or their equivalents, substantially as and for the purposes specified.

65,643.—JULES ALFRED CHAUFOURIER, Paris, France.—*Cotton Gin.*—June 11, 1867.—The cotton is fed automatically by oscillating combs operated by an eccentric rod. The bellows is actuated by an eccentric on the main shaft. Further explained by the claims.

Claim.—First, the self-feeding apparatus, consisting of the racks or combs *k*, N, and P, and the manner of operating the same, substantially as shown and described.

Second, the self-operating refrigerator or bellows I, for the purpose of conducting a current of air towards the driving or carrying cylinder H, substantially as herein shown and described.

Third, one or more supporting cylinders R, for the purpose of preventing a deflection of the shelling cylinders, substantially as herein shown and described.

65,644.—DOMINICO CHEEKINI, Brooklyn, N. Y.—*Toy Rope Dancer.*—June 11, 1867; antedated June 5, 1867.—The thumb knob in front of the platform is attached to a lever beneath, which is connected by a cord to the figure, so that the rapid depressions of the thumb knob cause the figure to dance.

Claim.—The lever E, the bells H, the rope D, and the figure I, or its equivalent, in combination with the cross trees B B and platform A, substantially as and for the purposes described and set forth.

65,645.—CHARLES B. CLARK, Buffalo, N. Y.—*Sash Lock.*—June 11, 1867.—Improvement on the patent of E. L. Ferguson, No. 59,505. The rollers are manipulated by pins which slide in guide slots of the case, which is attached to the sash face.

Claim.—First, the combination of the eccentric roller D, for sustaining the sash, with the weighted roller F and case C, for holding the sash up and locking the same down, substantially as described.

Second, in combination with the eccentric roller D the hollow cylindrical stud E, forming a portion of the case and receiving the screw c, arranged substantially as and for the purposes set forth.

65,646.—RICHARD COLBURN, Norwich, Conn.—*Steam Trap.*—June 11, 1867.—Explained by the claims and illustration.

Claim.—The arrangement of the valve, its case, and induction and ejection passages, substantially in manner as described, in order that the valve when in use with a cylinder and piston, as explained, will be closed by the pressure of steam, and when relieved therefrom will be opened by its own weight, the whole being in manner and under circumstances as explained.

Also, the combination of the screw I, or its equivalent, with the valve, its seat, chamber, and induction and ejection passages, arranged substantially as explained.

65,647.—J. A. COX, Humboldt, Tenn.—*Cotton Seed Planter.*—June 11, 1867.—The coulters and opener precede the drill spout, which is flanked by the harrow teeth and succeeded by the concave-edged coverer.

Claim.—First, the combination with a seed box E and hopper F of the coulters C and opener D, substantially as and for the purpose set forth.

Second, the combination with the coulters C and opener D of two harrow teeth J J, substantially as and for the purpose specified.

Third, the combination with the opener D and hopper F of the coverer I, substantially as and for the purposes herein above set forth.

65,648.—S. F. CRAIG, Eddyville, Iowa.—*Well Tube.*—June 11, 1867.—Explained by the claim. The air passage in the point is to allow flow of air beneath it on retraction.

Claim.—The combination and arrangement of the perforated end A of the well tube, around which the wire screen or gauze B is placed, point D secured to the end of said tube, forming the chamber E, and air passage G, as herein set forth, for the purpose specified.

65,649.—GEORGE H. CROSS, Montpelier, Vt.—*Rotary Dough Dresser.*—June 11, 1867.—The rotary brush removes the flour from the surface of the rolled dough, preparatory to cutting up.

Claim.—The revolving brush A upon the shaft b b, in combination with the box B, adapted for dressing dough to prepare it for the manufacture of crackers, as herein shown and described.

65,650.—J. E. CROWELL, Chelsea, Mass.—*Spinning Frame.*—June 11, 1867.—Drawing rolls are placed within the flyers to receive the sliver directly from the spool producing the draw and twist thereof without intervention of drawing rolls. The threads

are in contact with a bar, which prevents the twist from running back to the spool.

Claim.—In combination with the flyer of a spinning frame, drawing rolls arranged within the flyers, when one of said rolls in each flyer is directly upon the spindle and meshes into and drives the others, substantially as shown and described.

Also, combining with the drawing rolls and the flyer of a spinning frame a detainer bar, interposed between the drawing and twisting mechanism and the delivery rolls, substantially as and for the purpose described.

65,651.—GEORGE C. DAVIES, Dayton, Ohio, assignor to the DAVIES SCREW COMPANY, same place.—*Wood Screw.*—June 11, 1867.—The shank is a lengthened conoid and the general outside form of the thread portion of the screw is of a more convex conoidal form; the depth of thread increases from its butt end to near the point.

Claim.—First, making wood screws with a tapering core from neck to point, with threads of equal pitch and external diameter, but of gradually but more rapidly increasing depth from the base to near the apex of the said core, where they again diminish and die out into a central point.

Second, making wood screws with a core tapering from its base to its point, with threads of equal pitch and external diameter, but of gradually increasing depth from its base to near the point where it again diminishes and dies out, in combination with a shank with parallel sides or tapered form about its centre, where it joins the core, substantially as set forth.

65,652.—ADOLPH DELKESAMP, Brooklyn, N. Y., assignor to JOHN A. NEWBOULD, New York, N. Y.—*Machine for Making Clasps for Hoop Skirts.*—June 11, 1867.—The blank is punched out, and, dropping through the die, is forwarded to a reciprocating bar, by which it is bent to form.

Claim.—The swinging bending bar o, in combination with the slide i, dies d and n, and punch e, substantially as and for the purposes set forth.

65,653.—WILLIAM L. DEWEY, Bridgeport, Conn.—*Napkin Holder.*—June 11, 1867.—Explained by the claim and illustration.

Claim.—As a new article of manufacture, a napkin holder, constructed as described, consisting of the pedestal A, into which are screwed or riveted spring arms B in one piece, and forming nearly a circle, with their ends bent over at D, as herein shown and described.

65,654.—GEORGE DOWLING, Fair Haven, Conn.—*Compasses used in Calking Seams.*—June 11, 1867.—The additional leg is pivoted to a pin attached to one of the main legs, and is adjusted by a thumb nut on a curved screw rod projecting from the same.

Claim.—In combination with the compass A, the additional or adjustable leg f and adjusting arc d, when constructed and operating substantially as described.

65,655.—JAMES C. DUVOLL, Sardis, Miss.—*Cotton Press.*—June 11, 1867.—The press is operated by horse-power, the falling and rising of the follower being attained by reversing the direction of the revolution of the sweep of the horse-power whose ropes wind upon the wheel. The follower is depressed by ropes at its ends, which are wound upon the shaft beneath as the power revolves, and are raised by another rope which passes to another portion of the shaft.

Claim.—Operating the follower or plate H, through which the medium of the ropes E I K, applied in connection with the wheel and shaft C D and the capstan F, all arranged to operate in the manner substantially as and for the purpose set forth.

65,656.—S. P. DYER, Prairie Depot, Ohio.—*Evaporating Pan.*—June 11, 1867.—Foraminous skimmer plates are pivoted over the receiving pan and are operated by levers. This pan discharges through the perforations of a plate dividing it from the other partitions. The sirup runs through a strainer-plate in entering the last pan of the series. The dampers are so arranged beneath the pan that the middle portion, or the finishing pan, may have the caloric current turned from contact with their bottoms.

Claim.—First, the skimmers C, constructed, arranged, and operated substantially as herein shown and described, and for the purpose set forth.

Second, the combination and arrangement of the strainer G, gates H R S T, and operating levers I L M N with the partitions G U V M of the pan, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the stationary strainer A' with the finishing pan X, substantially as herein shown and described and for the purpose set forth.

Fourth, the arrangement of the dampers G' H' I' and flue partitions E' F' with each other, substantially as herein shown and described and for the purpose set forth.

65,657.—CHARLES JAMES EAMES, New York, N. Y.—*Preventing Incrustation in Steam Boilers.*—June 11, 1867.—The water is filtered successively through a stratum of carbonate of barytes, oxalate of barytes, and animal charcoal or other ordinary filter. The effect is a double decomposition of the sulphate and carbonate of lime, which renders them insoluble and removable by precipitation.

Claim.—The mode of preventing the incrustation in steam boilers substantially as herein described.

65,658.—EDWARD P. EASTWICK, Baltimore, Md.—*Manufacture of Refined Sugar.*—June 11, 1867.—The object is not to discharge from the magma the semi-fluid portion, to leave a residue of crystallized sugar, but the sugar is moistened by successive additions of water, which dissolve it by degrees, the solution obtained at each step of the process being removed by the centrifugal machine and conducted to a separate tank, to be converted by the ordinary process into such a grade of sugar as its quality permits.

Claim.—The mode, substantially as herein described, of obtaining from sugar of one quality solutions of different qualities for the purpose specified.

65,659.—N. EYINGER, Sandford, Ind.—*Road Scraper.*—June 11, 1867.—A team is attached to the plow, and a horse before the frame of the scraper, which extends obliquely in the rear of the plow, to remove the dirt thrown up by the latter. The draft power is attached to the fore carriage, to which the plow and scraper are each connected.

Claim.—First, the combination and arrangement of the scraper-plate A, beams C, chains D, draft bar E, and connecting bar L with an ordinary plow N, substantially as herein shown and described.

Second, the combination of the pivoted arm H and castor wheel G with the beam C, substantially in the manner herein shown and described and for the purpose set forth.

Third, the combination of the lever R with the plow beam m' and draft bar E, substantially as herein shown and described and for the purpose set forth.

65,660.—W. P. FORD and A. A. MOORE, Concord, N. H.—*Composition for Pavements.*—June 11, 1867.—Into a tank containing a mixture of 3 parts gravel and 1 part cinders pour a composition of 25 parts melted resin and 40 parts coal tar, to cover the said gravel. Mix and spread over a suitable foundation; sift on coal dust and roll.

Claim.—A composition for pavements, &c., made up of the specific ingredients combined together, substantially as set forth.

65,661.—A. FROST, Seymour, Ind.—*Animal Trap.*—June 11, 1867.—The weight of the animal on the platform releases the lever from the slot, and the doors close. The animal escapes through the hole into the secured chamber and, in raising the wire door, resets the trap.

Claim.—First, the plate levers a a', constructed and arranged so as to open or close simultaneously the doors b b', substantially as set forth.

Second, the doors b b', provided with loops i i, in combination with levers a a', as and for the purpose set forth.

Third, the spring platform or treadle d, provided with a slot o for engaging with the lever a', as and for the purpose described.

65,662.—O. S. GARRETSON, Buffalo, N. Y.—*Mop Head.*—June 11, 1867.—The revolution of the nut on

the screw moves the cross-head and jaw frame relatively.

Claim.—The jaw frame and socket C D, composed of a single piece of malleable metal, in combination with the cross-head B and screw shank A, or its equivalent, when said jaw and socket have a reciprocating movement in consequence of the revolving of the socket, or of a nut connected therewith, or of the screw within the same, substantially as herein described.

65,663.—AMOS D. GEORGE, Mass.—*Scarf Supporter.*—June 11, 1867.—The two horns that tuck beneath the collar are elastic so as to enable them to be drawn back to enter the fold at its front edge; the tie is supported by the elastic connecting band which unites the ends of the horns.

Claim.—A scarf or neck-tie supporter, constructed to operate substantially as set forth.

65,664.—J. J. GILBERT, Little Falls, N. Y.—*Manufacture of Starch.*—June 11, 1867.—The prepared grain and water passes to the vibrating separator which has a sieve of bolting cloth; from thence it is received in a settling vat. The water is decanted and caustic alkali added, 60 pounds to the result of 60 bushels of corn in 1,000 gallons of water. The contents of the vat are agitated and pumped into the depositor, in which it follows a sinuous descending course, the starch depositing, and the gluten dissolved by the alkali passing off. The starch is again mixed with water and agitated, settled, and drained.

Claim.—First, the separator D, constructed and arranged substantially as herein shown and described for the purposes set forth.

Second, the depositor H, constructed substantially as described for the purposes set forth.

Third, in combination with the separator the vats arranged substantially as described and for the method herein described of manufacturing starch.

65,665.—WM. SMITH HALL, Quincy, Mass.—*Treadle Mechanism for Sewing Machines.*—June 11, 1867.—The treadles operate levers whose spring pawls engage a ratchet wheel alternately, and cause a continuous rotation of the same.

Claim.—Combining a machine shaft with a treadle by a ratchet, pawl-lever, and connecting rod, arranged to operate together substantially as described.

Also the double sets of treadle levers, pawl levers, pawls, and ratchets, arranged to operate both independently or in conjunction substantially as set forth.

65,666.—R. HAMMILL, Mineral Point, Wis.—*Extension Horse.*—June 11, 1867.—Adapted for supporting scaffolding. It can be raised, lowered, lengthened, or folded.

Claim.—First, the manner of attaching the folding legs A A to the beam B of a horse or trestle by means of slotted pins b, staples c, and keys d, all made and operating substantially as herein shown and described.

Second, the extension beam B, in combination with the legs A D, all made and operating substantially as herein shown and described.

Third, the braces C and E, in combination with the legs A and beam B, made so as to be folded to the beam and legs if desired as set forth.

Fourth, connecting and supporting the inner ends of the two halves of the extension beam B, by means of bands a and a tongue h, which is provided with pins i i, and which is confined in grooves g between stops k substantially as set forth.

Fifth, an extension and folding horse or trestle made and operating substantially as herein shown and described.

65,667.—S. T. HARKER, Milwaukee, Wis.—*Steam Heating Apparatus.*—June 11, 1867.—Explained by the claim and illustration.

Claim.—A steam heating apparatus consisting of fire chambers A, with coil C, on three sides, water and steam dome B on the fire chamber, with a smoke passage through it large at the bottom and contracted at the top, and both ends of the coil C entering the dome below the water line, all arranged and combined substantially as described.

65,668.—HARVEY J. HARWOOD, Utica, N. Y.—*Wood Screw.*—June 11, 1867.—The thread is carried forward in advance of the central part to form cutting wings.

Claim.—First, forming the end of the screw into a lip or lips, substantially as described.

Second, extending the lip or lips of the screws beyond the terminus of the core, substantially as described.

Third, retaining the full size of the screw at the point without continuing the core to the point.

Fourth, increasing the pitch between the lip and first thread, substantially as described.

65,669.—HENRY HAFENPFLUG, Huntington, Pa., assignor to himself and EDWARD HAFENPFLUG.—*Sewing Machine.*—June 11, 1867.—Motion is imparted to the saw sash by side rod, actuated by a shaft beneath. The carriage is fed by a rock shaft and system of connections between a pawl which engages a ratchet on the carriage and a rotating slotted lever attached radially to the driving shaft. The shaft if desired may be reciprocated by connection to the rock shaft.

Claim.—The arrangement of the lever *m*, plate *n*, shaft *i*, levers *j k* and *l*, by which motion is imparted from the shaft *C* to the reciprocating frame *G*, as herein set forth for the purpose specified.

65,670.—JOEL HEACOCK, Marlboro, Ohio.—*Field Fence.*—June 11, 1867.—The brace is attached to the sill and to the butted ends of the next rail to the top on each panel, its upper end engaged in a notch of the top rail. The panels stand on the sills, their ends lapping past each other.

Claim.—The combination and arrangement herein described of the rails *A A*, battens *B B*, braces *C*, and sill *D*, when all are constructed of the ordinary split rails to form the panels of a field fence, substantially in the manner and for the purpose set forth as described.

65,671.—HERRMAN HEMPEL, New York, N. Y.—*Button-hole Cutter.*—June 11, 1867.—The block is moved longitudinally on the jaw according to the length of cut required.

Claim.—The sliding block *D*, when secured to the jaw *d*, by means of straps *g g*, and when held in position by a spring catch *h*, fitting into one of a series of holes arranged on one side of the jaw *d*, all as set forth.

65,672.—F. L. HILBRIGHT and F. REYNOLD, Newark, N. J.—*Rosette.*—June 11, 1867.—Explained by the claim and illustration.

Claim.—The die *A*, consisting of the part *B* fixed to the flanged rod, the part *C* hinged to the part *B*, their pieces in contact with each other, constructed to receive and hold the metallic loop of rosettes, said die *A* being brought down upon the rosette in the lower die, and uniting the loop thereto, as herein set forth for the purpose specified.

65,673.—R. M. HOLLAND and A. J. HIBBS, Philadelphia, Pa.—*Elastic Frame for Mosquito Bar Netting.*—June 11, 1867.—The radial spring bars are attached to the corners of the marginal tapes to extend the same.

Claim.—The socket pieces *A A*, with their enclosed springs *B*, together supporting the stems *C C C*, classically, in combination with the listing *D*, or its equivalent, for holding the mosquito netting *E*, the said parts being constructed and arranged to operate together, substantially as and for the purpose described.

65,674.—H. L. HOUGHTON, Morrison, Ill.—*Composition for Hardening and Preserving Wood.*—June 11, 1867.—Equal parts of saltpetre, alum, and sulphate of iron, dissolved in water.

Claim.—A wood-preserving composition formed of the ingredients herein named, and in about the proportions mentioned, and applied to wood, substantially as herein described.

65,675.—WILLIAM WHEELER HUBBELL and JAMES M. PATTON, Philadelphia, Pa.—*Quartz Mill.*—June 11, 1867.—The ore is broken and thrown into the hopper, and passes between the vertical con-

pound wheel of the hopper and the concave, which is formed of segmental blocks. From thence it passes to the final reducing stones.

Claim.—First, the edged toothed sections or plates *p*, firmly bolted and fitted to the rectangular surfaces or corners of the pot, and used in combination with the central revolving nuts, diminishing in their size and increasing in their number of teeth downward towards the bottom of the pot, substantially as described.

Second, discharging the ground quartz from the bottom of the pot *e* into the inclined conduit, by means of the arm *n* attached to the rim or collar *m*, and below the teeth *l* and plates *p*, substantially as described.

Third, the series of circular movable toothed sections or nuts above each other vertically, the teeth of the separate nuts diminishing in size, but increasing in number as they are placed one below the other when used in combination with the interior vertical toothed plates *p* within the pot, constructed and operating substantially as described.

Fourth, the furrows in the stones cut in two distinct series, the inner series upon radial lines extending outward to or near the half diameter of the stone, the outer series in toward the centre, on lines tangential to the inner furrows, and entirely separate and distinct from each other, with a plain attrition or uncut face between them, substantially as described.

Fifth, in a mill for grinding quartz, the combination of the elevated pot *e*, with its plates and nuts, arms *n*, aperture *z*, inclined conduit *l*, and the lower stones *y z*, constructed, proportioned, and operating substantially as described.

Sixth, the removable steel cup or shoe *19*, constructed, applied and used between the vertical shaft and removable step *21*, in the manner and for this purpose as described.

65,676.—A. JAMESON, Trenton, N. J., assignor to himself, T. S. MURRAY, and J. H. MURRAY, same place.—*Screw Box for Vises.*—June 11, 1867.—Two tubes of varying diameter are united by a collar piece and the parts welded together on a former mandrel; the feather and cascabel are added, and the screw is cut in the smaller tube.

Claim.—The method, substantially as above described, of making screw boxes for vises.

65,677.—JOHN JOHNSON, Saco, Maine, and R. C. OVERTON, New York.—*Disintegrating Rocks.*—June 11, 1867.—Air, steam, and a hydrocarbon vapor are forced in a stream against the rock to be heated; a stream of cold water is then dashed against it, the rapid change of temperature disintegrating the rock.

Claim.—Liquid and gaseous hydro-carbon and air, or air and steam, as fuel, for the purpose herein set forth, and when employed with the agents for the reduction of temperature, substantially as specified.

65,678.—G. B. KEELER, Greenwich, Conn.—*Wrench.*—June 11, 1867.—The handle has an adjustable spring-hook, which clasps the pipe against the notches as the wrench is rotated.

Claim.—The shank or bar *A*, notched at one end, in combination with the adjustable spring-hook *F*, substantially as and for the purpose described.

65,679.—DENNIS A. KELLOGG, Valparaiso, Ind.—*Wrench.*—June 11, 1867.—The slots in the nuts are made by cutting out the threads wide enough to allow the narrow edges of the main bar to pass. The sliding jaw has two threaded segments that fit on the wide sides of the bar. By turning the slots of the nut to the narrow side of the bar, the jaw is slipped to place, and when the threads of the nut engage those of the bar and the segments of the jaw, the latter is tightened against the object.

Claim.—A wrench constructed, arranged, and operating as and for the purpose herein set forth.

65,680.—PATRICK KENNEDY, New York, N. Y.—*Cement for Fixing Door Knobs, &c.*—June 11, 1867.—For securing door knobs to shanks, and similar purposes. Composed of alum, 2 parts; coppers, 1; fine white sand, 1; water, 4; boiled to consistency of gruel.

Claim.—A cement composed of the ingredients substantially in the manner herein set forth.

65,681.—GARRET C. LANSING and JOHN G. OSTROM, Rhinebeck, N. Y.—*Wagon Spring.*—June 11, 1867.—Explained by the claim and illustration.

Claim.—The flat wooden springs *a a' a''*, &c., when arranged in pairs, each pair at right angles across the other, substantially as and for the purpose herein shown and described.

65,682.—RUFUS LAPHAM, New York, N. Y.—*Automatic Fire Extinguisher.*—June 11, 1867.—The expansion of mercury causes it to reach a wire whose integrity is destroyed by the contact, and thus the alarm is given. The release of the wire also mixes chemicals which generate carbonic acid gas to extinguish the fire.

Claim.—First, the application of the expansion of mercury by the heat produced by the breaking out of a fire in a room to cause an alarm to be given.

Second, the application of the expansion of mercury by the heat produced by the breaking out of a fire in a room, to cause chemicals that produce carbonic acid gas to be brought together for the purpose set forth.

Third, the application of the expansion of mercury by the heat produced by the breaking out of a fire in a room, to cause a cock or its equivalent to open for the purpose of letting in an extinguisher agent kept in reserve.

Fourth, the application of the expansion of mercury by the heat produced by the breaking out of a fire in a room, to sever a wire or its equivalent with which mercury readily amalgamates for the purposes set forth.

Fifth, generally for all purposes to which it is adapted, arranging a wire or its equivalent with which mercury readily amalgamates, in such a relation to the mercury that when expanded by heat it shall unite with said wire or its equivalent, and cause it to be separated.

65,683.—THEODOR LUKE, St. Louis, Mo.—*Carpet Cleaner.*—June 11, 1867.—The carpet passes over a roller, being moved and wound on a windlass, and is exposed as it traverses to rotary beaters and a revolving brush.

Claim.—The combination of the frame *b b*, shaft *a*, revolving arms *h*, rotary brush *e*, and windlass *k*, as herein described and for the purpose specified.

65,684.—ALEXANDER MOON, Maquoketa, Iowa.—*Pump.*—June 11, 1867.—The barrel is vertically reciprocated in the well and has also a reciprocating piston. The barrel and piston both discharge through tubular pump stocks, having valves at their lower ends.

Claim.—The combination of the pumping cylinder or barrel *A*, plunger *C*, and tubes *D* and *J*, when all constructed with valves and arranged together so as to operate substantially as and for the purpose described.

65,685.—H. C. MOORE, Springfield, Mass., assignor to himself and CHAS. ROBINSON, same place.—*Skate.*—June 11, 1867.—The shanks of the sole clamps are notched, so as to engage each other beneath the sole plate, in which position they are fastened by set screws. The shank of the heel clamp is held by notches which engage corresponding ones in the heel plate. A notched eccentric clamps against the front of the heel.

Claim.—The hook notches *l l* in the adjacent edges of the flanches of the toe clamps, in combination with the thumb screw *S* which holds the flanches together, substantially as and for the purpose specified.

Also, the combination of the hook notches *f f* in the edges of the flanch of the heel clamp, the corresponding notched opening in the heel plate *D*, the bolt *g*, and nut *t*, substantially as and for the purpose herein specified.

Also, the notched eccentric *G*, with its handle *p*, turning up and down under the foot, and arranged so that it tightens more securely as the heel tends to work out, substantially as herein specified.

65,686.—J. S. MUNGER, Olean, N. Y.—*Carpet Stretcher and Holder.*—June 11, 1867.—The holding

strip has hooks which catch in the carpet, and while the claws of the pointed dogs are stuck in the floor at a distance, the other ends of the dogs engage the strip and hold it in position to strain the carpet into place.

Claim.—First, the pointed dogs *B*, adapted for use in the operation of stretching carpets, and constructed substantially as described.

Second, the combination of hooked holding plates *A* with curved dogs *B*, substantially as described.

65,687.—JAMES NEALE, Trenton, N. J., assignor to himself and MATHEW T. HIGGINS, New York, N. Y.—*Saw.*—June 11, 1867.—The back of the tooth is grooved and fits in a counterpart ridge on one side of the socket. The front edge of the tooth is reduced in thickness and its dovetailed edge occupies one face of the ridge, while the clamping plate fills the hiatus in the tooth and is secured thereto, fitting against the other face of the ridge on the saw plate.

Claim.—A saw tooth, formed with a dovetailed base and grooved back, setting within the recess of the saw plate and secured by the clamping plate *D* within a recess at the front portion of the base of the tooth, in the manner set forth.

65,688.—RACHEL NEWCOMB, South Brooklyn, N. Y.—*Liniment.*—June 11, 1867.—Composed of alcohol, 1 pint; and 1 oz. each of oil of spearmint, oil of thyme, oil of rosemary, oil of saffras, laudanum, tincture of cayenne, spirits of hartshorn, camphor gum, and oil of pennyroyal.

Claim.—The liniment, made of the ingredients mixed together in and about the proportions herein above described,

65,689.—W. H. NICHOLS, East Hampton, Conn.—*Sleigh Bell.*—June 11, 1867.—The attaching staple is fixed in the mold and the bell cast on to it.

Claim.—Casting a shank of two or more or less pins *a*, in and with the sleigh bell *A*, substantially as and for the purposes herein shown and described.

65,690.—HIRAM PARKS, Athens, N. Y.—*Pump.*—June 11, 1867.—The pump rod is attached to a bell crank that is operated by a wire from a distance, passing around bends in its course. Draft on the wire raises the piston, which is depressed by a weight attached.

Claim.—The arrangement of the pump *A*, sinker *H*, piston rod *B*, crank or elbow pieces *C C*, wires or rods *D*, and lever *E*, as herein described, operating as and for the purpose specified.

65,691.—JOSEPH THOMAS PARLOUR, Brooklyn, N. Y.—*Keel Block or Rest.*—June 11, 1867.—The keel is supported on a block, limited to vertical movement and adjustable by a wedge block held by a pawl and rack, and moved by ropes and pulleys.

Claim.—First, a block or support for the keel of a vessel, &c., when made in separate parts or sections, constructed and arranged together, so as to be operated substantially as and for the purpose described.

Second, the upper or cap section *B* of a keel block, so arranged that as it is raised or lowered it will move and be guided in a vertical plane or direction, substantially as described.

65,692.—WM. G. PERKINS, Walden, Vt.—*Rolling Screen for Doors, Windows, &c.*—June 11, 1867.—The respective edges of the slats are convex and concave and present no visible fissures, while they roll on each other as they wind on the shaft, to which they are connected by suspending straps.

Claim.—The winding screen, made up of slats with edges as described, when arranged on suspensories, as specified.

65,693.—H. G. POPE and H. F. HERRICK, New Berlin, N. Y.—*Medical Compound.*—June 11, 1867.—For the cure of spavin, &c. Composed of tallow, 4 oz.; lard, 4 oz.; oil of origanum, $\frac{1}{2}$ oz.; oil of lavender, $\frac{1}{2}$ oz.; cantharides, $\frac{1}{2}$ oz.; iodine ointment, $1\frac{1}{2}$ oz.; blue mass, 1 oz.; protochloride of mercury, 15 grs.; and extract of logwood, to color the compound.

Claim.—A medical compound, made of the ingredients mixed together in and about the proportions, substantially as and for the purpose described.

65,694.—ESEK C. ROBERTS, Salem, Mich.—*Fence.*—June 11, 1867.—The rail ends are built upon each other and supported by vertical stakes planted on each side. Inclined stakes rest against the fence and support at their intersection the lower rider; the upper rider rests between the vertical and inclined stakes.

Claim.—The combination of the top rails or riders E with the stakes B and C, substantially in the manner herein shown and described and for the purpose set forth.

65,695.—JOHN P. SCUDDER, Lawtenceville, N. J.—*Potato Planter.*—June 11, 1867.—The potatoes pass by an adjustable opening into the inclined wheel and are raised by revolving scoops and dropped into the furrow in the rear of the share.

Claim.—First, the inclined cylinder E, in combination with the revolving scoops *g*, and adjustable valve H, all made and operating substantially as herein shown and described.

Second, the hopper N, and gate *h*, in combination with the inclined cylinder E, scoop *g*, and valve H, all made and operating substantially as herein shown and described.

Third, the adjustable plow J, in combination with the inclined cylinder, scoops *g* and valve H, all made and operating substantially as herein shown and described.

65,696.—EDWARD SHAW, Portland, Me.—*Lamp Extinguisher.*—June 11, 1867.—A strip of metal, bent to fit the cone, is hinged so as to swing up and cover the flame slot.

Claim.—The curved extinguisher for lamp, of the kind described, when constructed and applied as and for the purposes set forth.

65,697.—J. W. SHIRLEY and WILLIAM H. FASIG, Terre Haute, Ind.—*Steam Engine Governor.*—June 11, 1867.—The governor stem has inclined wings to move it longitudinally against the pressure of a spring.

Claim.—The wind wheel A, the shaft B, and the spring F, arranged and operating substantially as herein shown and described for the purposes set forth.

65,698.—JACOB SILVINS and WILLIAM T. HAIN, Sunbury, Pa.—*Lantern Lamp.*—June 11, 1867.—The curved arm is oscillated above the wick tube to remove the crust of the wick. The arm is in the rear of a shaft which passes through a tube in the reservoir and is operated by a knurled head below the lamp bottom.

Claim.—The crust remover *g*, on the upper end of a vertical shaft E, which passes through a tube F, in the lamp, substantially as and for the purpose specified.

65,699.—P. L. SLAYTON, New York, N. Y., assignor to himself and ALMET REED, same place.—*Apparatus for Tempering Wire.*—June 11, 1867.—The wires are placed between the converging edges of radially adjustable bars, which are heated by jets of gas.

Claim.—First, the radially adjustable strips or bars E, arranged between the guide bars C, and provided with holes or gas passages *c*, communicating with recesses *e*, in the guide-bars C, all arranged substantially in the manner as and for the purpose set forth.

Second, the central passage formed by the strips or bars E, of such a size as to receive the wire to be tempered, and to permit a current of air to pass to the gas jets, and this whether said strips E are adjustable or stationary.

65,700.—WILLIAM SLOAN, Highland, Iowa.—*Sleigh Brake.*—June 11, 1867.—The spurs of the brake are pivoted to and operate on each side of the runner; they are brought into operation by a lever handle and prevented from passing beyond the vertical by the prong which collides with the runner.

Claim.—First, the jaws E, pivoted to and straddling the runner A, prong G, and handle F, when constructed and arranged as herein set forth for the purpose specified.

Second, attaching an arm or prong G to the brake E F, substantially as herein shown and described and for the purpose set forth.

65,701.—SHERMAN SMITH, Presque Isle, Me.—*Window Sash Fastener.*—June 11, 1867.—The upper sash has a bar which slides in a band and is engaged by a thumb-screw. The lower sash has a spur-wheel which engages a rack-bar attached to the frame and by which it is adjusted.

Claim.—the combination of the bar *a*, the rack *c*, and the thumb-screw *d*, the wheel *g*, on the plate *e*, and the catch-rod *v'*, arranged and operating as and for the purpose specified.

65,702.—W. C. SMITH, Warrensburgh, Mo.—*Sugar Evaporator.*—June 11, 1867.—The fire chamber is beneath the highest pan, which is the nearest to the chimney. Dampers allow the direct communication of the fire-space and the chimney, or the caloric current may be forced under the centre of two, or all the pans, and under the sides of the same to the chimney. A cooling pan beneath the flues is connected by a pipe to the lower pan of the series.

Claim.—The pans F G H, arranged at different heights on the body A of the device, when used in combination with the flues J J' J'', dampers M M N O O, arranged relatively with the smoke-stack K and fire-box B, substantially as and for the purpose set forth.

Also, the adjustable wheels C C, and folding legs or supports D D, when used in combination with or applied to a sugar evaporator, substantially as and for the purpose specified.

65,703.—WILLIAM W. SPALDING, Greenland, Mich.—*Jigging Machine for Dressing Ores.*—June 11, 1867.—The pulverized ore falls on to a sieve, where it is agitated by a rake, in water which is caused to pulsate by an intermittent plunger. The small and heavy particles fall through and are sorted by an opposing stream of water; the heavy and larger fall into a ragging box and the light are washed off.

Claim.—First, the main box A, in combination with the plunger box B, having a water passage or throat *a* connecting them, and divided into two compartments with the water passage *d* between them and the discharge pipes *e e'* leading from them, arranged and operating substantially as and for the purposes herein described.

Second, the plunger C, pivoted or hinged at one side, in combination with the box B, the main box A, and the sieve *b*, arranged and operating substantially as and for the purposes specified.

Third, the combination of the closed ragging box E, attached to the front side of the main box A, the self-regulating gate *p*, and the guard F, constructed, arranged and operating substantially as and for the purposes set forth.

Fourth, the rake *k*, in combination with the counter-shaft *l*, the crank shaft *h*, and the sieve *b*, arranged and operating as and for the purpose described.

Fifth, the combination and arrangement of the main box A, the plunger box B, the plunger C, the bail *g*, the apron D, the rake *k*, the guard F, the gate *p*, and the ragging box E, substantially as and for the purposes herein described.

65,704.—R. E. STEPHENS, Owen Sound, Canada.—*Breach-loading Fire-arm.*—June 11, 1867.—The action of cocking throws open the breech and dislodges the shell simultaneously. The breech opens to the right by the leverage of the cam on the spiral-shaped shoulder on the connecting rod. The cartridge being inserted the thumb-bit is compressed, the breech block is shut and secured by the latch.

Claim.—First, the construction and manner of operation in a breach-loading fire-arm of the hammer C, in combination with the cam rod G, working by the double link M.

Second, the construction of the extractor in two parts or sections E F, in combination with the cam rod and springs J S and X.

Third, the combination of the latch O, and its operation automatically, and by the spring *z*, and cam rod.

Fourth, the tripping box I, and its notched key H, operating therein in combination with the cam rod.

Fifth, the cam P, in combination with the spiral-shaped shoulder Q, on the connecting rod R, and working by the cam rod, in combination with the double link and hammer or its equivalent.

Sixth, the combination of the connecting rod R with the thumb-bit D and breech block A, and the spiral springs J S and X, operating substantially as described and for the purpose set forth.

65,705.—LEVI STEVENS, Fitchburg, Mass.—*Apparatus for Treating Air and Hydrocarbon Vapor for Illuminating Gas.*—June 11, 1867.—The float is an inverted vessel, whose edges are submerged in the water between the two cylinders. Air or gas is forced into the machine, and the raising of the float, when charged, shuts the valve. The gas passes through an involute chamber, and is exposed to alcohol and lime.

Claim.—The apparatus for treating air and hydrocarbon vapor for illuminating gas, substantially as described and for the purposes specified.

Also, the combination of the float *k k*, with the rod *a* and head *c*, arranged substantially as described and for the purposes set forth.

Also, the use of alcohol for improving the quality of gas for combustion, in combination with the use of lime, substantially as described and for the purposes set forth.

65,706.—THOMAS B. STOUT, Keyport, N. J.—*Tack Hammer.*—June 11, 1867.—Explained by the claims.

Claim.—The arrangement of the hammer head oblique to the handle, substantially as and for the purpose herein specified.

Also, the claws arranged on the front side of the hammer head at the upper end thereof, and in line parallel with the handle, in combination with the oblique arrangement of the head and handle, for the purpose set forth.

Also, the combination of the oblique head and handle, and magnetized claws, substantially as herein specified.

65,707.—JOHN G. TALBOT, Sloansville, N. Y.—*Farm Gate.*—June 11, 1867.—The gate runs horizontally on a pulley, whose bearing bracket is hooked into a socket on the post. After traversing half its length it is rotated 90°.

Claim.—The single post F, provided with the eye or socket E D and hook J, and suspended roller or pulley I, in combination with the gate A B, the several parts being arranged and operating as and for the purpose set forth.

65,708.—JOHN K. UNDERHILL, Brooklyn, N. Y.—*Button Fastening.*—June 11, 1867.—The two arms are hinged together, and one of them to the rear of the button. They are brought nearly in line with each to enter the button-hole, and are then spread apart, the slotted one engaging a catch on the button, which is vibrated into contact with it.

Claim.—The button A, plate B and slotted plate C, when the same are connected and combined with each other, and made and operating substantially as and for the purposes herein shown and described.

65,709.—F. VOLKMAN, Hoboken, N. J.—*Plow.*—June 11, 1867.—The fore end of the plow beam is supported on a vertical screw, which is planted in a clamp, adjustable horizontally on the perforated axle. The draft and horizontal adjustment is by a rod, adjustable in the segment bar and in the axle, and by the chain passing thence to the beam. Vertical adjustment is by the screw.

Claim.—First, securing the upright screw shaft D in the axle A, in the manner set forth, and clamping it by means of a set screw *a'* and clamp E, substantially as herein shown and described.

Second, the link J, when arranged laterally adjustable on the plow beam, substantially as herein shown and described, and for the purpose of changing the draft of the chain I.

Third, the adjustable draft bar G, when secured by a bolt *i* to the solid axle A, and when connected with the draft chain I, substantially as set forth.

Fourth, securing the front end of the plow beam to a vertical rod D, which projects from the axle of a cart, substantially as herein shown and described, the said rod not being secured or supported in any frame or other device that is ranged above the axle A, and in contact with the same, substantially as set forth,

and for the purpose of making the whole cart lighter and of simpler construction.

65,710.—ISAAC M. WELLS, Jeffersonville, Ohio, assignor to himself and WILLIAM WOOD, same place.—*Burglar Alarm.*—June 11, 1867.—Cords proceeding from different windows and doors converge upon a disk, and are attached to pins thereon. Tension on either cord upsets the disk shaft, trips the escapement and sounds the alarm.

Claim.—First, the post or shaft B, wheel or disk H, with cords J, operating to free the verge wheel M, as and for the purpose stated.

Third, in combination with the shaft B, disk H, cords J and pivoted lever K, the pin or pins E, allowing the cords G to be self-detaching, when they have performed their duty of starting the alarm.

65,711.—CHARLES S. WESTLAND, Providence, R. I.—*Stop Motion for Steam Engines.*—June 11, 1867.—A cylinder is connected with the air chamber of a pump, and its piston with a valve in the steam pipe, so that the steam is shut off when the pressure is removed from the air chamber, as by the bursting of the hose.

Claim.—First, the combination of the air chamber B, pipe C, regulating cylinder A, containing the piston D and spiral spring E, piston rod F, with or without the sliding stop *c* and graduations, steam pipe G, containing the valve H, lever J, double-slotted graduated arm K, holding the adjustable index *a* and pipe *m*, substantially as described for the purpose specified.

Second, the arrangement of the spring on the cylinder, communicating action to the piston by a ratchet wheel and pawl, as shown in Fig. 5, said ratchet wheel held in position by a dog, substantially as described and for the purpose specified.

65,712.—HORACE WESTON, Boston, Mass.—*Sky-light.*—June 11, 1867.—Gutters are cut in the edges of the sash below the lights to collect the moisture condensed upon the glass.

Claim.—Forming grooves or gutters *a c* in the bars B and at the sides of the sash, substantially as and for the purpose described.

Also, so forming or cutting away the upper surface of the bottom rail D, that the moisture will run down into the grooves *a c*, substantially as set forth.

65,713.—E. F. WHEELER, Sag Harbor, N. Y.—*Washing Machine.*—June 11, 1867.—The tub has ribs on the bottom, against which the clothes are rubbed, as they are dashed to and fro by the teeth on the sliding head, which is reciprocated by the segment rack of the lever.

Claim.—The slide D, having prongs or fingers E projecting downward from its lower part, and rack teeth upon its upper part, in combination with the cover C, lever G, and box or tub A, substantially as herein shown and described and for the purpose set forth.

65,714.—SAMUEL M. WILLIAMS, Pine Village, Ind.—*Evaporator.*—June 11, 1867.—The pans are arranged parallel above the direct and return flues of the furnace. One is arranged higher, so as to discharge into a lower one. The finishing pan is heated by hot water in its lower chamber; steam from the latter forms a coil in the pan above and escapes to the chimney. The dampers direct the calorific to any pan or to all. The skimmer is hinged to the rod, and is oscillated by a supplementary rod.

Claim.—First, an improved evaporator, formed by the combination of the pans C D and E with the furnace A, when said furnace is constructed and arranged substantially as herein described and for the purposes set forth.

Second, the skimmer F, formed by the combination of the perforated or wire-gauze plate *f'*, the handle *f²*, and the sliding rod *f³*, substantially as described and for the purpose set forth.

65,715.—JAMES WRIGHT, New York, N. Y., assignor to himself and FRANCIS BLESSING, same place.—*Device for Cleaning the Traps of Water Closets.*—June 11, 1867.—Links with rollers at the joints form a flexible thrusting rod to remove obstructions from the bends of pipes.

Claim.—First, the flexible rod E, when made as described, in combination with the tubular guide B and inflexible handle C D, all made and operating substantially as and for the purpose herein shown and described.

Second, the friction rollers F, in combination with the links E of the flexible rod, and with the handle C D, all made and operating substantially as herein shown and described.

65,716.—A. J. ALEXANDER, Chicago, Ill.—*Grain Separator.*—June 11, 1867.—The grain is fed in at one end of the inclined cylinder; the small grain and offal fall through and are removed by the conveyer below, while the plump grain is discharged at the end into a separate spout.

Claim.—Winding the cylinder C with wire in spiral form, leaving the intervals between the threads of wire somewhat less than the transverse diameter of the grade of grain to be passed through said cylinder, substantially as and for the purpose herein specified.

65,717.—MASON C. AMES, Hartford, Conn.—*Butt Hinge.*—June 11, 1867.—The whole diameter of the joint is outside or flush with one side of one leaf of the hinge, the other leaf fitting against the former, on what is ordinarily the outside.

Claim.—The arrangement of the hinge joint b in its relative position with the plates a' a, substantially as and for the purpose described.

65,718.—CHARLES BEMIS, Mishawaka, Ind.—*Pump.*—June 11, 1867.—The vibrating lever actuates the two valved pistons, which reciprocate in the respective cylinders and drive the water through the valved passages toward the exit.

Claim.—The arrangement herein set forth of the cylinders B B', with their piston heads and rods, the pipes D and H, with their valves, and the slotted lever E, with its crank, all constructed and used with the boxes A A', as and for the purpose herein specified.

65,719.—JOSEPH C. BIRD, Rising Sun, Md.—*Cultivator.*—June 11, 1867.—The front and rear of the trapezoidal share frame may be lifted simultaneously or separately. The share is a bent plate whose flaring ends are reversible, and whose waist embraces the standard at the point traversed by the bolt of the stirrup brace.

Claim.—First, the arrangement of the share frame E, supported from the lever H H' and pivoted frame l p, in such a manner as to lift vertically or independently, as described.

Second, the trapezoid-shaped cultivator frame, consisting of the portions a a b b c c, arranged substantially as described.

Third, the share e, formed double without a weld, pinched in at the center to embrace the standard F, and with flaring ends, in combination with the stirrup brace, substantially as represented in fig. 4.

65,720.—LOUIS BRAUER, Memphis, Tenn.—*Hydraulic Weighing Apparatus.*—June 11, 1867.—The rotary scale has a continuously acting counterbalancing weight on one side of its axis, and buckets of known capacity on its circumference, to receive the liquid which flows in a regular stream. The revolutions are recorded. The liquid escapes to a drop chamber, with sample chamber and hydrometer chamber attached.

Claim.—First, a wheel which is provided with buckets or chambers upon its circumference, and also with a continuously acting counterbalance, and which is adapted for weighing, substantially as described.

Second, the combination of a registering or recording mechanism, with a continuously rotating weighing apparatus, operating substantially as described.

Third, sustaining a rotary weighing wheel, which is provided with a continuously acting counterbalance upon anti-friction rollers at both ends of its axle, and connecting such wheel directly to the registering mechanism, substantially as described.

Fourth, the case I, adapted for receiving the registering mechanism when it extends from the face plate of the wheel case A into the space surrounding the center of the weighing wheel, all constructed and arranged substantially as described.

Fifth, the trap K and overflow l, substantially as

described and shown, for conducting the fluid to be weighed upon the weighing wheel and into the buckets thereof, substantially as described.

Sixth, the arrangement of the receiving chamber below the wheel case A, substantially as and for the purpose described.

Seventh, the sample chamber F with the outlet F' and valve t, substantially as and for the purposes described.

Eighth, hydrometer receiver or receivers, for the purpose specified.

65,721.—FRANK W. BROOKS, Washington, D. C.—*Slide for Safety Reins.*—June 11, 1867.—The draw-slide of the supplementary rein runs upon the driving rein, and the safety rein connects through the gag loop with the bit ring, so as to be used in emergencies.

Claim.—First, metallic slide, which is adapted for being attached to the safety lines A of the reins B, and which is provided with a ring or loop c, substantially as and for the purposes described.

Second, the construction of an arresting hook upon the sliding portion a, substantially as described.

65,722.—CHARLES BÜNGER, New Haven, Conn.—*Match Safe.*—June 11, 1867.—The matches slide down the inclined bottom and issue consecutively through the opening into the trough, the removal of one giving place to another.

Claim.—The match safe constructed substantially as herein described, provided with an inclined bottom B, and the trough D, into which an opening through the front permits a single match to enter the said trough, and constructed so as to remove the match from the said trough, substantially as and for the purpose specified.

65,723.—R. B. CASWELL, Palmer, Mass.—*Blank for Calks of Horseshoes.*—June 11, 1867.—The bar of steel is so formed that lengths cut therefrom furnish calks ready for welding to the shoe.

Claim.—A new article of manufacture, bars of steel formed for toe calks, substantially in the manner herein described.

65,724.—GEORGE CHAMBERLAIN, Olean, N. Y.—*Stump Extractor.*—June 11, 1867.—The socket joint on which the rotating nut rests, allows it accommodation to the line of draft. The inner screw takes up the slack of the chain, and is turned by the hand wheel.

Claim.—First, the metal cap flange or head as constructed, having a concave socket, into which is fitted a concave washer to reduce the friction and allow changing the position of the line of draft on the screw, in the manner and for the purposes herein described.

Second, the flange cap C and socket concave washer E, in combination with the rotating screw box or nut F, and lever sweep K, substantially as and for the purposes set forth.

Third, the construction of the cast-iron double-headed screw, with its wrought-iron central supporting rod to give strength and durability, as described.

Fourth, the screw rod H, hand wheel k, and double hooked swivel j, in combination with the main screw D for taking up the slack in litching, as specified.

Fifth, supporting the lever sweep G on the rim of the flange cap C, so that it will operate substantially as and for the purposes herein set forth.

65,725.—JOHN M. CLARK, Somerville, Ohio.—*Corn Plow.*—June 11, 1867.—The plows are adjustable laterally and the rear end of the beam vertically by two diagonal bars running from standard to standard, the beam being pivoted to their intersection. The draw bars are adjustable on a ratchet beneath the beam. The tongue is adjustable between vertical bars on the same.

Claim.—First, the adjustable cross-braces B B connected with the rear end of the beam D in combination with the standards A A, constructed, arranged, and operating conjointly in the manner and for the purpose specified.

Second, the combination of the ratchet and latch represented in Fig. 5, with the adjustable link j and draw bars i i, arranged in the manner and for the purpose described.

Third, the guard *o* and detent *m* in combination with the tongue *k*, bars *a'*, and wooden pin *n*, arranged and operating substantially as and for the purpose described.

Fourth, the construction of the plows of a single sheet of metal in the manner represented in Fig. 3, for the purpose described.

65,726.—PATRICK CLIFFORD, Holyoke, Mass.—*Combined Level and Plumb.*—June 11, 1867.—The spirit level is attached to one end of the transverse spindle and an index finger to the other. The device may be used as a level or clinometer.

Claim.—The spindle *D* passing through the stock *M*, having secured to it at one end the case *A*, its other end bearing the index *I* on its conical part, and tightening nut *S*, all constructed and arranged substantially as herein described and set forth.

65,727.—WILLIAM S. COLBURN, Loami, Ill.—*Cant Hook.*—June 11, 1867.—The hook has rectangular notches on its lower side, engaged by the sliding bolt to allow adjustment.

Claim.—The cant hook consisting of the forked slide *D*, bolt *C*, hook *B*, and lever *A*, constructed and operating in the manner herein described.

65,728.—GEORGE W. COOPER, Ogeechee, Ga., assignor to himself and JAMES V. JONES, same place.—*Horse Hoe.*—June 11, 1867.—Explained by the claims and illustration.

Claim.—First, a plow or horse hoe of four separate sections, viz: base *A*, center plate *B*, and shares *C C*, constructed and arranged substantially as described and for the purpose specified.

Second, the shoulders *a* formed in the opposite sides of the plate *B*, substantially as described and for the purpose specified.

Third, the metallic sole *D* secured to the base plate *A*, for regulating the depth of furrow, substantially as described.

65,729.—J. H. Dallmeyer, London, England.—*Compound Lens for Photographic Portraiture.*—June 11, 1867.—Explained by the claims and illustration.

Claim.—The construction of lenses or objectives suitable for photographic purposes, the component parts of which are of such form and so positioned that by a slight variation of distance between the lenses of one of the combinations, as by means of a screw movement, the operator can produce at will any desired amount of spherical aberrations or diffusion of focus, without at the same time materially deranging the other necessary corrections of photographic lens, substantially as herein described.

Also, the combining lenses *a a' b b'*, substantially as herein described.

65,730.—GEO. W. DAY, Charlestown, Mass.—*Articles of Paper Wearing Apparel.*—June 11, 1867.—The strip of paper and woven fabric may be passed between pressure rollers together, the paper receiving impression from said fabric.

Claim.—As an article of manufacture, paper either plain or enameled, embossed or imprinted by means of a woven fabric applied to its surface under pressure, either before or after its conversion into articles of wearing, applied substantially as set forth.

65,731.—GEORGE H. DOW, Freeport, Ill.—*Bed Bottom.*—June 11, 1867.—The longitudinal slats rest near each end and at midlength on rubber blocks upon traverse slats, which are in turn supported at their ends on similar blocks upon slats beneath.

Claim.—The arrangement of the sectional rubber springs *G H*, between the single slats *E, I*, and *J*, forming a vertical series held together by the straps *K*, constituting the bed bottom, in the manner described.

65,732.—MATTHEW EASTERBROOK, Jr., Geneva, N. Y.—*Harvester.*—June 11, 1867.—Two loose pinions are arranged upon the crank shaft to engage gears of different radii on the face of a bevel wheel on the counter shaft. Clutches are feathered to the crank shaft and operated by a hand lever, whereby either pinion may be locked to the crank shaft, and its speed be thus regulated.

Claim.—The arrangement of the two loose pinions

f g, on the crank shaft *C*, in combination with the bevel, having two sets of teeth *b* and *d*, when the said pinions are locked to the shaft by a clutch or clutches, substantially as herein shown and described, and for the purposes set forth.

65,733.—WILLIAM ELMER, New York, N. Y.—*Manufacturing Illuminating Gas.*—June 11, 1867.—Explained by the claims.

Claim.—First, the construction of a tube attached to the mouth piece of each retort, and terminating in a gas-tight rotary supply valve, through which coal or other material for generating inflammable gases is introduced out of contact with the atmosphere into the retorts, and moved forward by means of a receiver and slide situated within the mouth piece, substantially as set forth, and this whether accomplished by a rotary valve or otherwise.

Second, the construction of an outlet tube from the further or back end of each retort, the end of which tube is sealed by dipping into a reservoir of coal tar or other suitable substance, so as to exclude the air from entering the retorts, and to prevent the escape of the gases generated in the retorts, by which the coke is discharged without opening the retorts, substantially as above set forth.

Third, the method of subjecting the gas material within the retorts in a gradual manner to the heat, and as the process advances and the volatile products are given off, the gas material is moved forward until brought in contact with the highest heat, where it is converted into gases, substantially as above set forth; and this whether the coal or other material employed in gas-making is conveyed into the retorts in the precise manner described or otherwise.

Fourth, the application of a current of electricity introduced into the retorts for the purpose of decomposing the aqueous vapor formed in the process of gas-making, and also for the purpose of inducing the chemical affinities of certain elementary bodies present, by which a gaseous compound is formed, as above described.

Fifth, the combination of the gas-making retort with an electric battery, excited either by heat or by chemical solutions, substantially as above described.

65,734.—JOSEPH FANYOU, Bridgeport, Conn.—*Lubricator.*—June 11, 1867.—Near the bottom of the cup is a transverse bar, which is brought against or raised from the upper end of the hollow spindle, to stop or admit the flow of oil, as the cup is screwed up or down.

Claim.—The combination, as described, of the cup and the transverse bar with the screwed spindle and regulating nut.

65,735.—GEORGE FAVINGER, Pittsford, Mich.—*Clothes Dryer and Stand Combined.*—June 11, 1867.—The "lazy-tongs" frame is retained at a definite extension by a board with hooks beneath, which catch upon the rounds.

Claim.—The cover *D*, provided with its hooks *E E*, for holding the frame as constructed in the desired position, and forming a stand for the clothes, when combined and used for the purposes specified.

65,736.—JOHN S. FIFIELD, Westerly, R. I.—*Coal Sifter.*—June 11, 1867.—The cinders revolve in the sifter until the ashes are separated, and then the revolution of the wheel in the opposite direction discharges the cinders.

Claim.—The arrangement of the box *A* with wheel *E*, as constructed, sieve *H*, spout *D*, and drawer *C*, in the manner and for the purposes substantially as set forth.

65,737.—W. W. FINCH, Mishawaka, Ind.—*Mop Wringer.*—June 11, 1867.—The mop cloth is secured to the end of the frame and to the cross-head of the sliding rod. By slipping the latter from the contracted portion of the frame it may be rotated to wring the mop cloth.

Claim.—The forked bar *E* upon the end of the rod *D*, used in combination with the frame *A*, contracted at the end in the manner and for the purposes specified.

65,738.—ADDISON L. FOLGER, Sumner, Ind.—*Sorghum Evaporator.*—June 11, 1867.—The fire cham-

ber has a longitudinal division extending from the back of the furnace to the chimney. Transverse overhanging pans are above the furnace, and longitudinal pans over the divided portion of the fire chamber; the calorific current is directed through either chamber by dampers. The pans connect by gated openings, with strainers arranged in intermediate plates which span the spaces between them.

Claim.—First, the combination of the furnace A, having a longitudinal partition A³, the transverse overhanging pans E E¹ E², and longitudinal pans M and N, substantially as described.

Second, the furnace A, constructed with double flues A¹ and A², which are independently regulated by means of the dampers C and D, arranged to operate in relation to the pans M and N, substantially as described.

Third, the arrangement of the pans E E¹ E², gates F, screen G, lever I, rod K, nut K', and springs L, substantially as described.

Fourth, the arrangement of the transverse and longitudinal pan with flanges H H, intermediate plate H', and gates F and screens G, substantially as set forth.

65,739.—CHARLES H. FOWLER, West Roxbury, Mass.—*Parlor Ten-Pin Alley.*—June 11, 1867.—Cords are attached at the base of each pin and, passing through the floor, are conducted to the player, as a means of restoring the pins to upright position. The front end of the floor behind the balls is inclined forwards by pulling on the same cord, as a means of throwing the balls on to an inclined track which returns them to the player.

Claim.—The application and arrangement of the trap floor *f* in such a manner that it shall be lowered simultaneously with the act of raising the pins, and returned to place when such act has been accomplished, essentially in the manner and for the purpose set forth.

Also, the mechanism for operating the pins and trap floor, consisting of the cords *n n n*, &c., block and wedge *v* and *c*, ropes *w g a'* and *b'*, pulley *i*, and spring *d'*, combining and operating together to produce the effects substantially as before described.

65,740.—NICOLAI C. FRANZEN, Hamburg, Germany.—*Steering Indicator.*—June 11, 1867.—Explained by the claims and illustration.

Claim.—First, the combination with a rudder of steering gear of vessels of a dial plate and index, or their equivalents, so connected with the steering apparatus that any movement of the rudder will be indicated on such dial when such dial and index or indicator are so placed in respect to the deck of the vessel as to be plainly visible from different parts of the vessel, for the purposes set forth.

Second, the combination and arrangement in such an indicator, when so located with the steering gear of a vessel, of an index moving over a dial, such index and dial being of strong contrasting colors to indicate by day the position and movement of the rudder, substantially as and for the purposes set forth.

Third, the combination and arrangement in such an indicator, so located and connected with the steering gear, of plates of differently colored glass, or other transparent material, with a movable opaque plate or surface having a suitable aperture cut therein, and with a light or lamp, arranged and combined substantially as described, to indicate at night, by differently colored lights, the position and movements of the rudder, for the purpose set forth.

Fourth, the combination in one and the same indicator of an index moving over a differently colored surface, or their equivalents, and of colored transparent plates, in connection with a movable opaque perforated plate and with any light, the several parts arranged and operating severally and in combination substantially as described, thereby rendering the same instrument either a day or night indicator of the movements of the rudder, for the purposes set forth.

65,741.—JOHN A. FREY, New York, N. Y.—*Metal Barrel.*—June 11, 1867.—The wooden hoops are driven over the corrugations and cemented to the barrel. The end hoops are secured by swaging out the chime.

Claim.—First, strengthening and protecting metallic barrels by making their hoops of wood, substantially in the manner and for the purpose described.

Second, the mode herein set forth of placing the end hoops to secure the chimes from indentations, and also the mode of securing the end hoops in place by swaging out the chimes, substantially in the manner and for the purpose set forth.

65,742.—EDWARD J. FROST, New York, N. Y.—*Magazine Revolving Fire-arm.*—June 11, 1867.—The magazine tube below the barrel communicates with the chamber of the revolving breach, into which a cartridge is forced by the magazine spring, aided by a pawl operated by the tumbler. As the hammer strikes, the shell of the previous cartridge is expelled by a sliding piston operated by the tumbler.

Claim.—First, the pawl K, in combination with the magazine spring *e*, as and for the purpose set forth.

Second, the plunger *h*, spiral spring *h'*, and thumb catch *h²*, arranged for engaging with the hammer, substantially as explained.

65,743.—FERDINAND HAASE and WILLIAM ROST, Oak Park, Ill.—*Unloading Railroad Cars.*—June 11, 1867.—The rotation of the brake drum acts by chains upon levers to which the oscillating segmental racks are pivoted, to engage said racks with spur wheels on the axles. The rack frames have anti-friction rollers, which impinge against the hinged plates and by them raise the tilting car platforms and discharge the load.

Claim.—First, the folding platform A, constructed and operating substantially as set forth.

Second, the pulley E F F, rod *g'*, and chains G G, in combination with plates H H, lever I I, cog-wheels K K, and the drum O of the brake, the whole arranged so as to bring down the cog-wheels K K, when desirable, and mesh their teeth into the teeth of the pinions R R of the car-axle, substantially as herein described and specified.

Third, the pinions R R set on the car-axes, in combination with the described device, to automatically unload the folding platform A, substantially as set forth.

Fourth, the device to gradually fold the platform A, consisting of brackets *l l* and *m n*, rods *v v*, ratchet wheel *p*, and lever *q*, constructed as described, the whole arranged and operating substantially as herein described and for the purpose specified.

Fifth, the plates T T hinged to the car frame to raise the platform B B, in combination with the said platform, substantially as described and specified.

65,744.—WILLIAM HAY, Dumbarton, Scotland, assignor to ROBERT HAY, Mineral Point, Wis.—*Scale Rule.*—June 11, 1867.—Explained by the claims.

Claim.—First, providing a rule with a fixed scale *b b* indicating the circumference of circles arranged in relation with the ordinary measuring scale *a a*, substantially as herein set forth for the purposes specified.

Second, providing a rule with a chord scale *a c*, arranged in combination with the radius scales *d d*, substantially as herein set forth for the purpose specified.

Third, providing a rule with the scale *e c*, arranged in relation with the radius scales *d d*, substantially as herein set forth for the purpose specified.

Fourth, the construction of a rule with the scales *b b c c d d* and *e e* arranged in relation with each other and with the scale of inches or other measurement, substantially as herein set forth for the purpose specified.

65,745.—JOHN E. HEATH, Niles, Mich.—*Device for Shearing Metals.*—June 11, 1867.—The jaws are shackled together and are moved by the engagement of their segment racks by the pinions on the shafts of the handles.

Claim.—The racks E G P and pinions F H, provided with the handles N N, constructed and combined substantially as set forth.

Also, the set screw O, in combination with the arms A B, provided with the racks E G P and pinions, for the purpose of limiting the movement of the arms away from each other and the movement of the operative lever.

Also, the slotted cutters J J, in combination with the screw L L, set screw M M, and jaws A B, substantially as and for the purpose set forth.

65,746.—**SOLOMON T. HOLLY**, Rockford, Ill.—*Grain Binder*.—June 11, 1867.—The band securing instrument and devices for applying the binding material to the gavel, and for compressing the same, are operated by a single driving shaft. The gavel band is tied, while the securing, applying, and compressing devices are at rest. The devices are explained in the claim.

Claim.—First, the arrangement in binding apparatus of the band-securing instrument and compressing strap-holder at opposite sides of the ring-carrier, substantially as set forth.

Second, the combination in binding apparatus of the jaws of the cord-holder with a shear blade, substantially as set forth.

Third, a cord-twister for binding apparatus, composed of an arbor and jaws, one of which is movable toward and from the other in the direction of the length of the arbor, substantially as set forth.

Fourth, the combination in binding apparatus of the following instrumentalities, viz: the ring-carrier, driving shaft thereof, band-securing instrument, and connecting and disconnecting mechanism, all operating in the combination, substantially as set forth.

Fifth, the combination in binding apparatus of the following instrumentalities, viz: the band-securing instrument, ring carrier, gearing ring, and connecting and disconnecting mechanism, all operating in combination substantially as set forth.

Sixth, the combination in binding apparatus of the following instrumentalities, viz: the band-securing instrument and gearing ring, the latter operating the former substantially as set forth.

Seventh, the combination in binding apparatus of the following instrumentalities, viz: a detachable strap-holder, detent therefor, gearing ring and ring-carrier, all operating in the combination substantially as set forth.

Eighth, the combination in binding apparatus of the following instrumentalities, viz: a detachable strap-holder, detent therefor, ring-carrier, and driving shaft therefor, all operating in the combination substantially as set forth.

Ninth, the combination in binding apparatus of the following instrumentalities, viz: the appurtenance of the band-securing instrument, gearing ring, and ring-carrier, all operating in the combination substantially as set forth.

Tenth, the combination in binding apparatus of the following instrumentalities, viz: the appurtenance of the band-securing instrument, ring-carrier, and driving shaft thereof, all operating in the combination substantially as set forth.

Eleventh, the combination in binding apparatus of the following instrumentalities, viz: the latch of the connecting mechanism of the ring-carrier and band-securing instrument, the former operating upon the latter substantially as set forth.

Twelfth, the combination in the binding apparatus of the following instrumentalities, viz: the gearing-ring, the detent of a detachable strap-holder, the detachable strap-holder, ring-carrier, and connecting and disconnecting mechanism, all operating in the combination substantially as set forth.

Thirteenth, the combination of a stop mechanism of a ring-carrier and the cord-holder of binding apparatus in such manner that the first instrumentality operates the second, substantially as set forth.

Fourteenth, the combination of the stop mechanism of a ring-carrier and the shear-blade of a binding apparatus, substantially as set forth.

Fifteenth, the combination of the stop-latches of the ring-carrier of a binding apparatus with a stop formed of parts, one of which is movable, the whole operating substantially as set forth.

Sixteenth, the combination of the movable jaw of the band-securing instrument of a binding apparatus with a hand lever, so that it may be readily opened, substantially as set forth.

Seventeenth, the guide for the binding material, consisting substantially of a V-formed instrument and gate, substantially as set forth.

Eighteenth, the combination in binding apparatus of the tongue that retains the binding material in the track of the movable instrument that is to seize it, with the driving shaft of the apparatus, through the intervention of a cam, substantially as set forth.

Nineteenth, the combination of the tongue that retains the binding material with the cord-carrier in

such manner that the former may be moved laterally to the track of the binding material to remove it from its path at one period and to insert it in its path at another in the operation of binding, substantially as set forth.

65,747.—**EDWIN B. HORN**, Boston, Mass.—*Stem Winding Watch*.—June 11, 1867.—The inner spindle is turned by its head, at the same time pushing in a pin at the edge of the watch to throw the spindle in connection with the hand-setting wheels. The watch is wound by the rotation of the middle head attached to a sleeve of the spindle, and engages a ring gear let into the face plate and engaging a pinion on the barrel arbor.

Claim.—First, the ring gear D, when arranged in combination with the face of a watch, substantially as described and for the purpose set forth.

Second, the auxiliary stem L' L passing through the center of the stem A, substantially as described and for the purpose set forth.

Third, the combination as well as the arrangement of the auxiliary stem L with the gear wheel K K and the lever M M, substantially as described and for the purpose set forth.

65,748.—**HENRY B. HORTON** and **M. L. WOOD**, Ithaca, N. Y., assignors to the ITHACA CALENDAR CLOCK COMPANY, same place.—*Calendar Clock*.—June 11, 1867.—Improvement on the patent of Henry B. Horton, April 18, 1865, and two patents of August 28, 1866.—Devices enumerated in the claims.

Claim.—First, the interposition of the connecting devices made as described, between any convenient part of the time movement and of the calendar, and all equivalent therefor, when so constructed that the calendar can be tested or proven, with or without motion of the time movement or any portion thereof, the said devices being applied to any part or point of the time movement or connected therewith, for the purpose of testing by machinery the calendar, when substantially made as and accomplishing what has been described.

Second, a changeable or self-adjusting fixture on or connected with the shaft of the twenty-four hour wheel, as specifically shown by the use of the wedge G, pin H through the tube E, and shaft F, and also at I, as set forth.

Third, broadly the employment of the mechanism described, or any equivalent thereunto, by which one or more of the calendars are tested or proven, after the clock and calendar or clocks and calendars are completed; and further, the machinery by which one or more calendars are tested or proven, whether the calendar or calendars are connected with the time movement or not.

Fourth, the employment of the crank or cranks O, or other conveniently made equivalent, with the rod or rods D, or other equivalent, by which the time calendar cams A of separate clocks are moved, for the purpose of testing or proving them by machinery, as described.

Fifth, broadly arranging and making a suitable machine or mechanism for the purpose of applying to and removing from the same in any convenient manner one or more calendar clocks, either in a finished or in any partially completed state, for the purpose of trial test or proving of the calendar or any of its parts or of any part or portion of the time movement necessary to the connection of the time movement and calendar, when substantially accomplishing the end or object desired or described.

Sixth, so arranging a series of calendar clocks, and also of calendars only, in connection with air test line or mechanism, that the changes of months, days of the month, and days of the week, or other appropriate changes of calendar clocks, are made simultaneously or nearly so, through the whole line or series, for the purpose of mutually proving or testing each other, thus making apparent any defect of construction or operation in any one or more of them, as described.

Seventh, testing calendar clocks, by applying to or actuating their movements by a propelling or driving mechanism, in such a way that these movements may be accelerated to the extent and purpose set forth in this specification, using therefor such propelling machinery as is herein set forth, or any equivalent therefor, and the interposition of the connecting devices set forth, or any equivalent therefor.

65,749.—G. C. HUNTRESS, Elkhorn, Wis.—*Buckle*.—June 11, 1867.—The frame is pivoted to the under strap, and the lever to the frame, and both carry tongues which traverse the outer strap and enter the inner one.

Claim.—A buckle consisting of the frame D, having the cross-bar F and tongue A formed thereon, and having the lever C with the tongue B attached, pivoted to the frame as herein described.

65,750.—WILLIAM MARCUS JACKSON, Woodland, Cal.—*Teeth for Lifting Lodged Grain*.—June 11, 1867.—The device is applied to a reaper to elevate lodged grain and bring it within reach of the reel. The elastic shoes and yielding fingers are attached to bars to form sections.

Claim.—The elastic shoes in combination with the yielding fingers applied to a section or frame to be attached to a reaper, and all arranged to operate in the manner substantially as and for the purpose set forth.

65,751.—W. E. JACOBS, Columbus, Ohio.—*Sirup Strainer*.—June 11, 1867.—The sirup pours into one compartment, passes under the partial division board and upward through the strainer to the overflow exit pipe.

Claim.—A straining apparatus, which consists of a box A, having a division B and strainer C applied within it, in such manner that the liquid to be strained shall pass upward through the strainer, substantially as described.

65,752.—GILBERT D. JONES, New York, N. Y.—*Press*.—June 11, 1867.—The right and left hand screws of the shaft operate cogged sectors whose oscillation actuates the toggles by which the followers are mutually approached to press the hay, &c., into the compass of a bale.

Claim.—First, in combination with the follower of a press, three toggles, arranged relatively to each other and pivoted to the follower in the relation to each other substantially as set forth, the combination being substantially as described and operating substantially as set forth.

Second, in combination with three toggles, cogged sectors attached and gearing together, substantially as described, whereby the three toggles may be made to move in unison as set forth.

Third, in combination with three toggles and their cogged sectors, a sector in gear with a screw, the combination substantially as described and operating substantially as set forth.

Fourth, in combination with two sets of toggles to operate followers in opposite directions, right and left hand screws mounted upon the same shaft, the combination being and acting substantially as set forth.

65,753.—WASHINGTON KEEMLE, Philadelphia, Pa.—*Engine Piston*.—June 11, 1867.—The piston packing is adjusted by nuts on radial screws worked by pinions which gear into a crown wheel on the end of a tube which surrounds the piston rod.

Claim.—First, the combination and arrangement of the central tube C, with the packing, by means of the crown wheel G, pinions F' F', and nuts E E' E', substantially in the manner described and for the purpose specified.

Second, the combination of the pinion P, with the follower-ring H, and with the wheel L, by means of the pinion M, and pawl O, substantially as described and for the purpose set forth.

Third, constructing the screw thread of the rod D of coarser pitch than those of the rod D D, substantially as described and for the purpose specified.

65,754.—GEORGE AUGUSTUS KEENE, Newburyport, Mass.—*India-rubber Tread for Carriage Steps*.—June 11, 1867.—The rubber tread has reticulated ridges and is vulcanized to a plate which is then secured by rivets to the step.

Claim.—The arrangement and combination of the plate F, in connection with and securely fastened to the rubber tread, consisting of reticulated ridges b and c, and intaglio cells a and d, to form a tread for a carriage step, substantially as described.

65,755.—GEOGE W. KNAPP, Corning, N. Y.—*Corn Planter*.—June 11, 1867.—The ground is spaced for

planting by a reel at each side of the machine, the reel marker operates the feed and dropping mechanism; the feed device is a series of revolving cups which raise the seed from the reservoir and drops it into the seed tubes behind the double ended and reversible furrower. Covering hoes operate in the rear of the dropper.

Claim.—First, the adjustable revolving arms D D, constructed and operating as described and for the purposes set forth.

Second, the revolving wheel K, and feed buckets c c c, constructed and operating as described, and for the purposes set forth.

Third, the automatic valves P P, as described, and for the purposes set forth.

Fourth, the automatic scrapers q q, constructed and operating as described and for the purposes set forth.

Fifth, the treadle levers 2 and 3, with levers 2 2, for elevating the arms D D D, &c., the furrowers L L, the valves P P, and scrapers q q, constructed and operating as described and for the purposes set forth.

Sixth, the combination of the arms D D, &c., with the feed wheel k, revolving feed buckets c c c, &c., and the valves P P, the whole constructed and operating as described and for the purposes set forth.

Seventh, the furrows L L, and the manner herein described of attaching and detaching the furrowers, holding them firmly, or allowing them to revolve by means of the devices herein described and set forth.

65,756.—HERMAN E. KNAPP, Benson, Vt.—*Sled Brake*.—June 11, 1867.—The hand lever is connected by a rod to the horizontal lever on the rear bob-sled, and this to levers and rods which depress the claws into contact with the ground to act as brakes.

Claim.—The levers d d, in combination with the rods f f e e, lever A, rod G, and lever C, all acting in combination with the double claw arms B, or their equivalents, the whole combined as specified and for the purpose set forth.

65,757.—F. W. L. KNUSCHKE, Providence, R. I., assignor to THE GORHAM MANUFACTURING COMPANY, same place.—*Lifter for the Lids of Pitchers*.—June 11, 1867.—The trigger, pivoted in the upper part of the handle, is pressed against the shank of the lid and raises it.

Claim.—The lifter or lever, in combination with the handle and hinged lid of a pitcher or other vessel, substantially as described for the purpose specified.

65,758.—SILAS H. LORING, Lawrence, Mass.—*Hose Coupling*.—June 11, 1867.—The socket is screwed into an opening in the side of the tank and has a threaded flange into which the outer ring of the hose is screwed; the inner ring, previously inserted, sustains the hose on the inside.

Claim.—The ring C, within the end of the hose D, in combination with the annular clamping ring E, and flange socket B, the flange A, or projecting end b, all arranged substantially as and for the purpose set forth.

65,759.—DAVID MATHEW, Prairie du Chien, Wis.—*Ferrule for Tubular Boilers*.—June 11, 1867.—The projecting ferrule ends and flanged ring protect the flue sheet from direct heat.

Claim.—First, the projecting ferrules B, constructed and arranged as and for the purpose herein set forth.

Second, the ring D, combined with the projecting ferrules in front of the flue sheet to protect it, as set forth.

65,760.—THOMAS CATO MCKEEN, Irvington, N. J., assignor to THE NEW YORK SUBMARINE COMPANY.—*Diving Apparatus*.—June 11, 1867.—The diver carries a reservoir of compressed air, with which he supplies his helmet, and with which he can inflate the buoys attached to his dress when he desires to ascend to the surface of the water. Metallic rings in the water-proof dress keep it extended and relieve the body of pressure.

Claim.—The use and application of hoops or rings to the diving dress, constructed and operating in the manner and for the purposes described.

65,761.—F. B. MORSE, New Haven, Conn.—*Joint for Carriage Braces.*—June 11, 1867; antedated May 21, 1867.—Explained by the claim and illustration.

Claim.—The cone D, formed upon an inverted conical ear C, on the one part, combined with a corresponding ear E, provided with an internal conical seat upon the other part to correspond to the cone D, the whole constructed substantially as herein set forth.

65,762.—F. B. MORSE, New Haven, Conn.—*Manufacturing Shackles for Carriage Thills.*—June 11, 1867.—The shackle is finished at a single heat from a solid piece without welding or bending, by subjecting to a series of dies which act upon special parts, and by successive impacts give the form required.

Claim.—The method herein described of forming the square-backed shackle blank, described and represented by fig. 8.

65,763.—GERSHOM MOTT, Big Run, Ohio.—*Water Elevator.*—June 11, 1867.—The links of the chain have buckets which lift and discharge the water as the wheel rotates.

Claim.—The arrangement of the chain D, provided on its inside with buckets E, with the wheel B, having arms C C, and trough F, substantially as and for the purpose herein set forth.

65,764.—CHARLES NELSON, New York, N. Y., assignor to himself and LOUIS KLUEBER, same place.—*Toy Torpedo and Explosive Compound.*—June 11, 1867.—A hollow ball of clay is filled with a composition of amorphous phosphorus, chlorate of potash, sulphur, and chalk, which are plugged in. The exterior is varnished.

Claim.—First, the toy torpedo, herein described, having a body molded in the form required, and composed of materials in the proportions which shall be harmless in exploding, substantially as herein specified.

Second, as an explosive composition for torpedoes and analogous uses, the compound herein described, composed of materials in the proportions, substantially as herein specified.

65,765.—HARRISON OGBORN, Richmond, Ind.—*Winnowing Screen.*—June 11, 1867.—The air from the pan is thrown between the upper and lower series of screws. The hopper exit is adjustable by a slide.

Claim.—First, the apparatus for giving an upward direction to the fan blast, consisting of the pivoted guide plates F', provided with rods G, in combination with the notched plates F, substantially as described and for the purposes specified.

Second, the guide plates F' and notched plates F, in combination with the screens L and H, substantially as and for the purposes set forth.

Third, the L-shaped lever R, rods I and S, pinion C on the fan shaft and gear wheel B, in combination with the screens L and H, arranged substantially as described.

Fourth, in combination with the above the adjustable slide o and pivoted lever T, substantially as and for the purposes set forth.

65,766.—HOMER RIGGS, Washington, D. C.—*Attaching Metal Soles to Boots and Shoes.*—June 11, 1867.—Explained by the claim and illustration.

Claim.—Securing taps or oversoles of sheet metal, or other suitable material, to the bottom of boots and shoes by making slotted holes *d* in the cars *a a*, and also in the rear end of the tap A, to be sprung over the screw heads *e e*, so that the taps may be removed and replaced by the wearer at pleasure, substantially as and for the purposes herein set forth.

65,767.—ALBERT W. ROBERTS, Hartford, Conn., assignor to P. JEWELL & SONS, same place.—*Apparatus for Drying Hides, Leather, &c.*—June 11, 1867.—The tubes through which air is blown to the drying room are placed in a furnace used for another purpose.

Claim.—Driving the air through heating tubes A, arranged in a heating chamber B, into a drying apartment G, substantially as and for the purpose described.

65,768.—ISRAEL M. ROSE, New York, N. Y., assignor to the SEWING MACHINE IMPROVEMENT COMPANY, same place.—*Embroidering Attachment for Sewing Machines.*—June 11, 1867.—The vibrating arm lays the cord in curves upon the cloth, the needle in its ascent coming against its curved upper end, causing its lower end to advance toward and past the needle and between it and its thread below the eye. When the needle arm descends it strikes the lower end of the vibrating arm and restores it to position, the needle passing through the loop of the cord.

Claim.—First, the combination of the frame B, spring C, and point *d* with the vibrating arm or lever D, constructed and arranged substantially as above set forth, for laying the embroidery thread or twist in proper position, as described.

Second, a spring C, having a spring point *d*, as shown, in combination with the vibrating arm D, substantially as and for the purpose set forth.

65,769.—HENRY ROTHFELDER, New York, N. Y.—*Winding and Setting Watches.*—June 11, 1867.—The burr spindle gives motion to a wheel having a wrist pin connected to a plate carrying a spring pawl acting on a ratchet wheel on the barrel arbor. The watch is wound by right or left rotation of the burr. This wheel is thrown in connection with the hand-setting pinion by a vibrating lever carrying a spur wheel at its end.

Claim.—The pawl carrier *r*, located between the usual ratchet wheel on the arbor of the spring barrel and the ratchet wheel *t*, and receiving motion from the wheel *m*, pinion *l*, and burr *d*, for winding the watch as set forth.

Also, the setting wheel *u*, provided with long teeth and set upon the levers *v*, in the manner specified, in combination with the wheel *m*, pinion *z*, and connection to the burr *d*, as and for the purpose set forth.

65,770.—CHARLES E. RUSSELL, Jacksonville, Ill.—*Stove-pipe Drum.*—June 11, 1867.—Within the part of the stove-pipe enclosed by the radiating annular drum is an axial inverted conical pipe, connected at its upper and lower ends by horizontal pipes, through which the air of the room circulates.

Claim.—The arrangement of the annular radiator A and pipe B, provided with its tubes D E and conical pipe C, in the manner substantially as and for the purposes set forth.

65,771.—JAMES P. SELSOR, Cherry Bloss, Mo.—*Corn Planter.*—June 11, 1867.—Attached to one of the ground wheels is a ratchet wheel whose projections strike a lever which actuates the dropping mechanism. The ratchet is adjusted so as to start right at the commencement of a row to plant in check rows.

Claim.—The employment of the ratchet D, substantially in the manner herein described and set forth.

Also, the combination and arrangement of the wheel A' and the ratchet D, the lever C C' and the spring C'.

65,772.—WM. A. SHEPARD, New York, N. Y.—*Brick Kiln.*—June 11, 1867.—Explained by the claims and illustration.

Claim.—First, an oblong building with a railroad track running through its whole length and divided into separate compartments by means of removable partitions, in combination with a series of cars having fire brick, or their equivalent platforms, and adapted to building kilns thereon, and burning the same on the cars, substantially as described.

Second, building and burning kilns of brick, pottery or other similar substances on movable railroad cars with platforms of fire brick, or equivalent material, substantially as described.

65,773.—WM. SIMS, Pittsburg, Pa.—*Door and Bit for Boiling and Puddling Furnaces.*—June 11, 1867.—The bit of the door, which contains the opening and is more exposed to the heat, is made of detachable plates so as to be removed when destroyed, and a new bit substituted, and not render the whole door useless.

Claim.—An improved door and a new bit to be fastened thereon for puddling or boiling furnaces, or all other furnaces subject to intense heat.

65,774.—DEXTER SMITH, Springfield, Mass.—*Priming Metallic Cartridges.*—June 11, 1867.—A small circular flange is stamped up from the center of the flange plate, and forms a cavity for the fulminate; on the fulminate is placed a small perforated disk which fits the chamber, whose edge is turned down thereon.

Claim.—A center fire cartridge in which the anvil is attached to the interior of the head of the cartridge shell by means of the flange *a*, formed on the inside surface of the same, substantially as described.

65,775.—CHARLES STEARNS, Lowell, Mass., assignor by mesne assignments to JACOB A. KISSELL, Chicago, Ill., and NATHAN BLICKENSDERFER, Erie county, Pa.—*Lightning Rod.*—June 11, 1867.—The strip is carried in a long roll before corrugating, which is done on the ground by rollers which give it a double bend transversely and a spiral turn longitudinally.

Claim.—A lightning rod or conductor, consisting of a solidly continuous strip of sheet metal, substantially as described.

65,776.—WM. J. TERRY, Walla Walla, Washington Territory.—*Fastening for Neck Ties.*—June 11, 1867.—The shank of the fastener has a removable head connected by a spring pin. Ornaments may be attached to the fastener. The surfaces impinging on the fabric have spurs to prevent rotation, and the shank passes through an eyelet in the tie.

Claim.—First, the stud or fastener provided with the removable head, constructed and applied substantially as and for the purpose set forth.

Second, the slotted shank in combination with the removable head, substantially as and for the purpose described.

Third, the head *c* and flanges or disks *b b'*, provided with points for the purpose of preventing the turning of the fastener, as described.

Fourth, the neck tie provided with the eyelet hole *f*, whereby it is adapted to be used in connection with the fastener, substantially as described.

65,777.—MRS. P. T. VINING, New York, N. Y.—*Preserving Flowers and other Vegetable Forms.*—June 11, 1867.—Explained by the claims.

Claim.—The employment of a solution of glass, or other liquid silica, substantially as and for the purposes set forth.

Also, in combination with the above, the pulverized glass or silica, all as herein specified.

Also, inclosing the objects as herein set forth in a vacuum, when they have been thus prepared.

Also, filling the receiver, in which objects prepared as above set forth are placed with an atmosphere of carbonic acid gas.

Also, the receiver for containing the carbonic acid gas as herein described, having an elastic or yielding portion, to allow of the expansion of said gas without undue pressure in the chamber of said receiver.

65,778.—STEPHEN W. WALKER, Anson, Maine.—*Horse Rake.*—June 11, 1867.—The teeth are hinged to the lower end of the bar, and are depressed by a spring which still allows them to yield upwardly when sufficient force is applied, as in surmounting obstructions.

Claim.—The combination of the frame *e*, rods *f*, springs *g*, and teeth *a*, arranged and operating substantially as described.

65,779.—WM. R. WALLIS, Alliance, Ohio.—*Attaching Eave Troughs to Houses.*—June 11, 1867.—The transverse strap and the strap which follows the curvature of the gutter are united by rivet and clamp. The suspending strap passes through and is hooked to the bar descending from the plate or eave.

Claim.—The strap D, when used in combination with the strap C and plate E, with its thumb screw F, as and for the purpose herein set forth.

65,780.—JAMES C. WALTER, New York, N. Y.—*Apparatus for Hardening and Tempering Wire.*—June 11, 1867.—The ends of the wires are clamped between blocks in the sliding head and are strained by tension on the flange of the frame through which they pass to the wire which passes through the series of eyes. Tension is given by a screw and spring.

Claim.—First, the combination of the screw C with the sliding head B and frame A, substantially as herein set forth for the purpose specified.

Second, the combination of the tension spring, the sliding head and the frame A, substantially as herein set forth for the purpose specified.

Third, the sliding head constructed with clamping blocks *d*, and tightening screws *f*, substantially as herein set forth for the purpose specified.

Fourth, the arrangement of the screw C, tension spring D, sliding head B, and frame A, substantially as herein set forth for the purpose specified.

65,781.—JEREMY B. WARDWELL, Georgetown, D. C.—*Weather Strip.*—June 11, 1867.—The strip is formed of a plate of India-rubber which conforms to the inequalities of the threshold, against which it is pressed by the springs which bear on its surface when the door closes.

Claim.—The weather strip provided with the spring by which the elastic strip F is made to conform to the irregularities of the threshold, as herein described for the purpose specified.

65,782.—A. WASHBURN and J. N. VAN SICKLE, Medina, Ohio.—*Machine for Dressing Feathers.*—June 11, 1867.—The feathers are steamed in a horizontally rotating cylinder. The steam from the jacket is turned into the perforated pipes, whence it issues in jets until shut off. The feathers are then dried by the heat of the jacket, the ventilation being open and the water of condensation directed to a single point of discharge.

Claim.—The arrangement of the pipes C D E M, faucets G, and perforated pipes H, substantially as described.

Also, the arrangement shown in figure 3, whereby during the rotation of the machine the water of condensation is led into a single pipe, from which it is discharged by faucet L, substantially as described.

65,783.—THOMAS W. WEBLEY, Birmingham, England.—*Breech-loading Fire-arm.*—June 11, 1867.—The breech is opened for the reception of a cartridge by turning down the barrel; when closed, it is secured by a locking bolt on the axis of a lever which fits against the trigger guard. A spring applied to the locking bolt cocks the hammer as the barrel comes to firing position.

Claim.—Applying a spring to the locking bolt of what is known as the Lefancheux or double-grip action catch of breech-loading fire-arms, so as to cause the gun to be self-locking when closed by forcing the barrels home.

65,784.—GEORGE W. WILSON, Chelsea, Mass.—*Air-heating Furnace.*—June 11, 1867.—The furnace, with the exception of its face plate, is inclosed in an air chamber. The described chambers and pipes form passages for the circulation of the caloric current and the air to be heated.

Claim.—The arrangement as well as the combination of the main radiator E, the fireplace A, the hollow abutments and the air space between the fireplace and the main radiator.

Also, the combination as well as the arrangement of the auxiliary radiator G, the main radiator, the fire plate, the air space F, and the abutments D D, for supporting the main radiator and conducting smoke into it from the fireplaces.

Also, the combination as well as the arrangement of the U radiators and the bent pipes L L, with the fireplace or chamber of combustion, and either or both the radiators arranged as specified.

Also, the application of the grate to the fireplace by means of the pendulous plates applied to the journals of such grate and to the fireplace, substantially as set forth.

Also, the combination and arrangement of the scraper P, and its rod Q, with the main arched radiator and the front plate H, as explained.

Also, the arrangement of the air registers with respect to the fireplace, the escape passages thereof, and the front plate H, the whole being substantially as hereinbefore specified.

65,785.—WILLIAM ADAMSON, Philadelphia, Pa.—*Glue.*—June 18, 1867.—The hot size is raised from a percolator through an artificial current of air; or a

current of air is forced through it; or it is issued in jets and is thus positively brought in contact with air. All for the purpose of obviating the tedious drying process.

Claim.—A glue consisting of size aerated, or treated with gas, substantially in the manner described.

65,786.—WILLIAM ADAMSON, Philadelphia, Pa.—*Manufacturing Aerated Glue.*—June 18, 1867.—This refers to the machinery used in making the glue the subject-matter of the preceding number.

Claim.—The mode or process substantially as herein described of aerating carbonating size for converting the same into glue.

65,787.—WILLIAM ADAMSON, Philadelphia, Pa.—*Manufacture of Glue.*—June 18, 1867.—Bi-borate of soda, 20 lbs., dissolved in water, is added to 1,000 lbs. of dissolved glue.

Claim.—The combination substantially as described of glue or size with carbonate of soda for the purpose specified.

65,788.—C. F. ALLEN, Aurora, Ill.—*Car Truck.*—June 18, 1867.—Each end of the coach is supported on the middle transverse bar of a frame, each end of which is sustained by a four-wheel truck. The transverse swinging beams have an end movement, abutting against rubber blocks at their ends, and are suspended on rubber blocks allowing a limited vertical adaptability to the track.

Claim.—First, an eight-wheel truck which is composed of two independent four-wheel trucks connected together by means of a platform A, which is supported upon, and connected by pivots to, laterally swinging spring beams, arranged substantially as described.

Second, in an eight wheel truck, the combination of the laterally swinging and vertically elastic beams D D and K, with the side springs f f, and equalizing beams D' D', so arranged that the weight of the load upon the center of the platform A' will be uniformly disposed upon all the axles of the trucks, substantially as described.

Third, the connecting platform A, constructed of wood and metal, provided with a swinging beam K and strengthened by means of trusses or braces J J, substantially as described.

Fourth, in combination with the bars b b', braces, c c, pedestals a a, steps e' e', and saddles e' e', the transverse beams C C, metal boxes e e, pillow blocks d d, fulcrum straps g', and the equalizing beams D D, with their springs and connecting loops all arranged and operating substantially as and for the purposes described.

65,789.—ELKANAH BATEMAN, Frederick City, Md.—*Flour Bolt.*—June 18, 1867.—The bolting cylinder and the fan within it revolve in different directions. The longitudinal ribs within the cylinder elevate the flour for the more effectual action of the wind thereupon.

Claim.—The buckets n, arranged and operating in combination with the bolting cylinder and fan, substantially as herein set forth.

65,790.—JULIEN F. BELLEVILLE, Paris, France.—*Car Spring.*—June 18, 1867.—The annular disks are arranged in pairs base to base, and are strung on the rod.

Claim.—The spring composed of trunco-conical disks having the form and proportions herein specified, arranged in pairs united by means of a rod passing through the center of the said disks as shown and set forth.

65,791.—MARSHALL BURNETT, Boston, Mass.—*Faucet.*—June 18, 1867.—To prevent hydro-dynamic concussion by stopping the flow gradually and allowing a portion to pass into the chamber above the valve. The valve is depressed by a cam lever and raised by an annular spring around the stem.

Claim.—A faucet having the cylinder C, valve F, cone H, and cam lever I J, all constructed and arranged substantially as shown and described.

65,792.—ANDREW CARSON, Memphis, Tenn.—*Float or Raft.*—June 18, 1867.—Explained by the claims.

Claim.—First, constructing a float for saw-mills or the purposes herein described, by securing a sufficient quantity of light timber or other material together in a solid mass, and supporting a platform on the same, substantially as herein described for the purpose set forth.

Second, attaching side floats to the main float for steadying the structure, and making room to deposit the sawed lumber, as herein described.

65,793.—LEWIS S. CHICHESTER, Brooklyn, N. Y., assignor to himself, C. W. MILLS, and G. H. NICHOLS, same place.—*Grain Dryer.*—June 18, 1867.—The caloric current passes into a lateral chamber, thence through open ended flues which traverse the grain trunk; again turning, it passes through a second similar set of flues to the exit and is moderated by an incoming blast of cold air when required.

Claim.—First, in a grain-drying apparatus a chamber above the fire into which air is admitted in large volumes and descends and mingles with the products of combustion and passes into the grain dryer, substantially as and for the purpose specified.

Second, the arrangement of the hot and cold air flues f and n, trunks g or g', and valves l' l' and m m', for regulating the temperature of the air passing into the grain-drying chamber k, substantially as specified.

Third, a series of half pipes crossing the grain chamber and opening at or near both ends into air spaces or flues as set forth, so that the current of air shall pass through and beneath the half tubes and in contact with the grain as set forth.

65,794.—JOHN W. COBB, Melrose, Mass.—*Machine for Filling Cylindrical Molds for Rubber Goods.*—June 18, 1867.—To create a rubbing friction on the rubber or on the backing of fabric, the smooth roller is rotated faster than the one containing the mold.

Claim.—So connecting by gear or otherwise the pattern roll M, with the filling roll R, that the said filling roll R shall always revolve with greater rapidity than the pattern roll M, made substantially as described and for the purpose set forth.

65,795.—J. M. and JOHN CONNELL, Jr., Newark, Ohio.—*Slate Frame.*—June 18, 1867.—The frame of the slate is held together by rubber corner casings which enter notches in the frame and obviate noise.

Claim.—A corner casing of elastic or resilient material constructed substantially as described to hook into notches in the edges of the slate.

65,796.—W. H. DOANE and W. E. LONDON, Cincinnati, Ohio.—*Wood-planing Machine.*—June 18, 1867; antedated December 18, 1866.—The heading attachment is placed on the pressure bar to gauge the depth of head from the surface of the board and secure automatic adjustment of the heading shaft. The matching heads are removable with the tops of their spindles, so that after said removal no part of the spindles is above the planing bed. This allows an easy conversion to a surface planer.

Claim.—First, the combination of two or more removable tonguing and grooving cutter heads having attaching stems formed on or applied to them, two or more spindles with their upper ends below the surface of the planing bed, and a rotary planer, constructed and arranged so as to operate substantially as and for the purpose set forth.

Second, placing the heading shaft of a planing and matching machine within or upon the pressure bar, for the several purposes and in the manner described.

65,797.—D. H. DOTTERER, Philadelphia, Pa., assignor to himself and DILLWYN PARRISI, Jr., same place.—*Axle Box.*—June 18, 1867.—The annular bearing passes around the journal and around the roller beneath, which is submerged in the lubricant. The bearing is lubricated by submergence and the axial pin of the lower roller has grooves which conduct the lubricant throughout its length.

Claim.—First, the hollow roller B, having openings arranged substantially as described, for permitting the lubricating material to pass through the said roller to the stationary pin E.

Second, the said stationary pin E and its longitudinal groove G, in combination with the hollow roller and its openings.

Third, the stationary pin *E*, arranged within the box and confined thereto by the detachable cap or follower *k*, and substantially as described.

65,798.—C. L. EASTHAM, Rhode's Point, Ill.—*Gang Plow*.—June 18, 1867.—The clevis of the plow is linked to the transverse bar, which is hinged to the axle of the carriage. The lever is connected to the rear of the plow frame, rests on a post beneath the seat, and is vertically adjusted by a lever on the carriage.

Claim.—First, the combination of the axle *A* and hinged bar *C*, provided with the lever *l*, and having the plows attached thereto, as described, all constructed and arranged to operate substantially as set forth.

Second, the combination of the lever *L*, connected to the plow beams and having a fulcrum at or near the axle, with the elbow lever *E*, pivoted to the tongue, or equivalent part, arranged to operate as described.

65,799.—NATHAN H. EDGERTON, Pottsville, Pa.—*Car Replacer*.—June 18, 1867.—The inclined planes are laid parallel to the rails and the outer one fastened thereto by a block, whose foot sets in a socket in the incline and whose hook engages the rail to prevent lateral displacement.

Claim.—First, the reversible and detachable canting block *K*, secured to the rail *A'*, and the depressed foot *n*, substantially as described.

Second, the plated incline *D*, having a projecting foot *m*, in combination with a canting block *K*, adjusted substantially as described.

Third, the combination and arrangement of my second claim with the inclined block *C*, when both are constructed and operating substantially as described.

65,800.—GEORGE D. EDMONSON, Detroit, Mich., assignor to himself and ALBERT R. CLARK, same place.—*Spectacles*.—June 18, 1867.—Explained by the claim.

Claim.—The spectacles with lenses, each of which consists of two pieces of different relative convexity and set at a different angle in the bezel, substantially as described.

65,801.—WILLIAM H. ELLIOT, New York, N. Y.—*Rock Excavator*.—June 18, 1867.—The motor is on a car, which traverses a track above. The platform of the machine is suspended from the car and the drill actuated by bands from above.

Claim.—First, the combination of car *a*, track *h'*, and drilling machine *e*, when said machine is suspended from a car, substantially as herein shown and described.

Second, platform *c*, in combination with car *a* and drilling machine *e*, substantially as and for the purpose herein set forth.

Third, adjustable support *f* and *f'*, in combination with car *a* and drilling machine *e*, substantially as and for the purpose herein shown.

Fourth, frame *m'*, in combination with drilling machine *e* and platform *c*, for the purposes herein set forth.

Fifth, braces *o*, in combination with platform *c*, substantially as and for the purpose herein set forth.

65,802.—WILLIAM H. ELLIOT, New York, N. Y.—*Drilling Machine*.—June 18, 1867.—The crank is connected to the drill spindle by a spring, supported in a carriage which slides upon or with the spindle. A spring prevents the jar from taking effect except when the drill is jammed.

Claim.—First, the carriage *k*, with springs *n* or *n'*, in combination with cranks *h'* and drill spindle *l*, when operating substantially as herein shown and described.

Second, projections *n'*, and a corresponding collar on the drill spindle, in combination with spring *n*, when employed substantially as and for the purpose herein specified.

Third, the combination of crank *h h'*, drill spindle *l*, and spring *n*, when employed as devices for producing excess of motion in the drill spindle over that given to the connecting rods by the cranks, which shall cause the machine to feed towards the rock, substantially as shown.

Fourth, the pawl *u* and rack *u'*, when acted upon

by devices producing excess of motion in the drill spindle over that of the connecting rods, for the purpose of feeding the machine towards the rock, substantially as herein set forth.

Fifth, plate *m'* with its diagonal edge, when acting on the notches on the collar *m* to revolve the drill, when operated upon by devices producing excess of motion in the drill spindle over that of the connecting rods, substantially as shown and described.

65,803.—BENJAMIN FITTS, Newark, N. J.—*Packing Pump Joints*.—June 18, 1867.—Explained by the claims and illustration.

Claim.—First, the packing, composed of india-rubber or other similar substances, formed or constructed substantially as set forth and described—that is to say, a packing made by applying the prepared India-rubber in the plastic state to the different surfaces, as shown, and compressing it to fit all the inequalities, recesses, or grooves in the metal, and being made, in vulcanizing, to adhere firmly to one part of the metal, leaving the other to be freely removed.

Second, a pump valve, composed of a metallic case, in which is confined India-rubber, adhering to the metal by being vulcanized therein and forming an elastic face, as described.

65,804.—D. H. GOODELL, Antrim, N. H.—*Fruit Parer*.—June 18, 1867.—The segmental plate is clamped to the table, and has a rack at its perimeter connected by a train of gearing to the fork shaft. The knife is at the head of a pivoted rod held to the fruit by a spiral spring. An arm meets the knife shaft at the end of the stroke, and pushes it back to a recess of its sliding slot, which holds the knife at a distance from the fork until the frame is swept back to the starting point, when the knife shaft is pushed from the said recess, and the knife comes in contact with the fruit.

Claim.—The combination of the arm *V* with the notched slot *S* in the plate, for the purpose described.

Also, the described fruit parer, when all its parts are arranged and operated as set forth.

65,805.—JOHN HAFFER and JAMES A. HENDERSON, Bedford, Pa.—*Cigar Making Machine*.—June 18, 1867.—The hopper is filled with fine-cut tobacco, and the wrapper placed on the filling tube. The ratchet-toothed plunger and the filling tube reciprocate together and force the tobacco into the wrapper.

Claim.—First, the packing tube *C*, arranged and operating as described.

Second, the combination as described of a fixed hopper tube or feed pipe with a reciprocating tube, for the purpose set forth.

Third, the combination substantially as described of a fixed hopper tube or feed pipe, with a plunger reciprocating inside and a packing tube reciprocating outside the feed pipe for the purpose of filling a wrapper with fine-cut tobacco.

65,806.—DAVID HAIN, HENRY A. GROSS, and MARTIN HAIN, Gasconade county, Mo.—*Sorghum Stripper*.—June 18, 1867.—One shank of each of the pairs of knives is jointed to one of a pair of toggle levers connected to a treadle, by whose depression the knives are opened to admit the stalk.

Claim.—First, two pairs of semi-elliptical knives *c² c³*, one pair of which is to be placed in front of the other, substantially as described and set forth.

Second, the flexible handles *c c'* in combination with the knives *c² c³*, for the purpose of allowing the said knives to yield readily to any variation in the size of the stalk passed between them.

Third, the knife handles *C'* and toggle bars *D*, when combined as herein described and set forth for the purpose of opening or raising the knife *C³*.

Fourth, the knife handles *C'*, toggle bars *D*, the spring *D²* or its equivalent, the rod *D'*, the link *d*, and the treadle *D³*, when constructed and arranged substantially as herein described and set forth.

65,807.—THOMAS HALL, Bergen, N. J.—*Typographic Machine*.—June 18, 1867.—Paper is held on the table by catches, an inking rubber is stretched over it. The type strikes the impression through the ribbon. The table is moved by a lever, and the proper keys depressed to operate the type, which strike at the same place in the machine, the paper moving

after each impression the width of the letters, and a blank key being depressed to form a space between words.

Claim.—First, weights attached to the type levers when they are so arranged that they act with less power when the type is making its impression than at any other position.

Second, the stop mechanism 1 1 1 1, and ϕ hollow shaft 2', substantially as described.

Third, the arrangement for moving table by varying length of levers to suit each type, substantially as described.

Fourth, the method of spacing between letters and words by a variable length of lever J, by which the space for each letter is increased or diminished equally, substantially as shown.

Fifth, moving paper by the clutch *n* on straight rod *m*, substantially as described.

Sixth, lever Q and connections for moving table, substantially as described.

Seventh, parallel motion for moving table backward and forward, substantially as described.

Eighth, ring R or its equivalent for stopping type when making an impression.

Ninth, automatic stop operating when the printing has reached the end of the line, substantially as described.

Tenth, varying the length of movement of the table P or substance to be printed upon by causing the keys to move different distances before acting on the feed mechanism.

65,808.—OSCAR HAMMEL, Jersey City, N. J.—*Electric Apparatus for Lighting Gas Engines.*—June 18, 1867.—A reciprocating slide gives an oscillating motion to a pendulum switch, which connects with one pole of a battery, so as to be alternately brought in contact with two studs connecting with the ignitors at the opposite ends of the working cylinder. The intensity of the current is increased by an electro-magnetic hammer and a combination helix, and the vibration of the hammer is produced by a serrated bar attached to the reciprocating slide.

Claim.—First, the arrangement of the battery B, coil C, pendulum switch G, and electric hammer E, all constructed and operating substantially as and for the purpose set forth.

Second, the pendulum switch F in combination with the slide H, or its equivalent, constructed and operating substantially as and for the purpose described.

Third, the electric hammer E in combination with the slide H, or its equivalent, and with the pendulum switch G, constructed and operating substantially as and for the purpose set forth.

Fourth, the saddle *p* on the electric hammer E in combination with the serrated bar *q* on the slide H, or its equivalent, constructed and operating substantially as and for the purpose described.

65,809.—OSWALD HESSELBACHER and HENRY MOESTA, Detroit, Mich.—*Lemon Squeezer.*—June 18, 1867.—The lemon is placed in the cup and squeezed by the plunger, which is operated by a cam groove in the lever.

Claim.—First, the construction of the frame of a lemon squeezer of the parts A and B, and a circular bracket C, which latter is adapted for receiving and supporting a straining cup D beneath a plunger E, substantially as described.

Second, the combination of the vibrating slotted cam lever G J and plunger E, with the cup D and its supporting segment C, constructed and arranged substantially as and for the purposes described.

65,810.—CHARLES T. HOLMAN, Conneautville, Pa.—*Seed Planter.*—June 18, 1867.—The furrowing teeth are adjustable vertically on the seed spout by a rod which is hung to a cross-bar of the frame. The seed slides are actuated by a cam on the axle, which also operates the patting hoes which press the earth on the seed. The axle turns freely in the frame, and the wheels turn on the axle, except when the driving wheel is coupled to the axle by the sliding ratchet clutch.

Claim.—First, perforating the shank of the furrowing tooth and arranging the seed tube to pass through it, substantially as described.

Second, arranging the hoppers on and hinging the

furrowing, seeding and covering fixtures or devices to the blocks J J, arranged to traverse between ways and adapt the planter to rows of different widths, substantially as described.

Third, and in combination with devices hinged to the blocks J J, the swinging bar Q', worked by the cam Q, and so arranged as to work and operate the several parts in the different portions in which they may be placed to vary the width of the rows planted.

Fourth, making the swinging bar M', which connects the shank of the furrowing tooth to the link so long that the tooth and link may be traversed on it, substantially as described, in adjusting the machine to rows of different widths.

65,811.—THOMAS HOLMES, Bristol, R. I.—*Water Elevator.*—June 18, 1867.—The winch shaft carries a spur wheel and a ratchet wheel; the former engages an inside gear of the drum. The brake lever has connection with the pawl, so that the raising of the former to contact with the drum will raise the pawl from the ratchet and allow the rotation of the drum.

Claim.—The combination of the brake lever G and pawl F with the gear wheels D C, when arranged substantially as described and for the purpose set forth.

65,812.—W. WHEELER HUBBELL, Philadelphia, Pa., assignor to himself and JAMES H. ORNE, same place.—*Breech-loading Fire-arm.*—June 18, 1867.—The hinged breech is unlatched, and raised for a determinate distance before it retracts the sliding breech from the bore by pulling on the link. When partially retracted, a bar catches the flange of the cartridge shell and withdraws it; a lip on the breech then strikes the arm and ejects the cartridge. In loading, the cartridge is laid on the said arm and depressed, which gives a forward movement to the sliding breech and a downward movement to the hinged breech; the further depression of the latter drives the sliding breech cartridge and retractor, and its ultimate downward movement brings it against the curved rear face of the sliding breech, forming an abutment. The cartridge is fired by a pin struck by a hammer.

Claim.—First, the breech B, with its rear face *c*, secured firmly in the concave front of the ordinary screw base *a* of the barrel by the fixed shaft or center *b*, with this breech B operating the breech C' under the side ribs *n'* by means of the link D, and locking by their faces *f* and *e* and by the projection *d* into the bore of the barrel, all within the recess, substantially as described.

Second, the detachable cheek pieces E E, arranged for the introduction of the breech C' to and its withdrawal from the recess and the rear of the barrel, substantially as described.

Third, the single retracting bar G, moving in a groove 4, in one of the two opposite sides of the recess, both in loading and extracting the cartridge shell by the projection 5 in the slot 9, and intercepted at each end of the latter by the breech C', substantially as described and shown.

Fourth, the stationary rear striker I², and the breech B and its striker I¹, operating together as described both with and without the front striker I, when the ends of the striker and breech pieces are beveled, substantially as specified.

Fifth, the ribs *n'*, in combination with the rear space *w* and with the retractor G, to insure the insertion of the flange of the shell in the rear of the retractor head 6, as described.

Sixth, the combination of the breech B, link D, breech C', retractor G, arm F, with the strikers, constructing and operating together successively in the recess and with the barrel to insert, fire, withdraw, and eject the primed ammunition or shell, as described.

65,813.—P. M. HUFFMAN, Harvard, Ill.—*Cough Mixture.*—June 18, 1867.—Composed of syrup of squills, 2 oz.; laudanum, 1 oz.; tincture of lobelia, 1 oz.; oil of anise, 1 oz.; castor oil, 2 oz.; extract of cubeb, 1 oz.; extract of licorice root, 2 oz.; balsam of tolu, 1 oz.; and honey, 1 lb.

Claim.—A cough mixture which is composed of the several ingredients mixed together in about the proportions specified.

65,814.—MOSES A. JOHNSON, Lowell, Mass.—*Carpet Lining.*—June 18, 1867.—Explained by the claim.

Claim.—As a new article of manufacture a felted hair bat, or its equivalent, covered with strips of paper on one or both of its sides, and leaving intervening uncovered spaces between the strips for the dust to pass through.

65,815.—LUTHER C. KEELER, Montrose, Pa.—*Shoe Holder.*—June 18, 1867.—The hook is hung to the box to sustain a shoe, as a sample of the contents.

Claim.—A shoe holder, constructed as described, consisting of the standards B B', one or more, provided with hooks, a stirrup or plate A and clasp D, substantially as herein shown and described.

65,816.—EBEN W. KEYES, Boston, Mass.—*Parlor Tennis Alley.*—June 18, 1867.—The buffers which receive the balls may be folded down at either end, to enable the game to be played from the other end.

Claim.—A parlor alley made with movable or folding buffers D D', substantially as described, and for the purpose set forth.

65,817.—GEORGE H. KITCHEN, New York, N. Y.—*Construction of Signs.*—June 18, 1867.—The opening in the opaque frame is of the shape of the letter, &c., to be represented, and is filled with a series of glass prisms illuminated from the rear.

Claim.—A prismatic illuminator formed of an opaque case with openings to which prisms are applied, substantially as and for the purposes set forth.

65,818.—A. KOMP, New York, N. Y.—*Apparatus for Washing and Separating Coal.*—June 18, 1867.—The coal, ashes, and cinders from a furnace are ground, washed, and elevated into the drum, where the material is assorted by fineness and passed to the shaking machine, where they are separated according to gravity.

Claim.—First, the arrangement of the grinding rollers C and elevator D, in combination with the assorting drum E, constructed and operating substantially as and for the purpose set forth.

Second, the arrangement of the assorting drum E, in combination with the separating machines G, constructed and operating substantially as and for the purpose described.

Third, the arrangement of the drying drum A, in combination with the separating machines G and assorting drum E, constructed and operating substantially as and for the purpose set forth.

65,819.—ISRAEL L. LANDERS, Lancaster, Pa.—*Fence.*—June 18, 1867.—The ends of the panels rest on sills, and the overlapping top rails are wrapped with wire, which descends to the ends of the sills and forms lateral braces.

Claim.—So constructing the panels of a fence that one of the rails of each panel shall overlap the corresponding rail of the adjoining panel and securing the same together by a wire-brace, in the manner specified.

Also, specially the mode of fastening shown in Fig. 5.

65,820.—FREDERIC J. F. LAUMONIER, Angers, France.—*Circular Coke Oven.*—June 18, 1867.—The circular group of ovens is divided into radial compartments, which form conical ovens and converge towards a central chimney. Each oven is charged, through a hole in the center of its arch, from a wagon with a tilting bottom, which traverses a circular railway above the ovens. The flues traverse the partitions and pass beneath the ovens. The charge is drawn through the open doorway of each oven by an engine which traverses a circular track and drags the coke from the sloping floor by a chain and rake laid thereon before changing. Water from either of the circular series of plugs is thrown on the coke.

Claim.—First, a circular coke oven composed of any suitable number of radial compartments converging towards a central chimney, substantially as herein described.

Second, the combination with the radial compartments of a circular coke oven, as described, of the flues for conducting the products of combustion from

the said compartments to the central chimney, under the arrangement herein shown and specified.

Third, the combination with the radial compartments, provided with openings in their top, of the circular railway passing over the said openings, as and for the purposes set forth.

Fourth, the application and use, in connection with the herein-described coke oven, of the water conduit or pipe encircling the same, substantially as and for the purposes herein specified.

65,821.—WM. E. LONDON and JOHN RICHARDS, Cincinnati, Ohio.—*Shaft Coupling.*—June 18, 1867.—The end of each shaft has a split conical sleeve, which is jammed thereon by conical collars and set nuts. The ends of the shaft are united by a feather and by bolting together the flanges of the collars.

Claim.—The use of two conical sleeves within two separate conical shells, arranged to act independently on each shaft and forming the two halves of a shaft coupling, as herein set forth and described.

65,822.—LAFAYETTE LOUIS, Providence, R. I.—*Melodcon.*—June 18, 1867.—A simple valve is employed for direct action, which is held normally open by a lever and spring. To bring the tremolo in action the direct-action valve is closed by moving the lever, and the bellows draws air from the reed chamber by the weighted valve, which pulsates and produces the required effect.

Claim.—First, combining with a tremolo valve *h*, hinged directly to an immovable or fixed valve seat, an auxiliary valve *g*, for regulating the direct passage of the air from the reeds to the bellows, substantially as described.

Second, in combination with the valve *h*, the lever *m* and its counterbalancing weight *q*, when this lever is pivoted or hung directly in or to the valve board, substantially as set forth.

Third, applying such weight to the lever by means of an adjusting screw, substantially as set forth.

Fourth, combining with the valve *g* the buttons *r*, made adjustable with respect to the valve seat, substantially as described.

Fifth, combining with a tremolo valve *h* and a direct passage valve a lever extended down from the valve to such position that it may be operated by the knee or foot of the performer, substantially as set forth.

65,823.—HENRY W. MILLER, Utica, N. Y.—*Apparatus for Heating Cheese Vats.*—June 18, 1867.—The vat is tipped or levelled by the lever cams, which are pivoted to the legs. The pipes lead from the vat to the furnace and, after passing the latter, are conducted back again, so as to heat through the water below the pan by jets of steam, and return to the cooler.

Claim.—First, in combination with one or more cheese vats, a heater constructed of metallic pipes, substantially as herein described and set forth.

Second, connecting a coil of metallic pipes, which forms either wholly or in part the heater of a cheese vat, with one or more perforated pipes G placed in said cheese vat, substantially as herein described and for the purpose specified.

Third, in combination with a cheese vat and a circulating heater for said vat, the arrangement of the heating pipes G and the cool-water pipe E, substantially as herein described and for the purpose specified.

Fourth, the combination of the pan H with a coil heater D and one or more cheese vats, when constructed and arranged substantially as herein described and for the purposes specified.

Fifth, the use of the eccentric legs or levers, in combination with a cheese vat, constructed and operating substantially as herein described and set forth.

65,824.—MILTON V. NOBLES, Elmira, N. Y.—*Life-boat.*—June 18, 1867.—The double cover is inflated and the hold ventilated by a fan blower in the hold. The cover has windows around its sides.

Claim.—First, covering the hold of a life-boat with a flexible air and water-tight covering, supported by and fastened to a sustaining frame, substantially as described.

Second, making the cover of a life-boat of double rubber or other cloth, with air space between, so that it may be inflated and thus made more buoyant, substantially as described.

Third, ventilating the hold of a life-boat through a hollow mast furnished with separate passages, whether by natural or artificial currents, of out-going impure and incoming fresh or pure air, substantially as described.

65,825.—MILTON V. NOBLES, Elmira, N. Y.—*Boat Detaching Tackle.*—June 18, 1867.—The hook is upon a frame which is linged to the deck of the boat so as to lie upon the same when unengaged. The points of the hooks enter detent sockets, which are depressed by the oscillation of a rock bar running from stem to stem to free the hooks.

Claim.—In combination with hinged and dropping holding heads, the lifting and lowering rods *l* and the locking and unlocking arms *b*, all operated by one lever or one shaft, so that the whole may be within the control of one person, substantially as and for the purpose described.

65,826.—ISAACH P. PALMER, Lodi, Wis.—*Unloading Grain.*—June 18, 1867.—The valve bar is operated by a rack and spur wheel, and allows the discharge of grain into the funnel hopper beneath the car floor.

Claim.—First, valves in the floors of cars, carriages, &c., for drawing off grain and other materials without handling the same, substantially as described.

Third, the side valves *b*, in combination with the racks *e*, pinions *i*, and shaft *D*, substantially as described.

Third, the pivoted valve *c*, in combination with crank *i*, substantially as described.

65,827.—ALBERT W. PRESTON, Mazon, Ill.—*Glove for Husking Corn.*—June 18, 1867.—The glove is made to cover the parts of the hand subjected to greatest wear, and has claws to engage the husk.

Claim.—A husking glove to cover the back of the hand, thumb, and fingers, and the fronts of the ends or first joints of the thumb and fingers with a strap around the thumb and wrist, substantially as shown and described.

Also, a husking glove with the front of the fingers and thumb covered or shod with sheet metal, substantially as described.

Also, in combination with the plate on the thumb, the spur or projection *G*, on said plate.

Also, in combination with the plate on the forefinger, the spur or projection *K* on said plate, for opening the husks on the ears of corn.

Also, in combination with the plate on the forefinger and the spur for opening the husks, the projection or arm *J*, to rest on the back *o*, the middle finger to prevent the plate from turning on the forefinger.

Also making the backs of the fingers to lace up, substantially as described, so as to adapt the glove to fingers of different sizes.

65,828.—WILLIAM RALPH, Utica, N. Y.—*Milk Can.*—June 18, 1867.—The handle plates have sockets to receive the intumed ends of the bail upon which it is wanted to pour out the contents.

Claim.—First, the socket *a*, when applied substantially as described for the purpose mentioned.

Second, the combination of the plate *B*, socket *a*, and handle *C*, for the purpose set forth.

65,829.—TIMOTHY K. REED, East Bridgewater, Mass., assignor by mesne assignments to S. J. SHAW and THOMAS COREY.—*Stay or Brace for Boots and Shoes.*—June 18, 1867.—The metallic plate is riveted to the upper at the front end of the slit.

Claim.—The application and arrangement of a metallic brace stay or cap with respect to the junction of the sides of the slit in the upper of a balmoral boot or shoe, as herein described.

Also, as an improved manufacture, a balmoral boot or shoe as provided with a stay brace or cap arranged with respect to the junction of the sides of the slit of its upper, as hereinbefore explained.

65,830.—JACOB REESE, Pittsburg, Pa.—*Refining Iron, Steel, and other Metals.*—June 18, 1867.—The metallic oxide protects the metal from the carbon of the fuel. The hydrogen unites with the carbon, sulphur, and phosphorus of the metal.

Claim.—First, refining iron, steel, and other metals by means of a blast of atmospheric air, or other decarbonizing blast, in a refinery or furnace heated with

coke or other carbonaceous fuel, when a layer of metallic oxide is interposed between the fuel and the metal under treatment, for the purposes hereinbefore set forth.

Second, the use of a covering of metallic oxide for protecting metals from the influence of carbon, substantially as hereinbefore described.

Third, the use of hydrocarbon liquid, vapor, or gas, in the process of refining iron or steel, in the manner substantially as hereinbefore described.

Fourth, the use of a hydrocarbon liquid, vapor, or gas, for the purpose of removing sulphur and phosphorus, or either of them, from iron, steel, or other metals, in the process of refining, substantially as hereinbefore described.

65,831.—JACOB REESE, Pittsburg, Pa.—*Machine for Making Fish Bars for Railroad Rails.*—June 18, 1867.—The moving die and the punches which traverse the same are actuated by separate cams, so arranged that, at the completion of the pressing operation, the punches will descend and make their oblong holes in the fish plate.

Claim.—The combination of the moving die *o*, and stationary grooved die *o'*, with the punches *s' s'*, operating and arranged substantially as described, for the purpose of pressing, punching, and bending fish bars at one operation.

65,832.—JACOB REESE, Pittsburg, Pa.—*Machine for Straightening Cylindrical Bars of Metal.*—June 18, 1867.—The bar rests on a free roller between the conical-ended rolls, which rotate in contrary directions; the cone which gives the downward turn to the bar rotates more rapidly than the other to insure the proper depression of the bar.

Claim.—First, rolling and straightening cylindrical rods, bars, shafts, and tubes or pipes of iron, steel, or other metals, between the conical faces of revolving disks or the conical ends of revolving rolls, arranged substantially in the manner and for the purposes above set forth.

Second, the pair of revolving cone-faced disks, arranged as described, so as to revolve in opposite directions, having their axes of revolution inclined, so as to bring their operative faces, forming the bite of the disks parallel to each other, and having their axes in slightly different planes for the purpose of giving a combined rotary and forward motion to the metallic rod bar shaft or tube held between the bite of the disks, substantially as hereinbefore described.

Third, the combination of a pair of rolls or disks *d d'*, having conical ends or faces, with the rest roller *n*, arranged and operating substantially as hereinbefore described.

Fourth, the combination of the screw *p*, with the axle *b* and disk or roll *d'*, for the purpose of increasing or lessening the distance of the disk or roll *d'* from its corresponding disk or roll *b*, substantially as above described.

65,833.—CELIUS E. RICHARDS, North Attleboro', Mass.—*Paper Braid.*—June 18, 1867.—The braid forms a substitute for straw plait, &c.

Claim.—A braid or band, composed of a series of paper threads or strands united together, and to be used as and for the purposes set forth.

65,834.—JOHN C. ROGERS, Alden, N. Y.—*Sulky Plow.*—June 18, 1867.—The beam near its rear end is connected by a link, rack, and spur wheel to the frame. Jaws on the tongue sustain the forward end of the plow beam when moving from field to field.

Claim.—First, connecting a sulky to a plow by means of the link or universal joint *D*, or equivalent, for the purpose and substantially as herein described.

Second, the combination and arrangement, with a plow of common construction, of the rack *D*, link *D*¹, pinion *E*, crank shaft *E*¹ *F*, weighted pawl *G*, and ratchet wheel *G*¹, all arranged upon a sulky, in the manner and for the purpose substantially as described.

Third, the projection *d*², or equivalent, formed upon or connected to the lower end of the rack *D*, in rear of the link or universal joint *D*¹, for the purpose and substantially as described.

Fourth, the spring rods *I*, when constructed and used for the purpose substantially as herein set forth.

Fifth, the jaws *J*, in combination with the pole of

a sulky plow, for the purpose and substantially as described.

65,835.—BLANEY E. SAMPSON, Boston, Mass., assignor to himself and J. B. PROCTER, Fitchburg, Mass.—*Window Sash Supporter.*—June 18, 1867.—By depression of the roller it is withdrawn from its jammed position between the sash and casing, and the sash is thereby made free to move. The spring restores it, and holds the sash in position.

Claim.—The combination as well as the arrangement of the inclined plane *b*, the roller *c*, the carrier rod *d*, its arm *f* or arms *f f'*, the spring *e* and the spring latch *l*, arranged in the window frame, the whole being substantially as described.

65,836.—DAVID SAUNDERSON, St. Louis, Mo., assignor to JOHN RINGEN, same place.—*Bowling Oil Cans.*—June 18, 1867.—The box has upper and lower openings, the former to admit a wedge to hold down the nozzle from injury in shipping, and the latter to force the nozzle up for decanting.

Claim.—The combination of the wooden box *B*, can *F* and wedge *A*, as above named and described, and for the purposes set forth.

65,837.—WILLIAM SIEFERT, New York, N. Y.—*Sad Iron.*—June 18, 1867.—The stem on the handle fits into the socket on the iron, and is fastened by a bayonet joint. The spring throws the projection into a notch of the slot, which prevents rotation, until by depression it is disengaged.

Claim.—A sad iron, having stem *C*, with spiral spring *s* and projection *a* thereon, in combination with the slot *v v'*, with the upward projection therein, as described, when constructed, arranged, and operating as herein specified.

65,838.—E. K. SMITH, Philadelphia, Pa.—*Composition for Matches.*—June 18, 1867.—1 lb. of phosphorus is dissolved in a solution of 5 lbs. of glue. Red lead, 14 lbs., is mixed with 8½ lbs. of nitric acid, and added to the former composition, to be applied to wooden splints.

Claim.—A composition, consisting of the materials described, for the purpose specified.

65,839.—SAMUEL W. SOULÉ, Milwaukee, Wis.—*Numbering Machine.*—June 18, 1867.—For numbering checks, bonds, &c., consecutively. The numbered disks are arranged on a shaft and connected to move serially. The depression of the shaft actuates the disks and inking roller.

Claim.—First, the stamp frame with its shaft and plate *J*, cylinder *a*, ratchet *S*, type wheels *v v z*, frames *B C*, dog *d*, and dogs *e f*, all constructed and arranged substantially as and for the purposes set forth.

Second, the arrangement of the arm *E*, plate *F*, roller frame *H*, with rollers *K R* and spring *c*, in combination with the revolving table *M* and screw *P*, when used in the manner and for the purposes set forth.

Third, the guide frame *X* and rubber *Z*, for regulating the printing of the type by means of its slide *x'*, in the manner and for the purposes specified.

65,840.—JAMES H. SPERLING, Peru, Ind.—*Medical Compound.*—June 18, 1867.—For the cure of intermittent fevers. Composed of nitre, 2 drachms; gum camphor, 1½ drachm; cayenne pepper, 10 grains; mix, place in a sack and apply over the epigastrium to anticipate the chill.

Claim.—The combination of the said ingredients in the proportions designated, substantially and applied in the manner set forth.

65,841.—NATHAN STARBUCK, Wilmington, Ohio.—*Ditching Machine.*—June 18, 1867.—Improvement on his patent, August 1, 1865. A pair of guiding wheels support the front end of the frame. The cutting wheel is hung in an adjustable sliding gear. The scraper is placed in the rear of the cutting wheel and curved at the upper part to act as a mold board. A fender with sliding sides moves the dirt laterally from the side of the ditch.

Claim.—The combination of the vertically adjustable yoke *F*, cutting wheel *G*, lever *H*, scraper *I*, suspended in the rear of said wheel *G*, to the hinged

pendant *g* and fender *K*, arranged and operating as and for the purpose herein set forth.

65,842.—CHARLES H. THOMAS, Philadelphia, Pa.—*Bottling Mineral Waters.*—June 18, 1867.—The water is drawn from a considerable depth through a pipe let down in the spring; a perforated plate of glass is placed in the water below the mouth of the tube and jets of gas from a reservoir are discharged below the plate.

Claim.—First, bottling or drawing water from mineral wells or springs under pressure, substantially as described.

Second, taking the water from a point in the well or spring below the point of discharge, substantially as described.

Third, the use, in a universal well or spring, of the perforated diaphragm *a*, as herein set forth.

Fourth, the charging of mineral waters with an extra supply of gas, either in the well or in the tank, substantially as herein described.

65,843.—S. E. TOTTEN, Brooklyn, N. Y., assignor to himself and CYRUS L. TOPLIFF, same place.—*Awl.*—June 18, 1867.—The awl is driven through the leather and its groove permits the passage of the bristle of the wax end without withdrawing the awl.

Claim.—An awl having a longitudinal groove *D*, as herein set forth for the purpose specified.

65,844.—W. H. TRISSLER, Cleveland, Ohio.—*Preserving Fruit.*—June 11, 1867.—The top plate of the can has a tube to which an air pump is attached. The air being exhausted, the pipe is pinched to close it and thus the air is excluded.

Claim.—The pipe *D* and plate *B*, as arranged in combination with the can *A*, when used for the purpose and in the manner described.

65,845.—JAMES F. VALENTINE, Union County, Ohio.—*Dressing Side Straps for Harness.*—June 18, 1867.—The strap slips beneath the levers in the box and the edges are dressed by the knives.

Claim.—The combination and arrangement of the knives or bits *f f'* with the box or trough, together with the levers *b b'*, the pin or bolt *e*, and the widening or regulating screws *d d'*, substantially as set forth and for the purpose therein named.

65,846.—HENRY C. VAN TINE, Pittsburg, Pa.—*Apparatus for Burning Petroleum and other Hydrocarbons.*—June 18, 1867.—The hydro-carbon is admitted below the gravel and burnt upon the surface of the latter; jets of steam enter the furnace from a perforated pipe.

Claim.—The use of a fire pan filled or partially filled with gravel or small stones, and supplied with petroleum or other hydro-carbon fluid by a pipe or pipes, in combination with a perforated pipe or pipes for admitting jets of steam into the fire space above the surface of the gravel, substantially as and for the purposes hereinbefore described.

65,847.—THOMAS P. WARREN, Norfolk, Va., assignor to WARREN & WOODHOUSE, same place.—*Combined Cotton Plow and Scraper.*—June 18, 1867.—Side scrapers and shares are attached to the sole bar in rear of the broad share to adapt the machine to different phases of corn or cotton cultivation.

Claim.—First, the standard *B* having the broad flange *x*, the slots *b b'*, and the arm *z*, substantially as and for the purpose described.

Second, the combination of the standard *B* and the flanged supporting attachment *C*, substantially as and for the purpose specified.

Third, the scraper guide *K* attached to the landside in the manner and for the purpose above shown.

65,848.—RUFUS WATSON and THOMAS SPENCER, Central College, Ohio.—*Manufacture of Sorghum Sugar.*—June 18, 1867.—A vertical series of adjustable inclined troughs are supported in a frame and the sirup allowed to run from trough to trough to assist in granulation.

Claim.—First, the herein-described process of granulating sirup: the said process consisting in having the sirup flow over a shelf or shelves, or their equivalent, of suitable length and inclination, so as to effect granulation, substantially as described.

Second, the apparatus constructed substantially as herein described, for the purpose set forth.

65,849.—WILLIAM WELBOURNE, Preston, England.—*Tea Canister.*—June 18, 1867.—The box is divided into several vertical compartments by transverse divisions, the said compartments reaching to a slanting partition near the bottom having sliding doors, by whose retraction the tea is discharged into a lower cavity, which is shut by a vertically-sliding door.

Claim.—A canister having partitions and doors arranged and operating substantially in the manner and for the purpose described.

65,850.—CHARLES V. WILSON, Newark, N. J.—*Pot for Lead Bath for Tempering Steel, &c.*—June 18, 1867.—The wrought-iron pot has a cast metal exterior casing.

Claim.—The pot or bath made of wrought and cast iron, combined substantially in the manner and for the purpose hereinabove specified.

65,851.—MOSES B. WRIGHT, Meriden, Conn.—*Lamp Burner.*—June 18, 1867.—The upper wick tube is of larger diameter and is separated from the lower one, which communicates with the reservoir. The object is to isolate the heated tube from contact with the oil chamber.

Claim.—A lamp burner provided with two wick tubes *b e*, one of which *e* is placed above and not surrounding the other *b*, and which communicates with a closed chamber below, substantially in the manner and for the purpose set forth.

65,852.—WILLIAM WYATT, New Bedford, Mass.—*Furling and Reefing Sails.*—June 18, 1867.—Explained by the claim and illustration.

Claim.—The combination and arrangement of the furling and reefing top-gallant sails and royals by means of head lines and luff lines running through blocks on the upper and under sides and ends of the yard, and travelers affixed to the sail and running in grooved ways formed by securing metallic plates to the yard, as herein described, operated by raising and lowering the yard, as set forth, for the purpose specified.

65,853.—CHARLES L. ZEIDLER, Cincinnati, Ohio.—*Machine for Making Match Splints.*—June 18, 1867.—The block of match wood is placed between the fixed bridge and the reciprocating series of tubular cutters, by which a row of round splints is shaved from the lower side.

Claim.—The knife constructed in one piece, with punches K K and rearward prolongations J J', all as herein described and for the purposes specified.

65,854.—EPHRAIM ADAMS, Jr., Attleboro, Mass.—*Hoop Skirt.*—June 18, 1867.—The bustle hoops encircle the body instead of having a gap in front, and are attached to the tapes which extend from the waistband to the bottom of the skirt.

Claim.—The combination of the bustle springs *e* and the central tape *d*, substantially as described for the purpose specified.

65,855.—JAMES C. ADAMS, Philadelphia, Pa.—*Metallic Paint Keg.*—June 18, 1867.—The can is intended for use by manufacturers to pack paint in, and by the painter as a paint pot.

Claim.—A metallic paint keg, having its top formed by turning over the edge thereof flat, twice, substantially as shown and described.

65,856.—JOSEPH ADAMS, New Orleans, La.—*Machine for Fastening Bale Ties.*—June 18, 1867.—The hoop is slipped through the buckle, which is then inserted laterally in the mortise of the clamp, being guided by the spring rod. The hinged lever is then oscillated, bending the hoop over the bar of the buckle.

Claim.—First, the mortise C in the bed of the machine, to admit the tie buckle or fastening, and to accomplish its adjustment to the hoop by the same motion which bends the hoop.

Second, the spring G, as set forth above.

Third, the indentation or oval shape in the handle at the point I and at the points H II, to form the

bend over and under the spring G, substantially as described and represented.

65,857.—J. B. ALEXANDER, Washington, D. C.—*Stopper for Bottles, Jugs, &c.*—June 18, 1867.—The rod for attachment of the cord passes axially through the cork and an upper and lower washer, the latter of which is in a recess stopped by a plug to protect the metallic washer from the action of the liquid.

Claim.—The bore I, Figs. 1 and 2; the plug E, Fig. 1; the plug F, Fig. 2; the screw H and auxiliary piece G, Fig. 3, in combination with the rod C and the plates B and D and the body A, substantially as described and for the purpose set forth.

65,858.—GEORGE ARNOLD and JACOB GREVE, Cleveland, Ohio.—*Washing Machine.*—June 18, 1867.—The oblong box has an under, corrugated, rubber board resting on a roller at its lower end, and on springs taking over the box end at its upper end. The rubber block above it has ratchet corrugations calculated to draw the clothes between the surfaces, and is actuated by oscillating arms pivoted to the under board, having lugs entering slots in said arms.

Claim.—First, the rubbing board C, as arranged in combination with the board D, provided with angular notches *a'*, arms L, and springs O, for the purpose and in the manner set forth.

Second, the rubbing board C, rollers L L', as arranged in combination with the roller J, springs E, and box A, as and for the purpose described.

65,859.—WILLIAM RHODES ARNOLD, Providence, R. I.—*Lapping Braid.*—June 18, 1867.—The two-barred swift is mounted on a shaft which has end movement by a cam upon the side of its driving wheel. This end movement causes the winding of the tape in two courses side by side in the stick. A catch serves to stop the rotation when the proper length has been wound on.

Claim.—First, the machinery for measuring and lapping braids, tapes, &c., having a shifting and positive stop motion, substantially as herein described.

Second, the sliding shaft *a*, the spring *c*, the pin *g*, and cam *b* on the gear wheel C, combined and operating substantially as and for the purposes herein described.

65,860.—J. P. AVERY and W. L. NICHOLS, Norwich, Conn.—*Street Lantern.*—June 18, 1867.—The glass is clamped and packed between plates held together by screws, and these plates are bent around into form of pipes to convey air from their lower ends to the flame at the level of the latter.

Claim.—First, the combination with the lantern head or frame of air tubes *b*, arranged for supply of air to the flame substantially as specified.

Second, the independent frames D E, in combination with the rope or cord packing *d*, arranged to fit a groove *c* in one frame, and clamped or held together to hold the frame in between them, essentially as herein set forth.

65,861.—CHARLES H. BAGLEY, Elgin, Ill.—*Feed Roller for Lamp Wicks.*—June 18, 1867.—One flange of the angle strip is coiled around the spindle; the other flange is notched, and its spikes project to form a toothed roller.

Claim.—A tooth or pronged roller drum or cylinder, made from a strip or strips of sheet metal, or other suitable material, provided with teeth along one or both of its edges, and spirally wound into the form of a cylinder or other equivalent shape, substantially as and for the purpose described.

65,862.—ALFRED M. BAILEY, Middlefield, Conn.—*Non-Freezing Water Gate.*—June 18, 1867.—The upper end of the operating gate-rod is within a pipe containing oil, to prevent the freezing up of the same.

Claim.—First, the within-described method of protecting moving parts from freezing, the same consisting in inclosing the parts at or near the water level within the casings, which contain a fluid supported by the water and not liable to congelation, while the water outside of said casing stands at or near the same level, and is prevented by said casings from displacing the same, substantially as and for the purpose herein specified.

Second, floating either form of the inclosed tube

and connected parts of the above-described apparatus, so that it shall rise and sink with the water in which it is supported, or with the ice, which becomes attached thereto, substantially as herein specified.

65,863.—GEORGE H. BAILEY, Jersey City, N. J., assignor to AMERICAN WATER AND GAS PIPE COMPANY.—*Device for Tapping Cement Lined Pipes.*—June 18, 1867.—The flanged nipple is passed through the perforation of the metallic case, and attached therein by a nut. The flange and the inner end of the nipple are covered with the cement, which is bored out when a connection is made. The outer end of the nipple is covered by a screw cap.

Claim.—First, the combination of the tap D, bored through from end to end, with the combination iron and cement pipes, substantially in the manner and for the purpose described.

Second, the constructing the flange *a* upon the tube or nipple at an intermediate point between the ends thereof, as shown in figure 4 of the drawings, so that when the device is applied to a cement lined pipe the cement lining shall not be liable to break off in tapping, substantially as described.

65,864.—FREDERICK BALDWIN, Brattleboro', Vt.—*Wood Turning Lathe.*—June 18, 1867.—Improvement on his patent August 24, 1858. The tool-holding dogs are in form of a bell crank, one arm of which carries the tool and the other is acted upon by the toe plate, connected to a collar moved laterally by a sliding rod whose end traverses the face of a revolving metallic pattern. The pattern receives motion from a screw gear on the main shaft, and its direction of rotation is governed by a sliding spline key, which engages with one of two bevel wheels or a collar between them.

Claim.—First, the method as herein substantially described, of operating the cutters, on the rotating disk *A'*, by means of the dogs *h k*, the spring *i*, the toe *J*, the collar *c'*, the pin or rod *p*, and the arm *L*, which are moved and operated by the revolving pattern through the rod *m*.

Second, the clutch *V'*, which is placed between two bevel gears, for the purposes described, and which is operated by a shifting lever and a sliding bar substantially as set forth.

65,865.—WILLIAM C. BANKS, Como depot, Miss.—*Cotton Press.*—June 18, 1867.—The nut of the follower screw is attached to a beam oscillated between metallic guide-rods by a rope and winch. By this device the nut follower and sweep are carried aside to allow introduction of cotton.

Claim.—In combination with a cotton press substantially such as described, the pivoting at one end of the beam that carries the screw plates and sweeps, and the curved guide, or frame *F*, and windlass and cords, or their equivalents for moving said beam, substantially as and for the purposes herein described and represented.

65,866.—JOHN A. BASSETT, Salem, Mass.—*Hydrocarbon Fluid for Carbureting Gas.*—June 18, 1867.—The light distillate of coal is purified and mixed with the light distillate of petroleum.

Claim.—First, a hydrocarbon liquid used for the purpose above named, produced by the combination of the coal and petroleum hydrocarbons, as described and set forth.

Second, adding to the photometric value of gases by carbureting with the hydrocarbons produced by the combination of the light products of the distillation of coal and petroleum.

Third, the process substantially as set forth of manufacturing hydrocarbons for carbureting gases by combining the hydrocarbons of coal and petroleum in variable proportions as set forth.

65,867.—EDWARD M. BATES, East Rochester, Ohio.—*Corn Husker.*—June 18, 1867.—The fingers fit into the convolutions and the claw projects in apposition to the thumb.

Claim.—A curved or scroll corn husker, constructed in the manner and for the purpose described.

65,868.—F. A. DOLLES, Unadilla, N. Y.—*Corn Sheller.*—June 18, 1867.—The concave has a perforated bottom for the escape of the grain, and is stud-

ded with teeth. The toothed roller is journaled in metallic sockets supported by enclosing rubber disks to allow accommodation in the roller to the size of the ears.

Claim.—Combining with a stationary concave a yielding shelling cylinder, by means of springs as shown and described; said springs may be made of rubber or steel or any other suitable material, when constructed as and for the purpose as herein specified.

65,869.—WALTER J. BRASSINGTON, Brooklyn, N. Y., and WILLIAM B. BURTNETT, New York, N. Y.—*Supplying Locomotive Tenders with Water.*—June 18, 1867.—A vacuum, formed by the condensation of steam admitted from the boiler, introduces water to the main tank from a reservoir beside the track, through a removable suction pipe. The same devices may be applied to a fixed tank to alternately fill and empty the same, acting as a compound suction and force pump.

Claim.—First, an air tight tender tank of a locomotive engine, provided with a pipe communicating with the locomotive boiler, also with devices for attaching a pipe which is designed to lead into a reservoir or well of water, for the purpose of supplying said tank with water, substantially as described.

Second, the combination of the secondary air tight water tank *E*, and its spray pipe *f*, with the primary tank *C*, substantially in the manner and for the purposes described.

Third, the arrangement with an air tight tender tank *C*, and pipes *A* and *D* of reservoir *G*, which is constructed to operate substantially as specified.

65,870.—ALEXANDER BROOKS, Waverly, N. Y.—*Washing Machine.*—June 18, 1867.—The beater is oscillated over the curved bottom, its frame being weighted at the upper end to make the action more effective on the breast beams at each stroke. The bottom has channels by which the water may be conveyed to the exit hole.

Claim.—First, the combination of the circular slats or ribs *B*, circular plates *C*, and breast beams *D*, with each other, and with the box *A* of the machine, substantially as herein shown and described and for the purpose set forth.

Second, the pivoted hammer *E*, and weight *H*, constructed, arranged and operated substantially as herein shown and described, in combination with the box *A*, as and for the purpose set forth.

65,871.—JAMES W. BROWNE, New York, N. Y.—*Pocket Sun Shade.*—June 18, 1867.—The sun shade is used on an ordinary hat, its inner elastic band securing it to the same.

Claim.—First, the annular folding sun shade, constructed substantially as herein set forth and for the purpose specified.

Second, in combination with the annular folding sun shade, the elastic inner edge, substantially as herein set forth for the purpose specified.

65,872.—SAMUEL G. CABELL, Quincy, Ill.—*Air Pumps for Marine Alarm.*—June 18, 1867.—The frame stands transversely on deck and the roll of the vessel oscillates the pendulum; the latter works the segments operating the plungers and sounds the pressure and vacuum whistles. The plungers work in an annular water space.

Claim.—The double acting air pump, constructed substantially as described, and charged with a dense fluid packing, in combination with the draft and blast whistles *G I*, substantially as and for the purpose set forth.

65,873.—SAMUEL G. CABELL, Quincy, Ill.—*Copying Press.*—June 18, 1867.—The roller between the legs of the platen traverses in the eccentric groove of the lever.

Claim.—The slotted eccentric *E* and roller *a*, combined and arranged with relation to the platen *G* and bridge *H*, all constructed and operating substantially as herein set forth.

65,874.—THOMAS S. CLOGSTON, Boston, Mass.—*Steam Generator.*—June 18, 1867.—The generator is formed in a series of vertical sections, and has two large longitudinal pipes, with vertical and horizontal pipes, and each section has a curved pipe over the fire.

The large longitudinal pipes are divided by horizontal foraminous diaphragms.

Claim.—A boiler or steam generator, composed of one or more generators A, in which the upright or circulating flues, steam chamber or chambers, and lower arched flue are arranged substantially in the manner herein specified.

Also, the combination with the boiler or steam generator of the tubular casing surrounding the fuel supply door, substantially as and for the purposes set forth.

65,875.—B. C., T. W., and J. M. COCHRAN, Pana, Ill.—*Cultivator.*—June 18, 1867.—The plows are attached to iron frames, which are movable laterally and vertically by levers under control of the driver.

Claim.—First, the metallic frame D, with seat E, plates a, plow frames G G, and plows i i, all constructed, arranged, and operating in the manner and for the purposes herein specified.

Second, the shovel frames G G, arranged with rods H H' and m, for shifting the loops b b and levers F F', for elevating the shovels in the manner as set forth.

65,876.—CALEB CONDERMAN, Hornellsville, N. Y.—*Carriage.*—June 18, 1867.—The body is attached at the ends and at midlength to longitudinal side springs, and the seat supported on circular springs thereon.

Claim.—The springs E in combination with the body or frame A, substantially as and for the purpose described.

65,877.—GEORGE W. COOPER, Ogeechee, Ga., assignor to himself and JAMES V. JONES, Herndon, Ga.—*Rice Cultivator.*—June 18, 1867.—The plow beams are adjustable laterally to the rear of the frame. The plows are attached to standards having brace bars running from their lower ends, and are followed by curved teeth.

Claim.—First, the combination and arrangement of the braces F F' F', the beams A B B', and the braces G G, substantially as and for the purpose described.

Second, the method above described of fastening the teeth E E E to the beams by two bolts, situated obliquely to the grain of the wood, substantially as and for the purpose specified.

Third, the inclining and bending of the cultivator teeth E E outward and backward upon the point of attachment to the beams A B B', substantially as and for the purpose described.

65,878.—G. A. COVER, Macomb, Ill.—*Meat Mangle.*—June 18, 1867.—The roller has a roughened surface counterpart to that of the bed to which it communicates motion.

Claim.—A meat mangle, consisting of the corrugated roller R, provided with the cogs e and the sliding plate B provided with the cogs a, and having its surface roughened when arranged to operate as described.

65,879.—JAMES B. CRANE, Dalton, Mass.—*Manufacture of Belting.*—June 18, 1867.—Explained by the claim.

Claim.—As a new article of manufacture, a belt for machinery, formed of paper with or without cloth, substantially as herein shown and set forth.

Second, the use of paper for belt-lacing when formed substantially as herein described.

65,880.—ALEXANDER ANGUS CROLL, London, England.—*Purification of Coal Gas.*—June 18, 1867.—Sawdust is carbonized by concentrated sulphuric acid at a temperature of 270° Fah., and used in dry lime purifiers, 1 part of sulphate of lime may be added to 2 parts of the former composition.

Claim.—The employment in the purification of coal gas of wood or vegetable matter, when carbonized substantially as herein described.

Also, the employment of sulphate of lime in combination with the said carbonized matter, substantially as and for the purpose described.

65,881.—J. H. CRUMB and L. SEARS, Do Ruyter, N. Y.—*Cheese Vat.*—June 18, 1867.—The water heaters are of cast iron; the sides are corrugated, and

have a float which acts on a cock in the water pipe to keep the heaters filled to a certain level.

Claim.—The employment of cast iron heaters B, in combination with pipe b, hot water jacket c, and milk vat C c, constructed substantially as and for the purpose set forth.

The float f, in connection with supply pipe and valve d e, heaters B, and milk vat C, as and for the purpose herein described.

65,882.—GEORGE E. CUMING, La Fayette, Ind.—*Car Coupling.*—June 18, 1867.—The chamber behind the mouth of the drawhead is open below, and the mouth is slotted vertically and longitudinally through its lower side to admit the central portion of the coupling shackle. The head of the shackle rests in the chamber and its shoulders engage the shoulders of the mouth on each side of the slot. The head rests on a frame supported on a spring which is depressed to uncouple and allows the head of the shackle to drop out beneath.

Claim.—The combination in an automatic car coupling of the drawhead A, hinged piece B, stirrup C, and spring supporting the same with the shackle bar D, said parts being respectively constructed and arranged substantially as set forth.

Second, the drawhead A, when constructed with an opening through its lower side at A², for the escape of the shackle bar, substantially as described.

Third, the hinged piece B, when constructed and used in combination with a drawhead and shackle bar, substantially as described.

65,883.—A. W. DAVIES, Cleveland, Ohio.—*Computing Machine.*—June 18, 1867.—The chains consist of a series of plates and are moved in one direction by reference to the figures on the strip above them in accordance with the number to be added. The rows of figures denote units, tens, &c. The wheels on which the chains revolve are decimally connected and the sum is shown at the row of openings.

Claim.—First, the series of reciprocating cams H, and pawls G, in combination with the ratchet wheels F, and pin a, arranged and operating conjointly with the endless chains J, substantially as and for the purpose set forth.

Second, the lever M, and pawl G, as arranged in relation to each other and the ratchet wheel in disengaging or breaking the connections of one chain from the other for the purpose set forth.

Third, the endless belt or chain composed of sections corresponding to the faces or sides of the master wheels, and so arranged as to operate conjointly with the figure wheels, substantially as and for the purpose specified.

65,884.—SAMUEL DAVIS, New York, N. Y.—*Condensing Noxious Vapors from Lard Rendering, &c.*—June 18, 1867.—The vapors from the kettle are conducted by a pipe to a condensing coil in a cistern of cold water, and the condensed moisture therefrom is discharged with the overflow water of said cistern.

Claim.—First, the arrangement of cistern A, the coil B, and the pipes C E D, and F, in combination with a kettle or boiler for the purposes herein described.

Second, discharging a stream of water into the discharge pipe of a boiler for the purpose of increasing the draft from the boiler, substantially as described.

65,885.—THOMAS S. DAVIS, Jersey City, N. J.—*Steam Engine Governor.*—June 18, 1867.—The scroll is moved by the governor and actuates a rod connected with a link or other valve or cut-off motion; the thrust of the scroll being in the line of its diameter to steady the adjustment under circumstances of vibration, &c.

Claim.—The combination of the plate G, having a scroll H, with the bar I, pin a, arranged to operate across or at right angles or nearly so to the same, substantially as and for the purpose described.

65,886.—ALFRED B. DAY, Oak Creek, Wis.—*Insulator for Telegraph Wires.*—June 18, 1867.—The wooden plug into which the screw of the hook is secured is insulated from the iron cylinder by the interposition of non-conducting material.

Claim.—First, the lugs B and F, made of glass or other suitable non-conducting material in combination with the wooden plug C, on the inside of the cast iron cylinder A, all made and operating substantially as herein shown and described.

Second, so constructing the shell A, that the cap G can be held down by the cross head I, when the insulator is attached to the same, all as herein shown and described.

65,887.—NOEL B. DEVOL, Marshall, Ill.—*Treadles for Sewing Machines and other Purposes.*—June 18, 1867.—The supplementary treadle is connected to an arm whose pawl actuates a ratchet on the crank shaft and acts to start the same; the arm is held in an initial upward position by a spring. The ratchet and pawl prevent backward movement of the crank shaft.

Claim.—The ratchet wheel H, secured to the crank shaft B, of a sewing machine arm I, having spring pawl P, pitman rod K, supplementary treadle J, and spring M, or its equivalent, when all combined and arranged together so as to operate substantially as and for the purpose described.

65,888.—CHARLES DUMMELDINGER, Cleveland, Ohio.—*Roof for Railroad Cars.*—June 18, 1867.—The bent up ends of the adjacent metallic sheets are lapped by scroll pieces and the whole enclosed by a sheath which covers the joint.

Claim.—The stay bands E, tubular ends C, as arranged in combination with the sheath F, and car roof A, for the purpose and in the manner set forth.

65,889.—DANIEL DUNCAN and E. R. RIDGLEY, Olney, Ill.—*Combined Sower, Planter, and Cultivator.*—June 18, 1867.—Combines the actions of a roller, cultivator, and seeder. The seed slide is actuated by cam-frames on the lower end. The shaft to which the drills are attached is in two parts, either of which may be separately moved by levers, to raise the teeth from the ground.

Claim.—First, the shaft G, having the fixed armature H, working the secondary bottom of the seed box D, and having the sliding armature K, regulated by means of the lever and treadle I, substantially as and for the purpose described.

Second, the ring F on the end of the roller E, provided with projecting arms *ffff*, substantially as described.

Third, the division of the shaft M M', to which are attached the drill teeth, into two equal parts M and M', independent of each other and regulated by means of their respective treadles *n n'*, substantially as and for the purpose described.

Fourth, the combination and arrangement of the spring L, the secondary bottom of the seed box, the shaft G, with its two armatures K and H, and the roller E, having the ring F, with its arms *ffff* attached, substantially as and for the purpose specified.

Fifth, the combination and arrangement of the drill teeth attached to the shafts M M', the seed box D, and the rollers E E', substantially as and for the purpose specified.

65,890.—JAMES H. DURHAM and SANFORD RISING, Lafayette, Ind.—*Sash Supporter.*—June 18, 1867; antedated December 18, 1866.—The rubber cam is eccentrically journaled to the sash and is rotated into contact with the casing, so as to hold the latter up or down, according to the adjustment.

Claim.—A rubber cam, having a V-shaped recess, wherein is placed the spring E, as constructed with screw pivot G passing through the collar C, with a wing *c* for spreading the spring, when arranged between the plates A, in the manner and for the purpose set forth.

65,891.—CHARLES C. DUPUE, Wayne, Mich.—*Wagon-spoke Machine.*—June 18, 1867.—The spoke is clamped between the dog in the bent lever and the opposite cutter; the clamp lever is held in position by a support placed under it and upon the bench.

Claim.—Securing the spoke in position to be acted upon, by means of the pivoted dog B, substantially as herein shown and described.

65,892.—WILLIAM G. ESSER, Milwaukee, Wis.—*Compound for Tempering Steel.*—June 18, 1867.—

For tempering stone-cutting tools, as mill picks, &c. Equal parts carbonate of potash, saltpeter, and sea salt, dissolved in soft water.

Claim.—A compound for tempering steel tools, composed of the above ingredients in about the proportions named.

65,893.—WILLIAM H. EVANS, Richmond, Ind.—*Straw Cutter.*—June 18, 1867; antedated June 10, 1867.—Feed motion is communicated by a cam on the main shaft, which oscillates an arm operating pawls engaging ratchet wheels on the feed roller shafts. An adjustable stop bar regulates the back movement of the oscillating bar, which movement is accomplished by a spring.

Claim.—First, the rock shaft E, slotted arm F, pawls 1 and 2, and spring L, in combination with the eccentric wheel D, and feed-roller ratchets J and K, arranged and operating substantially as set forth and described.

Second, the stop G, arm or lever H, and rack I, in combination with the rock shaft E, as and for the purpose set forth.

65,894.—CHARLES R. EVERSON, Palmyra, N. Y.—*Fastening for Paper Collars.*—June 18, 1867.—The elastic loop is engaged to the collar of the neck band and the plate behind; the collar has a hinged clasp, whose free end enters the button holes of the collar.

Claim.—A fastener for collars, composed of plate B, having a clasp D hinged to it, and provided with a loop G, substantially as described.

65,895.—C. J. FAX, Philadelphia, Pa.—*Belting.*—June 18, 1867.—Improvement on the patents of T. Irving, J. McNeil, Geo. W. Rich, and Cyrus J. Fay, December 18, 1866. The belt is formed of paper strips, formed from manilla hemp, and attached together in layers by rubber cement.

Claim.—The use of and the manner of arranging paper for belts and straps, substantially as described.

65,896.—CHRISTOPHER C. FELLOWS, Center Sandwich, N. H.—*Vegetable Lifter.*—June 18, 1867.—The wire is bent into a circular spring at the holding end, and the free ends are bent into spirally formed recesses to hold the egg.

Claim.—The new manufacture of egg or vegetable lifter, made as hereinbefore described, viz: from one piece of wire bent at its middle, and also bent at or near its two ends in conical spirals or helices, as set forth.

65,897.—ALBERT FICKETT and JUSTIN C. WARE, Titusville, Pa.—*Device for Measuring Liquids.*—June 18, 1867.—The tank has a vessel within it of known measure which communicates with the barrel by openings stopped by a valve operated from the outside. The vessel has a discharge faucet and a transparent tubular indicator.

Claim.—First, the arrangement of the vessel B, secured within the tank A, and used in connection with a valve and stop cock, substantially in the manner and for the purpose specified.

Second, in combination with the above an indicator, arranged as and for the purpose specified.

65,898.—ORLANDO V. FLORA, Madison, Ind., assignor to himself and WILLIAM A. COLLINS, same place.—*Vise.*—June 18, 1867.—The rear jaw is pivoted to its support in which the ratchet bar slides, and the rear of this jaw is turned down into an edge to engage the said ratchet. The front jaw is pivoted to the lower end of a vertical pin traversing the head of the ratchet bar, and having at the upper end a nut engaging the clamping screw of the vise. The front jaw oscillates on this pin to accommodate itself to inclined surfaces.

Claim.—First, the rear jaw D, constructed substantially as herein described, in combination with the support B and sliding bar C, as and for the purpose set forth.

Second, the front jaw G pivoted at its lower end to the lower end of the vertical pin, bearing the nut F, and fitting in the vertical hole of the sliding bar C, as herein set forth for the purpose specified.

Third, the combination and arrangement of the front jaw G, short screw H, nut F, and sliding bar

C with each other, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the key J with the end of the sliding bar C, and with the pivoting pin of the nut F, substantially as herein shown and described and for the purpose set forth.

Fifth, the combination of the support B, sliding bar C, and jaws D and G, with each other, substantially as herein shown and described, and for the purpose set forth.

65,899.—CONRAD GEORGE, Ligonier, Pa.—*Churn*.—June 18, 1867.—The churn has a foraminous, transverse vertical partition at its midlength, each division having a vertically reciprocating dasher whose perforated "valves" are oscillated so as to fill the cavity of the churn in their down stroke, and force the cream through their own perforations and those of the partition.

Claim.—First, the combination of the double alternating levers J K L, and the partitioned churn box A, all arranged substantially as and for the purpose set forth.

Second, arranging the levers J K L in a diagonal position as shown for the purpose of bringing the working ends of the levers K L over the centers of the churn divisions A A', as and for the purpose set forth.

Third, the combination of the perforated dashers provided with the valves R R and S S, having the movements described, with the partition B, furnished with the holes b' b', and beveled slits c' c', substantially as and for the purpose set forth.

65,900.—ARTEMAS W. GODDARD, Clinton, Mass.—*Caliper Rule*.—June 18, 1867.—The caliper blades are folded into the rule similarly to a knife blade. When the diametric gauge is taken its measurement is determined by the sliding scale within the rule, which is drawn out therefor.

Claim.—First, the blades a, when arranged as and for the purpose described.

Second, the combined caliper and slide gauge rule, when arranged substantially as and for the purpose set forth.

65,901.—JOHN GOLDING, New York, N. Y.—*Life Preserving Mattress*.—June 18, 1867.—Explained by the claim and illustration.

Claim.—The life raft constructed as described, consisting of the cork mattresses or floats, secured together by means of the spring hooks a, and staples b, as herein set forth for the purpose specified.

65,902.—D. R. GOULD, Chestertown, N. Y.—*Window Sash*.—June 18, 1867.—The strips of metal are attached to the face of the sash and enter grooves in the stiles to act as weather strips.

Claim.—The strips C C, secured upon the face of the sash by means of screws, in combination with the grooves d d in the frame, as and for the purposes set forth.

65,903.—W. G. GRANT, Clyde, Ohio.—*Pessary*.—June 18, 1867.—Explained by the claim.

Claim.—A sponge pessary, made of conical shape A outside, and provided with the hollow B, substantially as described for the purpose specified.

65,904.—THOMAS GRIFFIN, Roxbury, Mass.—*Floor Cloth*.—June 18, 1867.—The body of the cloth is of paper, covered on each side with fibrous material and sized. It is then painted with water colors and varnished. It is reversible.

Claim.—A floor covering or imitation oil cloth, made substantially as herein described.

65,905.—REUBEN HAMLIN, Mishawaka, Ind.—*Clothes Dryer*.—June 18, 1867.—The joints in the radial arms admit of their assuming a vertical or horizontal position, being in the latter case supported at their free ends by the brace wires.

Claim.—The combination of one or more sets or tiers of jointed radial arms D and the supporting or connecting wires E and F, or their equivalent, with each other, and with the central shaft A, substantially as herein shown and described and for the purpose set forth.

65,906.—C. HARRIS and P. W. ZOINER, Cincinnati, Ohio.—*Convertible Stove Door and Fender*.—June 18, 1867.—The plate has two sides, projecting rectangularly from each other at the ends, and of different breadths, so that the draft may be admitted over the plate while in one position, but stopped off from the fire bottom in the other.

Claim.—First, the convertible stove door and fender, substantially as set forth.

Second, the arrangement of convertible door and fender A B F, and hearth depressions D and E, substantially as represented and described.

65,907.—C. B. and G. W. HART, Victor, N. Y.—*Combined Milk Rack and Fruit Dryer*.—June 18, 1867.—The supporting bars are pivoted so as to stand edge up and allow ventilation when used for milk. When used for fruit the free edges of the slats are supported on the wedge bars, and they have narrow passages between them for circulation of air.

Claim.—The combined milk rack and fruit dryer, provided with loosely pivoted slats forming the shelves, capable of being opened or closed by the wedge bar beneath, the whole constructed and arranged as described, and operating in the manner set forth.

65,908.—CHARLES T. HARVEY, Tarrytown, N. Y.—*Elevated Railway*.—June 18, 1867.—The track is erected on pillars. The rails rest on string pieces which have an iron shell, strengthened by central wooden strips and metallic braces. These supporting pieces rest on rubber blocks to deaden the sound.

Claim.—First, the combination of the rail plates or supports J J with the rails I and bars M, when constructed and arranged substantially in the manner and for the purpose as herein described.

Second, the elastic plates or springs R, in combination with the rails, constructed and arranged substantially in the manner herein described.

Third, the platform frame E, with its upright ends or flanges O, in combination with the rails, constructed and arranged substantially as herein described.

65,909.—CHARLES T. HARVEY, Tarrytown, N. Y.—*Elevated Railway*.—June 18, 1867.—The car track is supported on brachial columns standing in single file and stayed by rods from the buildings. The propelling chain runs in a cable guide in the middle of the track, and is conducted down to the propelling drums, passing over pulleys and through the hollow column.

Claim.—First, the combination with the track of an elevated railroad of an open or transparent floor beneath the rails, so as to allow the transmission of light to the space beneath the railroad, substantially as set forth and described.

Second, the panels D, in the columns A, for the purpose of closing the openings in the lower part of the said columns, and also to strengthen the columns, substantially as set forth and described.

Third, the adjustable column A, made in the divisions a b, substantially as described.

Fourth, the wedge-shaped rings C, or their equivalents, in combination with the adjustable column A, substantially as described.

Fifth, the hollow supporting columns A, in combination with an elevated railroad, substantially as and for the purposes described.

Sixth, the pulleys T, in combination with the supporting columns A, substantially as and for the purposes described.

Seventh, the combination of the stay rods V with the elevated railroad, said stay rods connecting said railway to the buildings or other supports on the streets, and forming also awning-frame supports, substantially as set forth.

Eighth, a filling of wood, or equivalent material, in combination with said columns, substantially as and for the purposes described.

Ninth, the water trough along the track and its discharge pipe, in combination with an elevated railway, substantially as and for the purposes described.

65,910.—JAMES HATFIELD, Cleveland, Ohio.—*Carriage*.—June 18, 1867.—The spindle of each wheel is supported by a rectangular stay which turns on pivot screws of a frame at the end of the axle. The fore stays are so connected to an arm projecting back-

wards from the tongue that the oscillation of the latter causes the necessary inclination of the wheels. Diagonal bars from the cross-rail of the tongue operate similarly on the wheels of the rear axle, to give them a contrary direction.

Claim.—First, the centers *a'*, constructed with radial arms *b*, in combination with the bands B, spoke *d*, and keys *f*, substantially as and for the purpose described.

Second, the wheel B, spindle C, as arranged in combination with the stays D, boxes E E', for the purpose and in the manner as set forth.

Third, the cross-rail K, arm L, links L', and brackets M, in combination with the stay D and screw G, as and for the purpose substantially as herein described.

Fourth, the stay D, screw pins I G, in combination with the spindle C, axletree A, substantially as and for the purpose set forth.

Fifth, the adjusting screw O', coupling O, and reach K', arranged substantially as and for the purpose set forth.

65,911.—WILLIAM M. HENDERSON, Philadelphia, Pa.—*Steam Pump.*—June 18, 1867.—The action is direct, the pump plunger forming the piston rod. The air chamber is annular and surrounds the plunger cylinder. The valve stem has a horizontal slot to allow the transverse movement of its operating wrist pin. The wrist pin of the fly wheel is connected to the piston rod by a collar thereon.

Claim.—First, the arrangement of the pump steam cylinder and housing as described.

Second, the arrangement of a vacuum chamber enveloping the pump canal, substantially in the manner and for the purposes represented.

Third, the arrangement of the cross-head arm E, connecting rod F, eccentric pin shaft K, and slot-headed valve stem J, when constructed and operating conjointly in the manner and for the purposes herein set forth.

65,912.—R. W. HOWARD, Warwick, R. I.—*Amalgamator.*—June 18, 1867.—The pulp from the inner pan passes through holes in the sleeve hub, thence between the rubbing surfaces and into the annular trough of the outer pan, where it is incorporated with the quicksilver by the short flanges on the exterior of the inner pan; the lighter portions are raised by other flanges and are returned to the pan.

Claim.—First, the stationary or fixed pan A, having its bottom provided with radial grooves *a*, and an annular gutter or trough B around its edge, in combination with the rotating pan E, fitted within A, and provided at its exterior with flanges I, J, and holes *h* in its upper part, and provided at its center with an upright hollow hub F, having holes *g* in its lower part to admit the pulp down between the bottoms of the two pans, all arranged substantially as and for the purpose specified.

Second, the adjustable jacket G, on the hollow hub F, operated by the screw H, in combination with the fixed plate K, in the pan E, substantially as and for the purpose set forth.

65,913.—HENRY HOWE, Oronta, N. Y.—*Bolt Trimmer.*—June 18, 1867.—Explained by the claim and illustration.

Claim.—The cam-shaped sharply-beveled knife C D, pivoted to and in combination with the bar A B, having a hole in B to receive the object to be trimmed by the knife C D.

65,914.—JOHN HUGHES, Edgewater, N. Y.—*Furnace for Burning Pyrites for the Manufacture of Sulphuric Acid and for other purposes.*—June 18, 1867.—The kilns are made circular in transverse section and in form of an inverted truncated cone. The front side has a heavy iron plate extending from the bottom to near the top, and having a vertical series of openings closed by sliding doors. Around the openings are inwardly projecting flanges, the cavities between which are filled with fire bricks.

Claim.—Constructing a furnace for burning pyrites or sulphurets of iron, copper, zinc or other metals, without the aid of fuel, in the form of an inverted truncated cone, without grate bars, and provided with doors on the front side, ranged one above the

other from top to bottom, substantially as and for the purpose set forth.

65,915.—AARON HUYCK, Oortown, Wis.—*Churn.*—June 18, 1867.—One dasher is carried on a sleeve upon the other dasher shaft, and they receive motion in opposite directions from bevel pinions engaged by a common bevel wheel. The upper journal bearing of the dasher shaft is in a removable dasher.

Claim.—First, in the bridge D, stepped in loops C C, and provided with the box F, secured by thumb screws L, all constructed and arranged as set forth.

Second, the bridge D, post N, shafts E I, pinions J G, driver B, and shaft N, constructed and arranged as set forth.

65,916.—FRANCIS L. KING, Worcester, Mass.—*Egg Cutter.*—June 18, 1867.—The vertical shafts have thin metallic cutters, which pass in the intervals of those of the opposite shafts, and are presented edge-wise to the eggs. They are revolved by their pinions and a master wheel.

Claim.—The combination of two or more cutter shafts B, having cutters E, attached, with the gearing C D E, arranged and operating essentially as set forth.

65,917.—GAMALIEL KING, Westfield, Mass., assignor to himself and CHARLES C. PRATT, same place.

Covering Whips.—June 18, 1867.—The whip has an elastic, water proof composition beneath the outer covering, composed of caoutchouc, 2 lbs., dissolved in 1 gall. benzine, to which may be added $\frac{1}{2}$ lb. white lead, a little linseed oil.

Claim.—First, a waterproof coating, consisting of the ingredients herein shown and described.

Second, the application of the dissolved caoutchouc, with or without the lead and oil, to a whip, substantially as and for the purpose shown.

65,918.—JOSEPH KOEHN, Canton, Ohio.—*Cultivator.*—June 18, 1867.—The diagonal bars act as braces to the main frame, and also conform to the obliquely receding relative position of the shovels. The frame is raised or lowered by the oscillation of the bent axles, which adjustment is made by hand levers.

Claim.—First, the frame A, with diagonal bars A' A', for connecting the shovels D D, when constructed in the manner and used for the purpose set forth.

Second, the arrangement of the lever *e*, spring *t*, pin *z*, in combination with the axle *b*, rack *s*, for the purposes specified.

65,919.—CHARLES KORN, Wurtsborough, N. Y.—*Machine for Dressing Leather.*—June 18, 1867.—Improvement on his patent June 25, 1861. The knives are secured to an endless apron, and are cleaned and sharpened by devices which are attached to the sliding block, and are adjustable to knives of different sizes. After acting on a knife they return to position to operate on the next one.

Claim.—First, the sharpeners *f* and *i*, when arranged on a sliding block G, either separate or in combination with the cleaner *e*, all made and operating substantially as herein shown and described.

Second, the knife or knives E, when secured obliquely upon an endless apron, and when arranged in combination with the obliquely set frame F F', and grooved block G, in such manner that the said block is moved by the knife, substantially as set forth.

Third, the up and down adjustable frame F F', in combination with the sliding block G, and knife or knives E, all made and operating substantially as herein shown and described.

Fourth, the block G, and the knife or knives E, in combination with the spring *m*, and frame F F', all made and operating substantially as herein shown and described.

Fifth, the knife or knives E, when arranged on an endless apron A, in combination with the sliding block G, and sharpeners *f* and *i*, and cleaner *e*, all made and operating substantially as herein shown and described.

65,920.—THOMAS H. LINDLEY, Taunton, Mass.—*Filing Machine.*—June 18, 1867.—On the upright frame are two sliding carriages, supported in adjustable standards, and receiving vertical movement by a crank. An operating table supports the article

under treatment between the carriages to which the file is attached.

Claim.—The combination of the sliding carriages C C', supported in the adjustable bearings B B, and operated by the wheel i, and the adjustable table m, supported and applied substantially in manner and for the purpose as set forth.

65,921.—THOMAS H. LIDFORD, North Adams, Mass.—*Steam Valve.*—June 18, 1867.—The pieces of the valve are formed by the oblique section of a cylinder. They have a general motion together, but when one reaches the end of its range the upper one is crowded upon it so as to jam the circular faces of each against the seats above and below, respectively.

Claim.—The arrangement of the wedge-shaped pieces D and E, with reference to the shaft G and collars d and e, substantially as described.

65,922.—ALBION H. LOWELL, Manchester, N. H.—*Apparatus for forming Molds for Purposes of Casting Metal.*—June 18, 1867.—The flask containing the sand is carried automatically into a position to receive the impression of the pattern which is forced into the sand and then withdrawn, after which the flask is carried out of the machine.

Claim.—In combination with the pattern attached to the plunger, as set forth, the endless chains C, the plates s, the stops or bars t u, the tube or punch c', and the flask F, as above set forth and described, and for the purpose of making molds for castings.

65,923.—ALEXANDER MACKAY, New York, N. Y.—*Centrifugal Machine for Drawing Sugar.*—June 18, 1867.—A spiral plate, suspended by brackets from the outer case, scrapes the sugar from the vicinity of the revolving wire cylinder and distributes it in the pan.

Claim.—First, the combination with the centrifugal cylinder of a stationary distributor, arranged within the cylinder on one side of it, adjacent to the feed, and operating substantially as specified.

Second, the stationary distributor C, constructed essentially as shown and described, in combination with the centrifugal cylinder B, and arranged in relation thereto, as herein set forth.

65,924.—C. G. MARSHALL, Florence, Mass.—*Forming Emery Wheels.*—June 18, 1867.—Composed of glue, emery and concrete lime swaged into form between dies.

Claim.—The use of concrete lime or cement in the formation of emery wheels, substantially as and for the purpose herein set forth.

65,925.—G. B. MASSEY, New York, N. Y.—*Car Wheel.*—June 18, 1867.—The annular tread slips on to the hub, and is clamped by a face plate against the disk, whose edge forms the flange of the wheel.

Claim.—First, a car wheel composed of the disk A, having the solid hub A' with the disk B fitted to turn loosely on the hub and held thereon by the cap C, as set forth.

Second, the car wheel, consisting of the disk B, provided with the flange e, in combination with the disk A, having the solid hub A', said disks A and B being held together by means of the cap C, substantially as described.

65,926.—JULES FRANÇOIS MATHIAS and DESIRÉ MATHURIN LEGAT, Paris, France.—*Machine for Coating Hats.*—June 18, 1867.—The hat frames, coated with glue, are laid on elastic supports, and are coated, powdered, and dried without removal therefrom. The shafts from which the supports spring receive a slow, rotary, and a rapid reciprocating motion in a closed chamber, so that the inner and outer surfaces are exposed to catch the fibre introduced in an aerial current by a fan.

Claim.—First, we claim a machine for felting hats, made and operating substantially as herein shown and described.

Second, the hollow shaft K, combined and connected with the shaft H, by means of springs R R, substantially as herein shown and described.

Third, the beating apparatus with the spring Q, substantially as herein shown and described.

Fourth, the arrangement of the valve e and passage or conduit f, in combination with the channel F

and face B, all made and operating substantially as herein shown and described.

65,927.—GEORGE A. MCLHENNY, Washington, D. C.—*Manufacture of Illuminating Gas.*—June 18, 1867.—The accumulation of carbon in the retorts is prevented by relieving them from the pressure caused by sealing the mouths of their tubes in the hydraulic main during the process of distillation. The level of the water in the main can be raised or lowered by means of two cocks, respectively above and below the level of the mouths of gas tubes. The tar passes off by the lower cock while distillation is in progress, and when the retorts are opened the level of the liquid is raised by closing this cock so as to seal the mouths of the tubes temporarily.

Claim.—First, the prevention of the deposit of carbon in gas retorts by the means described or by any equivalent means.

Second, so arranging the pipes or tubes leading from the retort to the hydraulic main that the mouths of said pipes or tubes can be sealed or unsealed at pleasure.

Third, providing the hydraulic main of a gas factory with two or more pipes for the escape of the coal tar, when said pipes are arranged at different heights and provided with cocks so that the liquid contents of the main may be made to occupy a higher or a lower level therein, substantially as and for the purpose set forth.

65,928.—LEVI T. MCNEILEY, Danville, Mo.—*Identifying Box.*—June 18, 1867.—The address of the owner is placed in the box which is attached to the animal or package.

Claim.—An identifying box constructed substantially in the form herein described, for the purpose of identifying and aiding in the securing of lost animals and goods.

65,929.—ISAAC H. MCOMBER, El Paso, Ill.—*Weather Strip.*—June 18, 1867.—The door shuts over the strip, and the water which collects between it and the false sill passes off below the latter, which is supported on cleats.

Claim.—The arrangement of the false sill C with the grooved door cleats H H and the strip D, substantially as and for the purpose set forth.

65,930.—SAMUEL M. MECUTCHEN, Philadelphia, Pa.—*Adjusting Rollers.*—June 18, 1867.—Wedges are placed between the set screw and sliding bearing of the rollers; the screw may be relieved by driving out a wedge, should the former become jammed by excessive pressure.

Claim.—The arrangement, substantially as described, of the wedges, sliding bearing b, and set screw f with a rolling mill, for the purpose specified.

65,931.—JONATHAN MILLS, Des Moines, Iowa, assignor to himself, LEWIS J. BROWN, CHARLES S. SPOFFORD, and HENRY VAN LUTHERAN.—*Brick Machine.*—June 18, 1867.—The molds are in circular series extending through the thickness of the vertically-rotating mold wheel, and receive clay consecutively from the horizontal pug mill. The followers in the mold cells are actuated by a circular cam, which pushes the follower against the clay to press it against the smooth pressure plate; the follower is further advanced to expel the wick from the mold and drop it into the carrying board on the intermittingly-moving, off-bearing apron.

Claim.—First, the horizontal pug tub or mill, constructed and arranged substantially as described, in relation to the mold-wheel and the other parts of the machine, substantially as herein shown and described.

Second, dropping back the follower or relieving the brick of pressure, substantially as and for the purposes specified.

Third, the arrangement, substantially as shown and described, by which the apron is operated, as and for the purpose set forth.

65,932.—BENJAMIN MOSER and DAVID YELLOTT, Brooklyn, N. Y.—*Stud Fastening.*—June 18, 1867.—In attaching, the movable arm is brought parallel with the stationary one and both inserted in the button hole; the former is then rotated 180° and the spring

catch falls into a notch in the button to retain it in position.

Claim.—The fastening for buttons, &c., herein described, the same consisting of the arms D D² and spring, or other suitable catch, substantially as specified.

65,933.—GEORGE NELSON, Boston, Mass.—*Lamp Burner.*—June 18, 1867.—Explained by the claim and illustration.

Claim.—The combination with the jacketed wick tube and rack for adjusting the wick of the cap or deck forming the base of the jacket above the apertures through which the rack pin passes, such deck being depressed so as to constitute a cup, which gathers and holds the condensed vapor around and against the wick tube, as and for the purposes herein described.

65,934.—WILLIAM H. NEWBY, Seymour, Ind.—*Tanning Compound.*—June 18, 1867.—Composed of nutgalls, 1 lb.; sept-foil root, 10 lbs.; saltpeter, 1 lb.; oxalic acid, 1 lb.; Bengal catechu, 3 oz.; and water, 34 gallons.

Claim.—The tanning liquid composed of the ingredients in or about the proportions substantially as described.

65,935.—E. D. NORTON, Bradford, Pa.—*Lamp.*—June 18, 1867.—The gas is allowed to escape through wire gauze, which prevents the accidental conduction of flame to the oil chamber.

Claim.—A safety valve constructed and applied substantially as and for the purpose described.

65,936.—AMOS NUDD, Waupun, Wis.—*Melododeon, &c.*—June 18, 1867.—The sounding box is made of light wood and has one or more openings. It is secured to the keyboard on top of the case in rear of the bank of keys, and beneath the lid.

Claim.—In combination with the keyboard of a melodeon, or similar reed instrument, the sounding box C, arranged as shown and described.

65,937.—THOMAS NYE, Westbrook, Me.—*Rocking Chair and Trunk.*—June 18, 1867.—The rockers are hinged and folded into recesses in the sides of the trunk, and the lid retained by jointed arms to form a back.

Claim.—First, the movable back *a* and folding arms *b*, operating as described, and for the purposes specified.

Second, the rockers *s n*, when constructed so as to fold up, and also to fold into the recess, substantially as and for the purposes set forth.

Third, the drops *e* to hold upright the part *h* of the back, in the manner and for the purposes set forth.

Fourth, the double cover *m x*, when applied to the trunk body to close the recess, substantially as and for the purposes described.

65,938.—LORENZO D. PELTON and JOSEPH BARROW, Harrison, Ohio, assignors to themselves and ALEXIS GREEN, same place.—*Cultivator.*—June 18, 1867.—The wheel frame is detachable from the plow frame and the handles admit of vertical adjustment to suit a walker or rider. The plows are transversely and vertically adjustable, and their frame may be raised by a foot lever.

Claim.—First, a mode of construction whereby the wheels and secondary beam B may be detached, and by means of auxiliary bolt holes *c* in the handles C, and in the sheaths at *e'*, the handles lowered to a convenient height to be managed by an operator on foot.

Second, in combination with the elements of the clause immediately preceding, the provision of the described mechanism for lifting the plows from the ground, either temporarily to pass an obstacle J J', or more permanently to allow of moving the implement on a road or otherwise F F' H h and I, and the position of the seat, which enables the driver to control these levers and manage the plow handle.

65,939.—E. A. POND and M. S. RICHARDSON, Rutland, Vt.—*Machine for Producing Blast in Gas Carbureters and other Apparatus.*—June 18, 1867.—During rotation the convolute pipes take in alternate supplies of air or water, as their mouths are in one or the other fluid, and discharge the same within

the other compartment, where the air and water separate to pass through the upper and lower radial openings respectively. The air is conducted to the carburetting apparatus, and the water back to the other compartment through the opening at the lower part of the dividing partition.

Claim.—First, a vessel or case divided into two compartments, communicating with each other at or near the bottom of the vessel.

Second, a hollow shaft or arbor passing through the two compartments, having mounted upon the sides of the dividing partition a series of convolute tubes, and provided on the other side with one or more perforations, the said shaft being connected with suitable mechanism for rotating it.

Third, one or more suitable valves for the admission of air and pipes for the discharge of the compressed air or gas.

65,940.—TIMOTHY I. POWERS, New York, N. Y., assignor to J. P. FITCH and J. R. VAN VECHTEN, same place.—*Machine for Heading Cartridge Cases.*—June 18, 1867.—The cartridge blank is placed over the end of one of a series of upwardly projecting mandrels on an intermittingly rotating plate, and brought first under the adjustable reciprocating gauge screw, and then between the automatic grasping jaws, in which position the header descends upon it to form the flange.

Claim.—First, in cartridge heading machines the combination with the header J and shell mandrel or series of shell mandrels *h*, arranged and operating together, substantially in the manner described, of the sectional or divided die N, arranged to gripe or close round the shells on the mandrel or mandrels before and whilst the shell is being upset and headed, and afterwards to open for release of the latter, essentially as specified.

Second, the combination with the shell mandrels and header of an automatic gauge or shell adjuster, arranged so as to set the closed end of the shell to its proper position relatively to the upper or outer end of the mandrel in advance of the action of the header upon the shell, substantially as and for the purpose herein specified.

Third, in combination with a series of shell mandrels and suitable header, a shell take-off K, constructed to operate essentially as described, or in any other equivalent manner.

Fourth, the combination of the vertical side E, divided or sectional die N N and header J, with the locking and unlocking devices operating upon the sectional die, all constructed and arranged substantially as and for the purpose herein set forth.

Fifth, the fixed way M, in combination with the lever *q* for closing the sectional die by the movement of the slide E, which carries the said die, substantially as described.

Sixth, the slide L and stop *o*, in combination with each other, and with the levers *q* for opening the die and moving it out of the way of the header, essentially as herein set forth.

65,941.—JOWN PRICE, New York, N. Y.—*Forging Apparatus.*—June 18, 1867.—The hammer is caught and held at its highest position, when required to give more time to manipulate the work, or when the driving power is disconnected. By sliding the catch into engagement with the rack it will stop the hammer, the spring receiving the shock. The devices for operating the catch in the latter event are enumerated in the second claim.

Claim.—First, the combination with the hammer head of a rack spring and sliding catch, substantially as and for the purpose set forth.

Second, operating the sliding catch J by means of the lever *g*, which connects and disconnects the power for driving the hammer, the said lever *g* being connected for that purpose to the sliding catch J, by the arm *a*, rock shaft *b*, arm *e* and connecting rod or link *f*, or by their equivalents, in such a manner that the said sliding catch J will be thrown inward to catch the hammer, when the power is disconnected and drawn out to release the hammer when the power is applied by the lever *g*, substantially as and for the purpose set forth.

65,942.—THOMAS PROSSER, New York, N. Y.—*Machine for Grinding and Polishing.*—June 18,

1867.—The carriage has a longitudinal and lateral motion, and the work may be inclined in relation to the periphery of the grinder. By a rotating mandrel the work can be rotated while exposed to the operation of the grinder. Automatic feeding may be established by means of friction wheels.

Claim.—First, the combination of the wheels *s s'*, pawls *u w'*, friction wheels *p h*, and screw I, with the reciprocating carriage for establishing an automatic feed motion, substantially as described.

Second, the reciprocating carriage F, with its frame or vise G, made adjustable thereon, parallel or angularly to the axis of the grinding wheel, in the manner described.

Third, the friction gear wheels *h p*, made adjustable as regards their binding action, one upon the other, substantially as and for the purpose set forth.

65,943.—STEPHEN D. RADER, Williamsport, Pa.—*Brick Kiln.*—June 18, 1867.—The kiln has side chambers communicating with the ordinary furnace holes, and extending beyond the kiln at both ends, where they have furnaces. Furnaces are also placed at midlength. The outer wall of the chamber has small openings opposite the flues beneath the kiln.

Claim.—The peculiar construction and arrangement of furnaces B B and C C, when used in connection with the kiln A, as and for the purpose specified.

65,944.—HERMAN REINECKE, New York, N. Y.—*Escapement for Time Pieces.*—June 18, 1867; antedated June 10, 1867.—Combines the detached and lever escapements. The balance receives an impulse from the escape wheel while swinging in one direction, and is free from the power of the main spring during the other half of its stroke. The impulse produced by the escape wheel is transmitted to the balance by a lever.

Claim.—Pallets *p p'*, mounted on the oscillating arbor *b*, in combination with the lever C, lifting spring *f*, pins *d e g c*, and balance B, all constructed and operating substantially as and for the purpose described.

65,945.—JOHN R. RICHARDS, Mount Joy, Pa., assignor to himself and ALFRED L. MENUEZ, Cleveland, Ohio.—*Sectional Mold for putting up Buildings of Concrete and other Materials.*—June 18, 1867.—The molds are made in inner and outer sections, which sustain the joists and door and window frames, and between which the concrete walls are formed. The molds are perforated for admission of carbonic acid gas. Composition used, sand, 19; hydraulic lime, $\frac{1}{2}$; quick-lime, 2 bushels.

Claim.—A series of sectional molds A B, for the outer face, and another series H I, for the inner face of walls, in combination with the door, window boxing M N, strips K, dovetailed joists J J, all arranged substantially as united by flanges F, in the manner shown and described.

Also, in combination with my sectional molds, the open interstices, when made for the admission of carbonic acid gas, for the purpose specified.

Also, the proportions specified for making the composition when introduced between sectional molds, in the manner and for the purpose set forth.

65,946.—CHRISTOPHER RICHARDSON, Newark, N. J.—*Apparatus for Tempering Steel Plates.*—June 18, 1867.—The steel plates are compressed between the tempering plates in the oven. The said tempering plates are actuated by a winch outside the furnace.

Claim.—The combination of the plates C and D with the screw or screws K and the heated chamber U, or their equivalents, when combined and operated substantially as and for the purpose described.

65,947.—CHRISTOPHER RICHARDSON, Newark, N. J.—*Handsaw Frame.*—June 18, 1867.—Both ends of the saw enter the slots in the frame. The rear end is slotted to receive a transverse screw, and has also the usual tightening device.

Claim.—The improved method of holding saws in metallic saw frames, substantially as shown and described.

65,948.—HENRY E. RILE, New York, N. Y., assignor to ASA L. SHIPMAN, same place.—*Machine for*

Coating Paper with Mucilage, &c.—June 18, 1867.—The paper is placed on a sliding table and subjected to the action of the mucilage brushes, which are dipped in the reservoir below to renew their charge of gum. They are suspended from a frame, which is depressed by a treadle and raised by springs.

Claim.—A machine for coating paper, &c., in which are combined a frame carrying a series of brushes whether one or more in number, a platform or table, and a reservoir or receptacle for the liquid to be applied by the brushes, when all are combined and arranged together so as to operate substantially as described.

65,949.—HENRY R. ROBBINS, Baltimore, Md.—*Burglar Alarm.*—June 18, 1867.—The frame is attached by points to the jamb. The opening door touches the trigger and releases the two spring-piston hammers, which discharge the caps.

Claim.—The combination of the frame A, spring-piston hammers B B, lever catch E, hinged trigger D d, and spring g, constructed and operating substantially as described and represented.

65,950.—J. RUPP, New York, N. Y., assignor to himself and FREDERICK KIESER.—*Double-seaming Machine.*—June 18, 1867.—Improvement on the patent of Wilson, Green & Wilson, April 19, 1859.—The annulus to form the sides of the vessel is placed on the disk and the bottom blank rested on the out-turned edge of the side blank and a circular plate; a swivel plate, depressed by a weighted lever, rests on the bottom blank. The vertical rotary shaft is raised by a treadle, which brings the bottom in contact with vertical cone pulleys, whose sections of smallest diameter guide the plate, and the shoulders of the other sections in turn fold the bottom edge and the flange of the side; other rollers meanwhile pinching the seam to cause a tight double fold.

Claim.—First, the movable slide *d*, carrying the supporting plate *f*, in combination with the disk A, constructed, arranged, and operating substantially as and for the purpose described.

Second, the arrangement of three or more cone rollers *i* in the annular rim H, in combination with the rising and falling disk A, constructed, arranged, and operating substantially as and for the purpose set forth.

Third, the clamping roller *p*, in combination with the burring roller *o* and disk A, constructed, arranged, and operating substantially as and for the purpose described.

65,951.—S. SAMUELS, Mott Haven, N. Y., and W. J. BRASSINGTON, Brooklyn, N. Y., assignors to themselves, WILLIAM PITT, and W. B. BURNETT.—*Locomotive Engine.*—June 18, 1867.—The vacuum is created by the air pump in the tank of the tender to assist in inducting water into the same.

Claim.—First, the combination with the tank of a locomotive engine tender of an air pump, so arranged as to admit of being worked by the engine for the production of a vacuum in said tank, substantially as herein set forth.

Second, the combination with a locomotive engine and its tender of a pump, so arranged as to serve either purpose at pleasure of exhausting air from the tank to facilitate the supply of water to the latter, or of forcing water from the tank into the boiler, substantially as herein set forth.

Third, in combination with the water-supply pipe B and its stop-cock *d*, the air pipe D connected with the pipe B, in front of the said cock *d*, essentially as shown and described.

65,952.—WILLIAM SANDERSON, New York, N. Y.—*Cutlery.*—June 18, 1867.—The metallic frame of the handle is cast solid with the bolster and the scales attached to the rabbets therein.

Claim.—A handle, formed of a metallic frame, cast with or rigidly united to the bolster, and scales or side pieces, substantially as described.

65,953.—PETER F. SCHENCK, Riceville, N. J.—*Apparatus for Supplying Air to Life-boats.*—June 18, 1867.—The tubes open to the inside and outside of the vessel. The valves are of different specific gravities. The heavier one, of metal, closes against the entrance of water when the boat is in one position,

and the lighter one, of wood, closes it under other conditions.

Claim.—An apparatus, consisting of tubes containing ball valves of different specific gravity, adapted to operate in combination with a closed life-boat, for the purpose of admitting fresh air therein and excluding water therefrom, substantially as described.

65,954.—FREDERICK SCHMIDT, Cincinnati, Ohio.—*Wood-planing Machine.*—June 18, 1867.—The two sections of the cutter-head have side movement, for adjustment as wear takes place or to allow rotation in either direction.

Claim.—The elongated gains or depressions *e e*, in the two parts of a divided cutter, to enable the said parts to be set out in opposite directions, substantially as and for the purposes set forth.

65,955.—F. EMIL SCHMIDT, Hoboken, N. J.—*Manufacture of Ornamental Feathers.*—June 18, 1867.—The feathers are printed in colors and trimmed to shape.

Claim.—Ornamental feathers, which have been colored in a printing press and which are treated substantially as herein shown and described.

65,956.—JOHN SEE, Baltimore, Md.—*Composition for Roofing, Pavements, Walls, Docks, and other Structures.*—June 18, 1867.—Composed of pulverized iron ore, 50; hydraulic cement, 15; clean sand, 15; ground marble, 15; coal dust, 8; lime, 8; and salt, 4 parts.

Claim.—First, the composition formed of the materials named, substantially as and for the purposes herein specified.

Second, iron-ore turnings, borings, or filings, in combination with hydraulic cement, for the formation of roofing, pavements, walls, docks, water-bricks, pipes, and other structures, substantially as and for the purposes herein specified.

65,957.—FREDERICK SEYMOUR, Nashville, Tenn.—*Instrument for Opening Sheet Metal Cans.*—June 18, 1867.—The point is inserted in the metal, the adjustable cutter forced into the can and swept around to cut a disk therefrom.

Claim.—The new article of manufacture, consisting of the guard F in the described combination with the shaft A, handle B, elbow C, point D, and cutter F, whether stationary or adjustable.

65,958.—MICHAEL SIMONS, Middletown, Conn.—*Ice Pitcher.*—June 18, 1867.—The inside bottom slips up into the ice chamber and may be renewed. The lower bottom is slipped into place and secured by catches.

Claim.—The inside bottom P and the outside bottom G, with its devices H and L, when arranged and constructed as herein described and for the purpose set forth.

65,959.—DANIEL C. SMITH, Adrian, Mich.—*Fruit Ladder.*—June 18, 1867.—The hinged frame is mounted on wheels, and has a ladder inclined upward therefrom.

Claim.—First, a fruit ladder, as shown and described, with bars H, braces P, and handle U, as set forth in the specification and drawings, and in combination.

Second, the support N, or anything substantially its equivalent, for the purposes set forth and described.

65,960.—ABRAM C. STANNARD, Rock county, Wis.—*Washing Machine.*—June 18, 1867.—The clothes lie upon a series of rollers, and are acted on by a curved corrugated board oscillated by a handle-frame rigidly attached thereto.

Claim.—First, the straight-edged eccentrics J and J, when made substantially as described, and used to hold the working mechanism I P and K of a washing machine to any desired altitude within the washing-machine box A, and the whole combined and operated substantially as and for the purposes described.

Second, the general arrangement of box A, rollers S, arranged in frame R, washboard Q, and operating framework M P J K and U, kept to any desired altitude by means of the straight-edged eccentrics J and J, when the whole are constructed, arranged and

operated substantially as and for the purposes described.

65,961.—U. T. STEWART, Fayette county, Tenn.—*Cultivator.*—June 18, 1867.—The toothed seed bar is reciprocated by the pins on a shaft which is actuated by pins on the hub.

Claim.—The arrangement of the spring sword F F and the combination of plows and scrapers B B, two of the scrapers being chopping scrapers B B, so as to perform the work above specified.

65,962.—JAMES G. STODDARD and BENJAMIN F. GALLUP, Groton, Conn.—*Cylinder Press for Extracting Oil from Fish.*—June 18, 1867.—The rectangular frame has a revolving apron which runs between transverse cylinders carrying the substance to be pressed. The lower cylinder has grooves to contain the liquids expressed.

Claim.—First, the arrangement and combination of the cylinders C and D, the apron B, the hopper F, and the scraper or chute G, substantially as described and for the purposes herein set forth.

Second, the recesses *b*, in combination with the cylinders C and D, substantially as and for the purposes specified.

65,963.—JOHN SWAN, Baltimore, Md.—*Sleeping Car.*—June 18, 1867.—The passage way runs along one side of the car and the doors of the apartments open into it. Each state room has its wash bowl supplied with water from a reservoir above, running the length of the car.

Claim.—In a railway car of a series of state rooms, provided with side passage and independent ventilation, the combination and arrangement of reservoir pipes H H, and basins G in the state rooms, as and for the purpose specified.

65,964.—TAYLOR P. THOMPSON, Charlestown, Mass.—*Bed Bottom.*—June 18, 1867.—The slat ends are fitted to and play in rounded sockets, resting upon spiral springs therein.

Claim.—The combination with the slotted cylindrical sockets and springs contained within the same, of slats having heads or knobs on their end, fitting into the side sockets under the arrangement described, so that while the said slats are capable of a free vertical play, their heads shall at all times be held within the said sockets, as specified.

65,965.—DAVID B. TIFFANY, Xenia, Ohio.—*Tool for Jewelling Watches.*—June 18, 1867.—The plate is clamped in the jaws, the arm adjusted, and the set screw brought in the rear of the plate to support it. The tools are introduced through the tubular arm, which is adjustable in position.

Claim.—First, an adjustable arm through which the cutters work, secured to either side of the vise, substantially as and for the purpose set forth and described.

Second, an adjustable arm *d*, provided with a set screw *a*, and secured to the side of the opposite to the former, substantially as and for the purposes set forth.

Third, the combination of the two adjustable arms with circular tap *e* and nut *g*, operating as and for the purposes specified.

65,966.—GEORGE TOLLINGER, Wrightsdales, Pa.—*Sorghum Stripper.*—June 18, 1867.—Two pairs of scrapers are attached by spring bars to the board and embrace the stalk, which is drawn between them.

Claim.—The construction and arrangement of the ring-plate C and braces D D supporting the scraper blades *a a a*, which are secured to the yielding spring braces *d d d*, the whole being attached to the board or plank A, all in combination operating substantially in the manner herein described for the purposes set forth.

65,967.—CHARLES W. TROTTER, Rochester, N. Y., assignor to GOMMENGINGER & TROTTER, same place.—*Furnace.*—June 18, 1867.—The main body is surrounded by flues of triangular shape, a part connected with an inner chamber, and the remainder for constructing the calorific current around said chamber.

Claim.—First, the peculiar construction of the main body A, in connection with the inner body *a*, with

triangular flues $n n n n$, all in the manner and for the purpose herein described.

Second, a double radiator C, connections $o o$ and double damper k and l , with rod m ; also, two tiers of smoke pipes $d d d$ and $e e e$, all in the manner and for the purpose herein set forth.

65,968.—JOHN P. VERREE and W. A. MITCHELL, Philadelphia, Pa.—*Rollers for Rolling Old Rails.*—June 18, 1867.—The roll grooves are so arranged that when the rail enters the roll it turns the flanges toward and covers the center of the rail with metal from the flange and head, so as to form a bar of iron with the good metal of the flange and head outside.

Claim.—In three high rolls series of grooves in each roll, shaped substantially as described.

Also, grooves of the particular form represented by Figs. 1 and 2, produced respectively by the conjunction of the groove of one roll with the groove of another.

65,969.—JOHN A. WAGGONER, Kilgore, Ohio.—*Chimney Cowl.*—June 18, 1867.—The pendant wings oscillate the plate and cause it to deflect the wind from the smoke exit.

Claim.—The wings A, plate D, and sides E, when constructed and arranged in combination with a chimney, as and for the purpose set forth.

65,970.—JEREMY B. WARDWELL, Georgetown, D. C.—*Bedstead Fastening.*—June 18, 1867.—The dovetail tenon on the end of the rail plate is slipped into its seat in the plate, which is let into the face of the post, and is then locked by the edge of the rotating plate, which is closed against it.

Claim.—The mortise plate constructed with a rotating side to close upon the neck of the dovetail tenon of the rail, and to open to permit the withdrawal of the tenon, substantially as described.

65,971.—JOSEPH W. WATTLES, Canton, Mass.—*Ring Spinning Frame.*—June 18, 1867.—The ring socket in the rail is made somewhat longer than the neck of the ring entering therein to allow it to assume concentricity with the bobbin. Screws in the rail enter slots in the neck.

Claim.—In a ring spinning frame or machine, the application of the ring B to its support rail A in such manner that while the spinning of the yarn or thread and the winding of it upon the bobbin may be in the act of taking place, the ring may be free to be moved and centralized with respect to the bobbin, by the draft of the yarn on the traveler.

Also, the combination of the screws g and the slots f , or their equivalent, with the ring and its rail and with the ring-socket, so formed as to allow the ring to play diametrically as and for the purpose set forth, the purpose of such screws and slots being as hereinbefore explained.

65,972.—WILLIAM WEBB, Waterbury, Conn., assignor to the SCOVILLE MANUFACTURING COMPANY, same place.—*Hinge for Lamp Burners.*—June 18, 1867.—The stop piece limits the oscillation of the moving leaf on its pintle, and forms a rest for the chimney holder.

Claim.—The hinge A, having one of its leaves provided with a projecting rest or stop-piece D, and made substantially as herein described and for the purpose specified.

65,973.—MORITZIOUS WEISSBERGER, St. Paul, Minn.—*Printer's Ink.*—June 18, 1867.—A compound of mineral resin, hydro-carbon oil, and lamp-black.

Claim.—The printer's ink above described, compounded and used substantially as and for the purposes specified.

65,974.—SHEPHERD H. WHEELER, Dowagiac, Mich.—*Gate.*—June 18, 1867.—The outer end of the gate is lifted and pushed so that the inner end rides upward and backward on its rocker until balanced, when it is rotated 90°, together with its post.

Claim.—First, the frame E with its rocker A, in combination with the revolving post D, as and for the purpose herein specified.

Second, the combination of the frame E with the gate and its posts and the cleat x , or its equivalent, as and for the purpose set forth.

65,975.—CHARLES W. WHITE, Cincinnati, Ohio.—*Bed Bottom.*—June 18, 1867.—Spiral springs are attached to the ordinary slats and a frame placed thereon consisting of a series of transverse slats attached to two side slats.

Claim.—The combined arrangement of the two sets of transverse slats A and C, the springs B, side rails D D', and screws E, as and for the purposes set forth.

65,976.—THOMAS W. WHITE, Milledgeville, Ga.—*Seed and Guano Planter.*—June 18, 1867.—The drum is carried on the ground wheel, which forms one end to the same, the other end having a saw plate, whose teeth, in combination with adjustable pins projecting through it, serve to draw out the cotton seed or fertilizer from the hopper. The hopper mainly consists of a sack and has a hinged bottom-piece moved by a cam to agitate the contents. The bottom plate is adjustable to regulate the amount of seed dropped.

Claim.—First, the drum G having the internal movable disk T bearing the teeth $t t'$, and adjusted by set screws, or their equivalent, substantially as and for the purpose described.

Second, the saw H attached to the drum G, substantially as and for the purpose described.

Third, the bottom plate N, substantially as described.

Fourth, the hinged block K, operated by the cam L, substantially as and for the purpose specified.

Fifth, the combination and arrangement of the drum G, the movable disk T, the hinged block K, with the flexible bag attached to it, and the cam L, substantially as and for the purpose described.

65,977.—WILLIAM N. WHITELEY, JEROME FASSLER, and O. S. KELLY, Springfield, Ohio.—*Manufacture of Harvester Guard Fingers.*—June 18, 1867.—The blanks after milling, slotting, boring, and grinding, are placed in cast-iron boxes with pounded charcoal, the box luted with clay and submitted to heat in a furnace for twelve hours. This converts the surface into steel which may be hardened and polished.

Claim.—First, guard fingers for harvesting machines, made by the process and order of manufacture herein described.

Second, a harvester guard finger composed of a central portion or core of soft iron and its entire outer skin or surface of hardened steel, substantially as and for the purpose set forth.

65,978.—C. H. and J. M. WILDER, New York, N. Y.—*Nipple Shield.*—June 18, 1867.—The interior adjustable sliding screen limits the elongation of the nipple when suction is applied.

Claim.—First, the arrangement of a screen a in combination with the nipple shield A, substantially as and for the purpose described.

Second, the adjustable slide C, in combination with the screen a and nipple shield A, substantially as and for the purpose described.

65,979.—HOSEA WILLARD, Vergennes, Vt.—*Clothes Dryer.*—June 18, 1867.—Each bar has a staple, which is looped upon it, and its end rests, when in a horizontal position, beneath the semicircular plate.

Claim.—The securing of the clothes bars B in the stirrups c of the bracket by means of oblong staples d , or their equivalents, to admit of the longitudinal adjustment of the bars in the stirrups, substantially as and for the purpose specified.

65,980.—ALVAH WISWALL, New York, N. Y.—*Spring Hinge.*—June 18, 1867.—The upper edge of the movable leaf has a projecting arm with a friction roller, and the lower end of the fixed leaf has a projection supporting a pin on which a spring is closed; the latter oscillates an arm bearing on the roller of the other leaf, and thus closes the door unless it be vibrated beyond a certain point, when the tendency is to keep it open.

Claim.—The spring D combined with the bar E, arm C, provided with a friction roller a , and the hinge, all arranged to operate in the manner substantially as shown and described.

65,981.—A. B. WOOD, Hamburg, Arkansas, assignor to himself, W. W. WOOD, and W. H. WOOD,

same place.—**Mechanical Power.**—June 18, 1867.—Between the wheels, which are revolved by the prime motor, and the ultimate machine or object to be driven gearing is applied to increase the power.

Claim.—The interposition of intermediate mechanical parts or gearing between the point of direct application of power and the point at which an increase of power is attained and applied for the purpose of increasing the capacity of power of any given motor, engine, or machine, when the same is effected substantially in the manner and by the means herein described.

65,982.—EDWARD J. WORCESTER, Worcester, Mass., assignor to himself and WILLIAM S. PORTER, same place.—*Brush.*—June 18, 1867.—Either end of the brush back is slipped into the socket of the handle and secured by a screw.

Claim.—First, the combination of handle G and back B with a removable metal connection piece or socket, such as described, which can be readily applied to either end of the back of the brush without injuring or defacing the same, for the purposes stated.

Second, the combination of the back B and handle C with the bent metal socket or connection piece E and flanges a a, substantially as and for the purposes set forth.

65,983.—GEORGE S. ZIEGENFUSS, Doylestown, Pa.—*Wagon Brake.*—June 18, 1867.—The brake may be operated from the top of the load, the side of the box, or the rear of the wagon. The brake bar is attached to pivoted levers, which are operated by cord or levers from the various positions named.

Claim.—First, the brace F, in combination with the lock bar E and bolts f, or their respective equivalents, substantially as described.

Second, the pole H carrying the lever K and rack h, in combination with the cord K, pulleys L l, and lock bar E, or their respective equivalents, substantially as described.

Third, the combination of two or more independent brakes applied to a wagon or other vehicle, adjusted so as to be brought into play either separately or together, substantially as described.

65,984.—GEORGE W. WOOD, Richmond, Ind.—*Inking Apparatus for Printing Presses.*—June 18, 1867.—A series of adjustable sector plates are arranged in sets on a common shaft, each set being employed to transfer one color from the fountain to the roller.

Claim.—First, sector plates E E¹ E², adjustably arranged in sets for transferring the ink from the fountains and disposing the colors or bands upon the type rollers.

Second, the combination upon one shaft of the sector plates and cam wheels C C'.

Third, the combination of the ink fountain rollers, a corresponding number of sector plates, and a type-inking or other receiving roller or rollers.

65,985.—CHARLES V. WOERD, Waltham, Mass., assignor to AMERICAN WATCH COMPANY.—*Winding Watches.*—June 18, 1867.—The key is screwed into a nut restricted to a longitudinal movement in the pendant and acts as a push pin to depress the case-spring; the key is removed to use it for winding in the usual manner.

Claim.—A key having a screw formed upon its shank to work into a screw thread formed in the watch pendant, or in a nut inserted in the pendant, substantially as shown and described.

Also, forming a key to be directly connected with and disconnected from the pendants, with its means of attachment integral with or projecting from the shank, substantially as shown and described.

Also, the combination of the nut b and key B, arranged substantially as set forth.

Also, making the block or nut, through which the key extends, movable vertically, as and for the purpose substantially as described.

65,986.—ABRAHAM TRAGER, New York, N. Y.—*Hoop Skirt.*—June 18, 1867.—Explained by the claim.

Claim.—The use of ribbed or corrugated wires for hoop skirts, either with or without any kind of coating or covering, as herein described.

65,987.—WM. C. ALLISON, Philadelphia, Pa.—*Apparatus for Forming Bumper Carriers for Railroad Cars.*—June 25, 1867; antedated June 10, 1867.—For bending flat bars of iron to a form suitable for use as bumper carriers for railroad cars. On the table are arranged: first, a square former made in two parts, so as to expand laterally; second, a grasping block which, in conjunction with the former, holds the bar in position by its middle portion; third, two square blocks pivoted to the table in such manner that, when turned round on their pivots, they will bend the bar down against two sides of the former, at right angles to the portion grasped; fourth, two other blocks similarly pivoted, which, when turned around, will bend the two ends of the bar outward against the side of the two blocks just previously turned, at right angles to the portion previously bent.

Claim.—First, the combination of the block H, handled eccentric l, blocks B and C, and the devices herein described, or the equivalents to the same, for effecting the simultaneous action of the blocks, in the manner described.

Second, the combination, substantially as described, of the bending blocks E and E' and F and F' with the blocks B and C.

Third, the combination of the forming blocks E and E' with the handled eccentrics t and t'.

Fourth, the arrangement on each of the several forming blocks of its spindle and collar in respect to the corner of the block, as described.

65,988.—BEN. D. ATWELL and Miss G. H. CRAWFORD, Portage City, Wis.—*Keeping Eggs.*—June 25, 1867.—A solution of two ounces of white glue and one ounce isinglass is added to a solution of one ounce unslaked lime and two table-spoonfuls of corn starch. Boil the mixture and dip the eggs therein while hot.

Claim.—The application of the above recipe for preserving eggs, as herein described, using for that purpose the aforesaid ingredients, or any other, substantially the same, and which will produce the intended effect.

65,989.—ALVA S. BAILEY, Knoxville, Ill.—*Bolt Cutter.*—June 25, 1867.—The stationary cutting lip is at the end of the recess in the head, and the other lip is moved thereto by the action of two cams pivoted to the head. A spring retracts the movable cutter.

Claim.—The combination of the head A, provided with the stationary cutter a, sliding cutter c, provided with the head d, spring m, and the pivoted handles B C, having the cams n formed thereon, when all are arranged for joint operation as herein shown and described.

65,990.—RALPH P. BAILEY, Niagara Falls, N. Y.—*Machine for Dressing Marble.*—June 25, 1867.—The clamp arms are pivoted in the head and allowed sufficient oscillation to bring them into position for cutting when rotating in either direction. The clamps have an inside bevel at the outer end, to allow a slight bend in the cutters, to prevent breaking of the same.

Claim.—The employment of a series of spring blades or scrapers h, in combination with the clamping arms C and head or stock A, for acting successively on the material to abrade it to the form of said blades, when constructed, arranged, and operating substantially as and for the purpose set forth.

Also, the arm or holder C, when connected with the head A, or its equivalent, by means of pivot d and the bearing bolts e e, arranged to allow the blades to adjust themselves to the work when rotated in either direction, substantially as set forth.

Also, in combination with the blade k and its set bolt k, the chamfering away of the clamp sides at i i, substantially in the manner and for the purpose set forth.

65,991.—N. BARNUM and G. C. SCRIBER, St. Louis, Mo., assignors to N. BARNUM, same place.—*Drilling Instrument.*—June 25, 1867.—The tool is set in its stock with an eccentricity adjustable by a set screw so that the diameter of the path described may be readily regulated.

Claim.—First, the stock B, with a tool cavity and tapering slots for the screw e², in its lower end combined with the spring C, and set screw e², substantially as described and set forth.

Second, the slotted tool *c*, in combination with the spring holder *C*, and its set screw *c'*, and tool stock *B*, when acting substantially as set forth.

65,992.—JAMES AMIRAUX BAZEN, Canton, Mass.—*Rotary Pump.*—June 25, 1867.—The wings of each piston abut upon an elastic packing surface in the counterpart recesses of the opposite piston.

Claim.—The packing *f k*, constructed as described, and arranged between the wings of the piston, substantially as set forth.

65,993.—ALBERT BINGHAM, Newtonville, Mass.—*Blind Fastener.*—June 25, 1867.—The catch bar is pivoted below the edge of the shutter and engages a stop on the sill or wall. The bar is guided by a pin depending from the sash, which also supports the bar when swinging.

Claim.—The blind fastener as composed of the catch lever *C*, the stop *D*, its shoulders *h h*, and the catch *E*, arranged and constructed so as to be applied to a blind and a window frame or sill, substantially as specified.

65,994.—E. BLAKESLEE, Plymouth, Conn., and J. S. HUNTER, Hartford, Conn.—*Water Meter.*—June 25, 1867.—The valve seat has three openings. The middle one inducts water to the chambers alternately, the outer ones educt water alternately from the respective chambers. A diaphragm divides the chamber and is driven to one or the other side alternately by the pressure of water moving the rod and the weighted lever which actuates the valve.

Claim.—First, the valve *I*, having the opening *a*, and passages *d* and *e*, arranged in relation to the ports in the valve seat so as to operate substantially in the manner described.

Second, in combination with the above, the weighted lever *k*, constructed so as by its movement to reverse the flow of water, substantially as herein set forth.

Third, in combination with the above, the diaphragm or piston, arranged substantially in the manner described.

65,995.—VALENTINE BORST, New York, N. Y.—*Harness Saddle.*—June 25, 1867.—The shanks of the hooks slip into the hollow bridge piece and are held by the prolongations of the screws of the terrets.

Claim.—The removable hooks *C C*, adapted and arranged to and with the hollow bridge or pier *B*, substantially as set forth, so that the saddle can be used with or without the hooks.

Second, the use of the terrets *D D*, for securing the hooks *C C*, in the ends of the hollow bridge of the saddle, substantially as set forth.

65,996.—SAMUEL C. BROWN, Richmond, Ind., assignor to J. A. FAY & Co., Cincinnati, Ohio.—*Mortising Machine.*—June 25, 1867.—The mandrel has its bearings in a plate adjustable in a vertical plane so as to adjust the obliquity of the saw to give the required inclination to the mortises in the blind stile which is laid on the carriage and fed up to the saw for each cut.

Claim.—The cutter *f*, shaft *p*, and pulley *m*, attached to the flanged plate *n*, when said plate is made adjustable upon the bed plate *r*, substantially in the manner and for the purpose set forth.

65,997.—JOHN DAVID BROWNE, Cincinnati, Ohio.—*Hand Loom.*—June 25, 1867.—By turning the crank handle the rod attached thereto operates the batten and also the treadle shaft. A pin on the centre of the rod is connected with a slide which runs in the slotted plate; the open yoke on the batten plate allows the necessary play of the same upon the pin.

Claim.—The cranks *a b*, and the rod or bar *D*, having a centre pin *e*, and the guide plate *G*, in combination with the shaft *C*, substantially as herein described.

65,998.—CHAUNCEY BUCKLEY, Meriden, Conn., assignor to CHARLES PARKER, same place.—*Machine for Forming Spectacle Frames.*—June 25, 1867.—The clamping devices on the holding plate retain the frame in place while a plunger passes through the eye and into an opening in the bed, bringing the eye to the form required to contain the lens.

Claim.—The eye former or stretcher consisting of

a plunger to enter the eye and a bed for the eye to rest upon, having an opening through it of the form of the eye desired for the plunger to pass into in combination with the holding pieces *d' d'* as set forth.

The combination of the adjustable supporting plates *c*, the bed and the plunger, substantially as described.

65,999.—A. M. BURKE and S. WRIGHT, Cleveland, Ohio.—*Treating Hydrocarbon Oils.*—June 25, 1867.—To 30 barrels of oil are added nine gallons of caustic soda, at 20° Beaumé, and one quart of aqua ammonia. The distillate of the mixture is agitated with the addition of 94 pounds of sulphuric acid to the barrel in connection with a current of air. Agitation in water removes the acid.

Claim.—The herein-described process of consecutively treating oils, first by alkali in the still, as specified, and subsequently by the use of acids in the agitator as a continuation of the said process, substantially as set forth.

Second, as a means for carrying out the herein-described process we claim the valve or plug *D*, provided with suitable devices for operating the same in combination with the pipe *C* and still, substantially as described.

66,000.—MARTIN BURTON, Indianapolis, Ind.—*Steam Water Elevator.*—June 25, 1867.—Steam being introduced into and condensed in the chamber, the water enters by the induction pipe; the float is then depressed by steam, expelling the water at the discharge pipe, whose valve prevents its return. Boiler communication being cut off and communication being established between the cylinders the steam is condensed, water flows in, the float rises, and the operation is repeated.

Claim.—First, the arrangement of the chambers *A* and *B*, and pipes *G H* and *C*, in the manner and for the purpose substantially as set forth.

Second, the arrangement of the steam induction pipe *F*, water induction pipe *D*, eduction pipe *L*, and valves *E M* and *N*, float *I*, rod *J*, and lever *K*, substantially as and for the purpose set forth.

66,001.—S. G. CABELL, Quincy, Ill.—*Electro-Magnet.*—June 25, 1867.—The central core is surrounded by and connected to two concentric tubes. The two annular spaces within the tubes contain a helical coil of insulated wire which passes down one space and up the other. The ends of the helix are connected to the opposite poles of the battery.

Claim.—A compound magnet consisting of two or more helices inclosed in soft iron tubes, with the tubes so arranged as to separate the helices, and both tubes and helices arranged concentrically around a central tube or bar, as herein described.

66,002.—H. W. CAMP and A. W. FOX, Owego, N. Y.—*Corn Planter.*—June 25, 1867.—The seeding device is stopped and the drill teeth are raised by pressure of the foot on a lever; by pushing a hand lever the seeder is set to work, and the index makes a mark opposite the hill planted, to form a guide when planting in check rows.

Claim.—First, the index *B*, when constructed, arranged, and applied to machines planting in rows, for the purpose and as herein specified.

Second, the wheel *E*, provided with a zigzag rim surrounding its periphery in combination with the feeding bar *F*, when constructed and operating substantially as herein described.

Third, the shields *h*, and gauges *m*, in combination with the feeding bar *F*, the whole constructed and operating substantially as herein specified.

Fourth, the shoes *K*, for removing obstructions and regulating the depth the seed is to be planted, in combination with the hollow teeth *p*, and roller *P*, when constructed in the manner herein set forth.

Fifth, the ratchet teeth with pawl *d*, and cone *e*, in combination with the driving wheel *A*, index *B*, and wheel *E*, when these several parts are arranged and operating substantially as herein specified.

66,003.—C. M. CLINTON and L. WOOD, Ithaca, N. Y.—*Calendar Clock.*—June 25, 1867.—Cannot be briefly described other than substantially in the words of the claim.

Claim.—First, the twenty-four-hour escape made

by the segmentary wheel A, segment B, and arm C, when substantially made as described.

Second, in combination with the arm C, the use of the eye D, or its equivalent, acting in a variable and changeable space, between the nuts or burs E and F, or their equivalent, both for the purpose of holding and adapting our various devices to each other and to allow a constant movement of our time escape-arm C, while the rod G moves different or diverse distances according to the variable length of the months of the year, and also for adjusting the calendar and clock works to each other, as set forth.

Third, the springs I and H, acting on the correcting rod G, and the segment B, either one or both, for preventing contingent or unintentional changes or displacements, and yet allowing the changes to be made by the mechanism of the clock and calendar at their appropriate times, as described.

Fourth, the combination of the spring I with the rod G, as described, for the purposes of retracting the said rod or rods and its connecting parts and operating the calendar correctly through our other devices be the position of the clock and calendar what it may; and also for the purpose of obtaining a complete or supplementary driving power for our calendar, as described.

Fifth, gearing the month cylinder into the month wheel either directly or by intermediate cog wheels, as described.

Sixth, the vibratory shaft and cog wheel, or any similar device, and the gearing the same in any manner with the thirty-one-day wheel or days of the month device, when so made as to revolve the days of the week cylinder one or more days' space, as described.

Seventh, putting or making the cam for throwing out of gear the vibratory shaft and its cog wheel on the weight lever or cross bar of the thirty-one-days wheel, and the detent Y b, for holding the said cog wheel and its connected parts fast while out of gear; and the gearing of the day of the week cylinder into the vibratory device; the whole of these just named parts as a combined whole or each acting separately by itself, as described.

Eighth, the fixed stop N, for checking the upward motion of the weight lever or cross bar by the pawl or dog M, or other convenient part connected with the said lever or bar, as described.

Ninth, making registers or cylinders of calendar clocks either wholly or in part of paper, or other similar light material, for the sake of their lesser weight and strain on the mechanism of the calendar, as described.

Tenth, the specific device of a month wheel made by the variable depth of teeth Ua Ub Uc and Ud to accomplish every possible monthly change reasonably requisite in a calendar clock, as figured and described.

Eleventh, the device of putting the month wheel in direct communication with the thirty-one-day wheel shaft or any part or portion of the thirty-one-days wheel or shaft, as described.

Twelfth, placing the month escape cam on the shaft of the thirty-one-days wheel so that one tooth or month of the month wheel escapes in every revolution of the thirty-one-days wheel.

Thirteenth, a wheel cam or escape so made and operated as to act as a stop or detent to the month wheel and yet allow at the proper time that wheel to revolve as described, and also the making of an additional length of teeth to the teeth of the month wheel so as to fit and embrace the said cam or escape, as described.

Fourteenth, the hinged lever, substantially made as described, and operating so as to produce the described results on the month wheel and escape detent of the thirty-one-days wheel on either one or both of the said parts, as described.

Fifteenth, the employment or use of a hinged lever on the shaft of the thirty-one-days wheel when accomplishing any one or all of the purposes described.

Sixteenth, the shoe-shaped and convex cams, one or both, on the end T of the hinged lever, as described.

Seventeenth, centering and connecting the devices of the hinged lever K, the cam or escape Va, of the month wheel, the month wheel U, the vibratory arm and cog wheel Y, and through the said month wheel and said cog wheel, the month and the day of the week cylinders, immediately with the axis V, of the thirty-one-days wheel or that wheel itself, as described, thus simplifying and making more compact the calendar.

66,004.—CHARLES DEAVS, New York, N. Y.—*Gas Apparatus*.—June 25, 1867.—The gas passes from the twin retorts through a water-cooled pipe to the wash box, where it is disseminated in small globules by passing through the meshes of a concavo-convex perforated disk. It thence passes to a gas-holder which operates a cut-off valve to limit the supply of oil and the evolution of gas.

Claim.—First, the use of two or more retorts connected together in pairs so that the first shall volatilize the oil or oily substance, and the second shall complete the conversion thereof into a fixed gas suitable for illuminating purposes, the said retorts being constructed and arranged substantially as and for the purpose herein above set forth.

Second, the combination with the conductor pipe K of a cooling trough L, the water from which supplies the wash box, substantially as and for the purpose set forth.

Third, the combination with the discharge end of the conductor pipe K of a perforated or reticulated disk A, substantially as and for the purpose set forth.

Fourth, the combination with the oil reservoir U and retorts B B' of a cut-off v, constructed and operated substantially as herein described.

66,005.—ROSCOE G. DENNETT, Saco, Me., and LIBERTY B. DENNETT, Portland, Me.—*Window Screen*.—June 25, 1867.—The screen is wound by springs on a roller contained in a case, and is attached by eyes to studs on the sash so as to unwind when the sash is raised, and re-wind when the sash closes.

Claim.—The combination of the cylinder g, spring v, and pins h h, or their equivalent i, cavity v, spring f, rotary cylinder k, cog m, groove n, pin w, and mortise y, when constructed and operating in the manner and for the purpose specified.

66,006.—WM. A. DEVON, Port Richmond, N. Y.—*Boat Detaching Apparatus*.—June 25, 1867; ante-dated June 11, 1867.—The mousing hooks at each end of the boat engage the links of the davit fall; the links are cast off by the simultaneous retraction of sleeves, which release one jaw of each hook.

Claim.—First, the construction and application of the jointed hooks attached to the boat by an extended shank in combination with the slides g and interposing springs, arranged and operating substantially as specified.

Second, the arrangement at opposite ends of the boat of detachable spring hooks, constructed substantially as described, in combination with rod, rope, or chain connections within the boat, whereby they may be operated in unison to unlock the slides that secure the hooks in their closed condition, essentially as herein set forth.

66,007.—J. P. EMSWILER, Knightstown, Ind.—*Animal Trap*.—June 25, 1866.—The bait is placed on a hook of the oscillating door. The rat approaches over the drop board, whose fall closes the side and upper doors, and the rotating rack throws the rat upon the inner trap, which admits the animal into the chamber beneath. This action resets the trap.

Claim.—First, in a rat trap, the combination of devices for disengaging the shaft C, and actuating the fingers K and doors D and F, substantially as described.

Second, a combination of the revolving fingers K, shaft C, eccentric C', rod E, and door F, substantially as described.

Third, the combination of the revolving fingers K, shaft C, eccentric C', rods D', and doors D, substantially as and for the purpose set forth.

Fourth, in combination with the revolving shaft C and fingers K, and automatically acting door F opening into the upper chamber; the door L opening into the lower chamber, substantially as and for the purpose set forth.

66,008.—JAMES W. EPPERSON, Woodhull, Ill.—*Farm Gate*.—June 25, 1867.—The gate is supported on rollers on the sides of two posts, and is moved by a spur-wheel upon a long shaft turned by a winch at either end.

Claim.—First, the spur wheel E, operating substantially as described.

Second, the grooved rail D' of the gate D, in com-

bination with the spur wheel E and the revolving wheels C attached to the fence posts and upon which the gate slides on opening and closing.

Third, in combination with the gate D, with horizontal rail D¹ and vertical strips D², the spur wheel E, shaft E¹, and winch F, arranged to operate substantially in the manner and for the purpose set forth.

66,009.—JOSEPH S. FARNSWORTH, Windsor, Vt., assignor to EBENEZER G. LAMSON, President of the Windsor Manufacturing Company.—*Dies for Swaging and Punching the Jaws of Wrenches.*—June 25, 1867.—Three pairs of dies are used; the first swages the metal to the general form of the wrench jaw, the others are like it, except that the movable section of each carries a punch for forming the eye, which is done not by entirely removing the metal from the blank, but by turning the portion punched out, around at right angles to the jaw.

Claim.—The combination of dies and punch, constructed and operating substantially as described.

66,010.—M. R. FENTON, Washington, D. C.—*Curtain Fixture.*—June 25, 1867.—In addition to the devices for raising and lowering the window shade the upper portion may be oscillated, making an upper opening for light.

Claim.—First, the hinges A A in combination with bar C and roller D, substantially as and for the purpose specified.

Second, hinges A A, pulley J, cords s and n, and roller D, combined and operating in the manner and for the purpose substantially as herein described.

66,011.—L. B. FLANDERS, Philadelphia, Pa.—*Apparatus for Boring Cylinders.*—June 25, 1867.—As the boring bar revolves and the casing remains stationary the train of wheels causes the boring bar to move longitudinally on the stationary screw. To move the boring and cutting head quickly to any point in the cylinder the gearing is shifted. For facing the ends the feed is thrown out of gear and the bar held stationary by tightening the split ring.

Claim.—First, the combination of the boring bar B, the casing I, its train of wheels herein described, or the equivalent to the same, the nut w, and the stationary feeding screw G, the whole being arranged and operating substantially as described.

Second, the cog wheel g, its circular recess and grooves t t, in combination with the hollow spindle r, and the rod s with its pin s¹, and spiral spring u, the whole being arranged and operating substantially in the manner and for the purpose set forth.

Third, the bearing E, in combination with the adjustable and conical split ring g, and ring g¹, or its equivalent, the whole being constructed and arranged substantially as described.

Fourth, the split ring b in combination with the bearing E, as and for the purpose described.

66,012.—PETER H. FLANSBURGH, Eden township, Cal.—*Side Hill Plow.*—June 25, 1867.—The plows are placed side by side, and operate independently of each other, being adjusted by means of racks and segmental pinions.

Claim.—First, the two plows C C¹, placed side by side and operating independent of each other, either by a hinge or rack and pinion, substantially as herein described.

Second, the levers H and H¹ with the toothed segments G and G¹, operating the plows by means of the independent vertical racks E E¹, substantially as and for the purpose described.

66,013.—JIM B. FULLER, Norwich, Conn., assignor to himself and J. P. UPHAM, Claremont, N. H., and EDWIN T. RICE, New York.—*Bleaching.*—June 25, 1867; antedated June 11, 1867.—Elastic rollers draw the linen through the bleaching liquor and feed it back again into the tub.

Claim.—First, the method herein specified of subjecting the fabric or fibers to the operation of elastic squeezing rollers, to produce a circulation of the bleaching liquid throughout the fibers of the fabric, substantially as set forth.

Second, the method of utilizing the chlorine gas contained in the fabric or fiber after it has been squeezed by elastic rollers by immersing the same in water, as set forth.

66,014.—MITCHELL C. GARDNER, Rochester, N. Y.—*Chuck for Planing Iron.*—June 25, 1867.—The chucks are held by bolts whose heads enter the ordinary grooves of the table and pins entering holes in the same. The blocks are adjustable by screws.

Claim.—The sliding jaws B B, and the bracket or support D, back of one of the jaws B B, to chuck lengthwise the table, and at the same time using the jaws BB for chucking both crosswise and lengthwise the whole table, in combination, substantially as specified and for the purposes set forth.

66,015.—J. C. GASTON, Cincinnati, Ohio.—*Churn.*—June 25, 1867.—The chamber below the lid has several openings which confine the air to a circuitous course and prevent the splashing out of cream.

Claim.—The guard chamber C, having one or more openings c in its side wall b, substantially as shown and described.

66,016.—LEWIS GIBBS, Canton, Ohio, assignor to BUCHER, GIBBS & Co., same place.—*Plow.*—June 25, 1867.—The bar on the lower edge of the landside is united to the share by a dovetail underneath. The clevis is cast in two portions, which clasp the beam by a dovetail socket and are secured by a bolt.

Claim.—Uniting the bar A to the share B, at the point a, underneath the share, as and for the purpose herein described.

Also, a clevis made in two parts, with dovetailed recesses cast therein, so as to fit a dovetail or shoulder formed on the end of the beam and united thereto by a bolt or key, substantially as herein described and represented.

66,017.—ALBERT H. GILMAN, Hopedale, Mass.—*Spindle for Spinning.*—June 25, 1867.—The spindle step has an upwardly projecting annular flange, having a cap which rests on a collar of the spindle and whose edge loosely embraces the upper edge of the flange. A stud on the flange enters an opening of the collar to insure its rotation with the spindle.

Claim.—The application of the step cap C to the spindle A, by means or devices, such as when the cap may be encompassing or covering the step, and the spindle may be in revolution, shall not only cause the cap to be revolved with the spindle, but allow it, the said cap, to be freely raised off the step in order to enable such step to be supplied with oil as occasion may require.

Also, the combination and arrangement of the collar D, with the spindle A, and the cap arranged with a step as set forth, the collar being for the purpose or object as explained.

Also, the arrangement of the collar D, and the stud d, with the spindle A, and the cap C, provided with a recess or hole c to receive the stud, and applied to a step B, substantially as described.

66,018.—CARLOS H. GOULD, Cincinnati, Ohio.—*Boiler Feed Water Regulator.*—June 25, 1867.—The float is enclosed in a perforated, open-topped box and is connected by a bent rod to a radial spindle turning in a sleeve screwed into the side of the generator. From the outer end of the spindle projects a lever which is adjustably connected to the stem of the feed water valve; this consists of a diaphragm covering the mouth of the inlet water pipe, upon which the valve stem rests, with force adjusted by the weight upon the lever.

Claim.—First, the reciprocating rotary shaft C, traversing the boiler side within a suitable horizontal sleeve A, and provided with a float F, inside of the boiler, and adjustably weighted lever I, outside of the boiler, in combination with the adjustable rod K, and valve guarded water supply pipe, substantially as set forth.

Second, the arrangement of the rod K, bossed cap P, diaphragm N, and water supply pipe Q, for the purpose described.

Third, the oblong float F, stem E, reciprocating rotary shaft C, sleeve A, with steam tight joint or joints in combination with the rod K, and diaphragm stop N.

66,019.—WILLIAM HANSON, Willoughby, Ohio.—*Sorghum Evaporator.*—June 25, 1867.—A sectional defecating and heating tank is placed over a heating furnace and communicates by hose, having stop-cocks,

with the evaporating pan. The dampers may be interposed between the fire-box and pan. The frame allows the scum to rise through the apertures and to collect on the flat upper sides.

Claim.—First, the employment of the partitioned tank M, provided with stop-cocks and hose P and P', in combination with the evaporating vat K, auxiliary fire-box I, dampers X X, constructed with turned up edges Y Y Y', arranged and operating as and for the purpose specified.

Second, the framed bars C, constructed as described, and connected together in sections by free joints II, and provided with levers T and T', in combination with the evaporating vat K, provided with ledges L, operating as and for the purpose set forth.

Third, constructing the body of the evaporator with a main fire-box E, at its front end, a wide and gradually contracted fire-chamber II, and auxiliary fire-box I, arranged and operating as specified.

Fourth, providing the main fire-box E with elongated draft openings F F F through the bottoms thereof, and with brick lined intermediate spaces between said openings, so as to operate as and for the purpose herein stated.

Fifth, the use of extended lever arms U U', located as shown in figure 1, and operating the drain gates V V, in the manner specified in combination with the evaporating vat K, as set forth.

66,020.—DAVID HARDING, Lowell, Mass.—*Machine for Beating and Picking Cotton.*—June 25, 1867.

—The cotton waste on the feed apron is carried forward to the two toothed rollers between which it passes to the main cylinder by which it is carried down past the lower claw roller.

Claim.—The cylinders O N R, armed with teeth as described, in combination with the main cylinder C, the several parts being constructed and arranged as and for the purpose set forth.

66,021.—WILLIAM EDWIN HEATH, Pembroke Terrace, England, assignor to JOSEPH WEATHERY BARTLETT, New York, N. Y.—*Torch for Lighting Gas.*—June 25, 1867.—The lamp is surrounded by a double perforated case; the non-coincidence of the holes in the casings prevents entrance of wind, while allowing sufficient passage to the air. The top is recessed to engage the projections of the bell-crank lever by which the cock is operated.

Claim.—First, the construction of the double case or cover having the perforated tubes A and B, arranged one within the other, for the purpose and substantially in the manner set forth.

Second, the double handle G, adapted either for burners constructed as shown in figure 3, or for ordinary gas burners, for the purpose and substantially in the manner set forth.

Third, the apparatus consisting of the tubes A and B, cap D, lamp C, and socket F, constructed and combined for the purpose and substantially in the manner set forth.

66,022.—WILLIAM HENDERSON and J. GREENAWALT, Pittsburg, Pa.—*Abdominal Supporter.*—June 25, 1867.—Explained by the claim and illustration.

Claim.—Securing the end of the wire L, by means of a spring catch b, attached to the front plate A, and operated by the knob K, in the manner herein shown and set forth.

66,023.—CONRAD HERMAN, Baltimore, Md.—*Device for Closing Bottles.*—June 25, 1867.—The clamping rind passes around the neck. The cap is hinged thereto and has a rubber cushion to pack the opening.

Claim.—The hinged clasp A, fastened by means of the lugs a and screw b, and having the upright arms d d' with the cover B pivoted to d' and fastened to d by means of the lugs o n and screw t, when arranged to operate substantially as described and set forth.

66,024.—CHARLES HINKLEY, Williamsville, N. Y.—*Lime Kiln.*—June 25, 1867.—The cupola is elliptical in horizontal section and the furnaces in the line of its smaller diameter. The furnaces flare laterally inwards and have deflecting pillars at their intersection with the interior of the cupola. Air is supplied to the caloric current above the said intersection.

Claim.—The combination arrangement of the elliptic cupola A, the inwardly widened furnaces B B, sharp-edged pillars h h and flues e e, as and for the purpose herein specified.

66,025.—D. L. HOLDEN, New Orleans, La.—*Petroleum Gas Burner for Heating Purposes.*—June 25, 1867.—Explained by the claim and illustration.

Claim.—A gas rotort and burner, consisting of the concentric or annular oil chamber C, in combination with a central air chamber or flue B, provided with perforations D', at or near the top of chamber C, substantially as and for the purpose described.

66,026.—HENRY HALL, Pattersonville, La.—*Machine for Cleaning Moss.*—June 25, 1867.—The moss is placed on a feed board at one end of the cards and is drawn through between the cards by the inclination of the teeth on the bed and on the oscillating carder.

Claim.—The vibrating convex card A, in combination with a fixed concavo card C, when the teeth of both project in the same direction and at the same angle as described for the purpose set forth.

66,027.—MARSHALL INGERSOLL, Elyria, Ohio.—*Field Fence.*—June 25, 1867.—The bars pass through anchored iron posts and are secured therein by keys. A network of wire may be stretched between either of the two bars.

Claim.—The fence constructed and arranged in the manner and for the purpose substantially as specified.

66,028.—ISAAC JUDSON, New Haven, Conn.—*Hydraulic Pressure Regulator.*—June 25, 1867.—The valve stem is attached to two elastic diaphragms having different areas of bearing surface. The full pressure of the water is on the smaller one and the pressure on the larger one is graduated by the area of valve opening. The tendency is to promote an equality in the rate of passage as an increase of speed and pressure raises the valve to limit the area of opening and conversely. The valve may be kept open by a set screw.

Claim.—First, the combination of the two diaphragms with the valve and its stem, when they are constructed, arranged, and fitted for use substantially as herein described and set forth.

Second, the combination of a ring or annular disk with either of the diaphragms when used to lessen the extent of the yielding surface of the diaphragm, substantially as herein described and set forth.

66,029.—GEORGE W. KINTZ, West Henrietta, N. Y.—*Potato Digger.*—June 25, 1867.—A vine-pulling fork is in the advance, is pivoted to the beam and worked by a hand rod. The share raises the hills which divide to the right and left and pass over the slotted wings of the mold-board to the rakes, which comminute the mass before it falls on the shaker, which travels on rollers and is hitched to the plow. The tubers fall from the rear of the shaker.

Claim.—First, the double-winged mold-board plow, provided with the adjusting slats b and flaps a, arranged and operating in the manner and for the purpose set forth.

Second, the combination and arrangement of the adjustable combs D with the double-winged slatted mold-board C operating in the manner and for the purpose specified.

Third, the employment, in combination with the double-winged slatted mold-board of the rollers e e, situated in the ends of the handles as set forth.

Fourth, the combination with the double-winged slatted mold-board of the shaker, composed of the plates I, vibrating arms o, and axle G, with cogs n and the adjusting braces L, as set forth.

Fifth, the employment of the pivoted vine puller P with the ratchet rod Q, so arranged as to operate from the rear for discharging the vines as herein set forth.

Sixth, the arrangement of the machine as a whole, consisting of the slatted mold-board C, combs D, shaker I G L n o o, and vine puller P Q, as herein set forth.

66,030.—D. J. KIRKMAN and E. H. GRAY, Winchester, Ill.—*Adjustable Tire for Wheels.*—June 25,

1867.—The tire ends in two screw sockets and is adjusted in length by a right and left screw rod in combination therewith. The section of the rim left imperfect by this arrangement is filled out by an enveloping iron frame.

Claim.—First, the cap C, when constructed substantially as and for the purpose set forth.

Second, the shoe D, when constructed substantially as and for the purpose specified.

Third, the cap C and shoe D, as constructed in combination with bolt heads *ee* and screw bolt *d*, substantially as and for the purpose described.

66,031.—D. J. KIRKMAN and E. H. GRAY, Winchester, Ill.—*Plow.*—June 25, 1867.—The subsoil-plow standard slips in a staple on the plow standard, and is attached by links in the rear of the mold-board of the upper plow. It is vertically adjusted for depth of sub-furrow by engaging the tension link with either one of the series of holes in the standard bar.

Claim.—First, the employment of a subsoil plow F, when attached to the adjustable bar *m*, said bar being constructed and arranged in the manner herein specified.

Second, the adjustable bar *m*, double jointed arm *h*, and hook *i*, the whole combined in the manner and for the purpose set forth.

66,032.—AARON MARDEN and AARON H. BURGESS, Philadelphia, Pa.—*Nail Extractor.*—June 25, 1867.—The serrated jaws engage the nail head, and are drawn together by the pressure of the mortise ends in raising the lever.

Claim.—The jaws D D, when constructed with slightly tapering sides, hinged together at the top and having an intervening spring, which jaws rest in a corresponding tapering mortise B in the handle A, and operate together in the manner substantially as described and for the purpose specified.

66,033.—WM. M. MILLER, Tulpehoccan, Pa.—*Meat Cutter.*—June 25, 1867.—The block rotates by the engagement of its sprockets with the worm on the shaft. The cleavers are attached to spring arms, and the force of the blow is regulated by a nut on the pivoted block, in which their shanks are clamped.

Claim.—The block S and spring arms K, in combination with the screw nut Y, and in the manner and for the purpose specified.

66,034.—S. W. MOORE, Albion, N. Y.—*Beam Puller.*—June 25, 1867.—The teeth of the fixed bar engage the stalks, and the sliding bars come down in contact therewith to clamp them firmly. The stalks are freed at the rear of the cylinder and fall into a chute. The roller may be adjustable vertically by a crank and treadle, being sustained by a ratchet wheel and pawl, which is freed by the treadle.

Claim.—First, the combination of the fixed and sliding bars *b f*, armed with intermatching teeth *g' g'*, operating substantially as and for the purpose herein set forth.

Second, hinging or jointing the teeth *g'* in the manner and for the purpose specified.

Third, the employment of the guides or shields *i*, in combination with the sliding bars *f*, for the purpose set forth.

Fourth, the arrangement of the treadle P, rod Q, pawls *m*, and ratchet wheels *n n*, in combination with the disks or cranks M, connecting rod L, and arms H, operating to adjust and retain the roller, as herein set forth.

66,035.—DEWITT C. MOWREY, Milford, Mass.—*Boot Crimper.*—June 25, 1867.—Improvement on the patent of Josiah M. Reed, January 20, 1844. The clasp carries the two auxiliary jaws, whose upper projections enter slots in the cross-bar of the same, and are spread apart to hold the edges of the leather by the frustal block, drawn up between them by the crimping screw.

Claim.—The combination and arrangement of the auxiliary jaws with the clasp, the frustum, and straining screw.

Also, the application of the auxiliary jaws to the clasp by means substantially as described, viz: by the arms provided with ears and by slots, having the supports arranged as set forth.

66,036.—A. M. OLDS, New York, N. Y., assignor to J. W. HAWKURST.—*Mucilage Bottle.*—June 25, 1867; antedated June 12, 1867.—The brush is inverted in the bottle, and is withdrawn through a hole in the cap by a string which connects it with the lid; it retires as the lid closes.

Claim.—Constructing and arranging, in connection with a bottle, an upright adjustable brush operating through its cap, substantially as and for the purposes herein set forth.

66,037.—SAMUEL PAGE, McAllisterville, Pa.—*Evaporating Pan.*—June 25, 1867.—The boiling pan is over the furnace and the skimming pan behind it. The pivoted plate beneath the latter regulates the area of flue opening at that point. The finishing pan is at one side, and the heat is directed to it, or otherwise, by the arrangement of the dampers.

Claim.—First, the adjustable plate V, arranged as herein described, and employed to vary the size of the flue beneath the receiving or skimming pan, in the manner and for the purpose specified.

Second, the combination with the finishing pan G and chamber H of the dampers I J, arranged and operating in the manner and for the purpose set forth.

66,038.—ALONZO P. PAYSON, San Francisco, Cal.—*Gymnastic Swing.*—June 25, 1867.—The swing is suspended from bars, to which a reciprocation is given by hand levers, which bear against the bars and are pivoted to the beam above.

Claim.—A swing constructed with the supporting arms C C and the motive levers E F, substantially as and for the purpose described.

66,039.—JOHN C. PFEIL, Arenzville, Ill.—*Gang Plow.*—June 25, 1867.—The plow frame oscillates upon the spindles of the bent axle and is pivoted to the tongue. The adjustment of the angle formed by the frame and tongue regulates the depth of furrow, and is maintained by the lever and ratchet. The spindles are secured by arms and sleeves to the wooden axles.

Claim.—First, the lever *a*, having the cam *e* attached and arranged to operate in combination with the tongue C and beams B and B', as shown and described.

Second, constructing the crank axles E with a tubular portion to fit on the end of the wooden axle A, as shown and described.

66,040.—CHARLES E. PIERCE, New York, N. Y.—*Burglar Alarm.*—June 25, 1867.—The alarm mechanisms are placed around the bell and connected by separate wires to the special points to be guarded. The alarm which is sprung by an intruder brings an indicator into sight to show whence the alarm came.

Claim.—First, the lever *d*, with projection *f* and indicating plate attached, when arranged as and for the purpose set forth.

Second, the guards made up of the parts *n o* and *q q*, or their equivalents, operating as described.

Third, in combination with the guard as described, the slotted plate *m'* and knob *p*, for the purpose set forth.

Fourth, the forked lever *r*, in combination with the window guards, as described.

Fifth, in combination with the alarm movements the case or cover with openings, as described.

Sixth, the catch lever or keeper *b*, in combination with the center wheel *c* and the detent arm, as described.

Seventh, so arranging the guard bolt that by means of cords or wires connected therewith, an indicator plate is raised at the same time the alarm is given.

66,041.—ALONZO C. RAND, Union Mills, Pa.—*Making Illuminating Gas.*—June 25, 1867.—The air is first driven through a tank of crude petroleum and then through a tank of gasoline.

Claim.—The combination of the tanks A¹ and A² with the gas holder J, operated substantially as and for the purposes herein described.

66,042.—JAMES H. ROUNDEY, Oldtown, Maine, assignor to himself and AMOS H. ROUNDEY, same place.—*Churn.*—June 25, 1867.—The dasher rods are

pivoted to the lid and reciprocated by the oppositely projecting cranks on a winch shaft. The dashers are so pivoted to the rods as by their oscillation to throw the cream to the center of the churn.

Claim.—First, the double vibrating dashers *b b*, when constructed and arranged to operate in manner substantially as and for the purposes specified.

Second, the arrangement of churn *A*, the double vibrating dashers *b b*, and the vibrating levers *B B*, driven by crank *D*, or its equivalent, all arranged to operate in manner substantially as described and shown.

66,043.—*J. SCOTT RUSSELL, Rensselaerville, N. Y., assignor to W. N. ZIMMER and W. W. COGGSHALL, same place.*—*Rein Holder.*—June 25, 1867.—The reins are passed beneath the arms of the T-shaped tongues.

Claim.—The rein holder *A A*, having a T-shaped tongue, constructed substantially as herein set forth.

66,044.—*E. P. RUSSELL, Manlius, N. Y.*—*Automatic Apparatus for Lighting and Extinguishing Gas.*—June 25, 1867.—A supplemental jet of gas is drawn from the pipe a little below the main burner to secure ignition at the latter and consume the match or fuse, which moves horizontally and yields as it passes over the friction plate. The hands of the dial are set to the hours for turning on and off the gas to operate the tripping devices. The match after ignition opens the supplemental gas cock, which, after igniting the main burner, is closed by a spring. The release of the disk allows the coiled spring to turn the gas cock. The turning-off arrangements are substantially analogous.

Claim.—First, the supplemental gas cock *S*, attached to the main pipe *L*, when opened and closed by clockwork, substantially as described, for the purpose of lighting the main burner *M*.

Second, the jet *T* for burning off the match, substantially as and for the purposes set forth.

Third, the lever *U*, in combination with gas cock *S*, substantially as and for the purposes set forth.

Fourth, the wire *V*, substantially as and for the purposes set forth.

Fifth, the spring arms *O*, substantially as and for the purposes set forth.

Sixth, the revolving inclined friction plate *Q*, constructed and operating substantially as and for the purposes set forth.

Seventh, the springs *P*, in combination with the perforated arms *O*, for the purpose of holding the matches in the position described.

Eighth, the screws *F F'*, in combination with the bolts *J J'* and arms *H*, substantially as and for the purposes set forth.

Ninth, the combination and arrangement substantially as described, of the main spring *K*, gas cock *N*, and arms *H* and *O*, for the purposes set forth.

Tenth, the hands *D D'*, arranged and operating as described, in combination with step shaft *E*, hollow shaft of worm *F*, and thumb screw *L*.

Eleventh, operating the jet cock *S*, by means of the fuse itself, substantially as and for the purposes set forth.

Twelfth, placing the matches so as to revolve horizontally, substantially as and for the purposes set forth.

66,045.—*E. D. SANFORD, Baltimore, Md.*—*Clothes Dryer.*—June 25, 1867.—The frame is rotatable, and vertically adjustable, so that it can be filled from one standpoint on the ground and then elevated. The radial arms may be folded up to the axle post.

Claim.—First, the revolving rack, composed of the tubular sliding box *I*, collars *J J'*, rods *K*, supporting ropes *O*, and clothes lines *P*, or their equivalents, when constructed and operated substantially as and for the purpose described.

Second, in combination with the sliding rack of a clothes dryer, the weighted box *Q*, constructed and employed substantially as described, for the purpose specified.

Third, the arrangement of the rack *I J J' K O P*, post *A*, socket *B*, bed frame *C*, and braces *D*, with the rope *N*, loops *M*, weight *Q*, and pin or hook *L*, combined and operating substantially as and for the purpose set forth.

66,046.—*IRVING M. SCOTT and WILLIAM ROBERT ECKART, San Francisco, Cal.*—*Cut-off Valve.*—June 25, 1867.—The cut-off plates on the back of the slide-valve are operated by a rod having a right and left hand screw which traverse nuts on the backs of the respective plates. The screw receives motion from the governor to determine the point of cut-off in connection with the cut-off valve, which receives a constant motion on the back of the cut-off plates.

Claim.—First, the movable plates on partitions *n n'* arranged between and in contact with the main valve *c*, and cut-off valve *C*, substantially as described.

Second, the screw *J*, and spindle *h*, together with the wheels *k m o*, and the yoke *p*, arranged for disengaging the plates *n n'* from the action of the governor, substantially as described.

66,047.—*T. C. SEBRING, Rochester, N. Y., assignor to IRA A. HEBBARD, same place.*—*Harvester Pitman.*—June 25, 1867.—A key behind the plug which forms the rear bearing for the boxing, is forced up by a spring as the journal or its bearing becomes worn.

Claim.—The automatic take-up, constructed substantially as described, being composed of a spring *s*, and taper key *k*, plug *C*, and boxes *B* and *B'*, substantially as described.

66,048.—*BENJAMIN SHERWOOD and DANIEL FITZGERALD, New York, N. Y.*—*Toy Pistol.*—June 25, 1867.—The retraction of the trigger releases the spring lever whose end oscillates in the curved path and projects the ball through the bore of the pistol.

Claim.—First, the lever *D*, provided with a follower *C* on one end, and used in combination with the curved barrel and trigger *E*, as and for the purposes specified.

Second, the combination of the rubber set in the socket *F* with the curved barrel, and lever *D*, as and for the purpose specified.

Third, the curved barrel *A*, when used in combination with a follower which does not operate outside of the rear of the barrel, but which operates upon the ball or missile to be sent around the curve in the barrel, as and for the purpose specified.

Fourth, the form of the trigger *E*, adapted to be laid in between the two halves of the pistol, and not to need fastening.

66,049.—*S. W. SLOCUMB, Albany, Ill.*—*Wagon.*—June 25, 1867.—At the end of the axle is an eccentric circular bearing, which is secured in the hub of the wheel by an annular plate.

Claim.—First, the circular bearing *C*, in combination with the hub *D*, when constructed substantially as described.

Second, the combination of the circular bearing *C*, hub *D*, plate *E*, and ring *F*, substantially as described.

Third, the circular bearing *C*, when attached eccentrically to the axle and in front of a line passing through the center of the wheel, substantially as described.

Fourth, the arrangement of the holsters *H*, when placed in the rear of the axle, and the axle when placed in front of a line passing through the center of the wheels, substantially as described.

66,050.—*HARLOW C. SMITH, Chicago, Ill.*—*Grain Measure.*—June 25, 1867; antedated June 22, 1867.—The bag is attached by hooks to the measure and the hinged portion of the bottom unlatched to discharge the contents.

Claim.—A half bushel of similar grain measure, having its bottom composed of the stationary part *A* and the hinged portion *B*, and provided with the spring hooks *D*, or their equivalents, for attaching the bag, all constructed and arranged to operate as shown and described.

66,051.—*ISAAC H. SMITH, Albany, N. Y.*—*Wrench.*—June 25, 1867.—While the flat side of the adjusting screw is turned to the shank, the jaw is moved up to the object; the threaded side is then turned to the shank and the jaw tightened.

Claim.—The adjusting screw *E*, with flattened or concave side or sides *a' a'' a'''*, or their equivalents, for the purpose set forth, substantially as described.

66,052.—R. T. SMITH, Nashua, N. H.—*Universal Joint*.—June 25, 1867.—The stirrups which give bearing to the shafts of the smaller bevel wheels are pivoted on the axis of the larger wheel, so as to allow an oscillation of the stirrups on said axis.

Claim.—The combination of stirrups B and C, with their bearings *d d* and *e e* swinging on the intermediate shaft *g*, on which shaft an intermediate cog wheel or cog wheels, or pulley or two pulleys, may be placed, essentially as represented in the accompanying drawings.

66,053.—JOHN R. SPOONER, Lowell, Ohio.—*Button*.—June 25, 1867.—The button is attached to a plate which is bent around to clasp both sides of the cloth to which it is attached by spurs.

Claim.—The button fastening above described, composed of the bent plate A A', having the teeth *a a a* and the button B attached to it, substantially as and for the purpose described.

66,054.—DARIUS STEBBENS, Wallingford, Conn., assignor to himself and E. MORSE, same place.—*Lightning Rod Insulator*.—June 25, 1867.—The wire for attachment of the rod is secured to a button inside the insulator, or looped around a portion of it, so as to require no outside fastening to it.

Claim.—An insulator constructed substantially in the manner described, so that the rod may be secured directly from the interior of the insulator, as and for the purpose specified.

66,055.—ISAIAH W. SYLVESTER, New York, N. Y.—*Advertising Machine*.—June 25, 1867; antedated June 15, 1867.—The endless belt, having advertisements thereon, is carried on rollers within a frame. The rollers are rotated at variable speed by clock-work.

Claim.—First, the application to advertising of an endless curtain made to revolve automatically, at given intervals quickly, so as to attract attention by its motion, and then slowly, so as to be apparently motionless and to allow of the easy reading of the advertisements.

Second, the device whereby the power moving the curtain is retarded at regular intervals by means of the arm J, notching into, passing through, and being relieved from the periphery of the clock wheel, substantially as herein described and set forth.

66,056.—ELISHA H. TOBEY and COPLEY A. NOTT, Watertown, N. Y.—*Signals for Railroads*.—June 25, 1867.—The switch-rails connect by a bar with a vertical rod and gearing upon a frame, so as by the motion of the switch-rail to work a semaphore, which indicates the position of the switch, and also to rotate the frame in which the signal lamp is suspended, and expose another colored light in the required direction.

Claim.—First, the combination of the sliding signal box or other signal device with the mechanism for rotating the same in a horizontal plane, in such manner that the said device, when raised or elevated to a certain point in the signal frame, shall be thrown in gear with said mechanism, as and for the purpose herein described.

Second, the combination of the signal device, capable of sliding and rotary movement as described with the mechanism for imparting the rotary movement under the arrangement herein described, so that the position of the said signal device, when in gear with the said mechanism, shall be determined by the position of the switch with which the mechanism is connected, as and for the purpose set forth.

Third, the combination with the reflector box and its frame and actuating mechanism of a day signal actuated by said mechanism, in the manner and for the purposes set forth.

Fourth, the combination of the reflector box or signal device and its sliding frame with the guide rods upon which the said frame is mounted and held, substantially as and for the purposes set forth.

66,057.—ASA M. TOMB, Lyons, N. Y.—*Bed Bottom*.—June 25, 1867.—The "buckle" has hook recesses to receive the ends of a pin in the bight of a loop of rubber which is attached to the rail. Cross-bars of the buckle frame rest respectively against the

upper and lower sides of the slat, and the former bar has a pin entering a hole through the slat.

Claim.—First, the reversible buckle V, furnished with hook head at the end of each bar and with the hook *a*, for securing on either side of the rail as described.

Second, the hollow fastening to the bed rail or to a piece of wood attached to the bed rail, as shown at Fig. III, in combination with the reversible buckle and pin.

66,058.—JOHN WAGNER and JOHN SCHMID, Philadelphia, Pa.—*Fire Escape*.—June 25, 1867.—The platform on the "lazy tongs" lattice frames is raised by action of gearing upon the jointed rack which unwinds from the cylinders. The lattice is steadied by the contact of the ends of its lower bars with guide posts.

Claim.—First, in elevators and fire escapes, the lattice frames in combination with the jointed racks D D', the operating pinions E E', and the take-up cylinders F F', the same being arranged to operate together substantially as described, for the purpose of elevating and giving stiffness and steadiness to the lattice frames when in use.

Second, also in combination with the lattice frames A, of an elevator and fire escape, the friction wheels G, and the bearing posts H, arranged to operate together, substantially as described, for the purpose of giving additional stability to the lattice frames when elongated as described.

66,059.—W. P. WENTWORTH, Detroit, Mich.—*Door Lock*.—June 25, 1867.—A slot in the bolt contains the tumblers, which slide between posts placed on each side of the bolt when properly engaged by the key, but catch upon one or the other bolt when tampered with by an improper key.

Claim.—The slot B, in the bolt A, in combination with the enclosed tumblers or palls O, operating as set forth.

66,060.—CHARLES M. WHELDEN, Pittsfield, Mass.—*Soda and Mineral Water Stand*.—June 25, 1867.—The sirup bottles are enclosed in a transparent ice box, whose glass sides are connected at the corners by angle plates of metal.

Claim.—First, a soda and mineral water stand with one or more transparent sides, substantially as and for the purpose described.

Second, the double-flanged corner piece *c*, in combination with the transparent plates B, forming the sides of the stand A, substantially as and for the purpose set forth.

Third, the tubular packing pieces *d*, in combination with the transparent plates B and corner pieces *c* of the stand A, constructed and operating substantially as and for the purpose described.

66,061.—JERU F. WOTRING, Wiley, West Va.—*Car Coupling*.—June 25, 1867.—The pin is pivoted to the forward end of the hinged bar and is swung back by the entering link, its forward end and the forward end of the link entering the swinging guide to keep them in proper transverse position.

Claim.—First, the combination of the hinged bar B, hinged pin C, hinged guide D, substantially as and for the purpose described.

Second, in combination with the pivoted pin C, which is allowed to swing freely about a pivot *e*, the recessed guide block D, for guiding the pin C and link G, substantially as described.

Third, the construction of the block D with side jaws *g g* and a groove *g'*, substantially as and for the purpose described.

Fourth, the manner substantially as herein described of insuring the proper relation of the link to the pin and of coupling two cars together when such cars are moved towards each other, as set forth.

66,062.—E. H. ASHCROFT, Lynn, Mass.—*Fire-proof Safe*.—June 25, 1867.—Around the wooden lining is a coat of felt surrounded consecutively by a metallic lining, a filling of cement, a water chamber, a cement filling, and the exterior metallic casing. The generation of steam deadens the fire around the door joints.

Claim.—First, in a fire-proof safe, the combination

of a water space or chamber *d* with the pipes *i* leading therefrom and surrounding the door, constructed and operating in the manner shown and as set forth.

Second, in a fire-proof safe, a lining of felt *b*, or the equivalent thereof, for the purpose specified.

Third, in a fire-proof safe, the combination of a water chamber with a safety plug, or its equivalent, for the purposes set forth.

66,063.—E. H. ASHCROFT, Lynn, Mass.—*Gauge for Steam Generator.*—June 25, 1867.—Water and steam are let in below and above the glass tube by the rotation of the single rod, to which are attached the valves governing the lower and upper inlets.

Claim.—The combination of the valve rod *h* with the valves *i* and *j*, and with the inlets A and B, and glass tube C, constructed, arranged, and operating in the manner substantially as shown and described and for the purpose set forth.

66,064.—L. AUGUSTUS ASPINWALL, Albany, N. Y.—*Potato Digger.*—June 25, 1867.—The forks pass through the sides of the hill, gather the vines, and pass them under the roller, which aids the plow in raising the hill, which is delivered on to the shaking separator, which sifts out the soil; the vines and tubers are delivered in the rear.

Claim.—First, the construction of the separators, having three rows of fingers in their horizontal range.

Second, the direct connection of the separators with the cranks.

Third, the employment of the roller.

Fourth, the combination of the roller with the fork.

Fifth, the bent lever T.

66,065.—ARTHUR BARBARIN, New Orleans, La.—*Fastening the Ends of Cotton Ties.*—June 25, 1867.—Rounded studs for the bights of the wire are cast upon the plate or plates, which form a connecting link.

Claim.—The device A, when constructed as herein described for the purpose set forth.

66,066.—JOHN A. BASSETT, Salem, Mass.—*Gas Carburetor.*—June 25, 1867.—The capillary material in the chamber is saturated by a regular flow of hydrocarbon liquid, and a waste pipe is provided. The air is forced through the chamber, which is surrounded by a fire-proof casing. The intervening space may be heated by steam or filled with a non-conducting material.

Claim.—First, a gas-carbureting chamber surrounded by the casing of iron or other fire-proof material, substantially in the manner shown and for the purpose set forth.

Second, a gas-carbureting chamber having the inlet for hydrocarbon and waste exit arranged substantially as set forth.

66,067.—JOHN A. BASSETT, Salem, Mass.—*Apparatus for Carbureting and Regulating the Flow of Gas.*—June 25, 1867.—The air passes through a vertical series of overflow chambers containing liquid hydrocarbon and follows a sinuous course in each successively. Its pressure upon the diaphragm above actuates the valve to allow or prevent its exit. The edges of the diaphragm are enclosed between the turned-over edges at the junction of the upper and lower sections of the chamber.

Claim.—First, a regulator in combination with a closed carburetor so as to regulate the flow of gas after being carbureted without risk of leakage, substantially as described.

Second, the construction of a gas regulator substantially as shown and described.

Third, retaining the diaphragm H in place and the gas joint made at the flanges, substantially as specified.

Fourth, a diaphragm prepared with the composition described, or its equivalent, when used for this purpose substantially as set forth.

Fifth, a diaphragm composed of two or more sheets of flexible material, enclosing a sheet of malleable metal, in the manner and for the purpose as shown and described.

66,068.—JOHN A. BASSETT, Salem, Mass.—*Carbureting Gases.*—June 25, 1867.—Hydrocarbon in a graduated stream is supplied to the capillary material in the chamber through which the air passes. An overflow chamber below the air chamber receives the

excess. The two chambers of liquid may alternate in their action by rotation to bring them alternately above.

Claim.—First, the arrangement of a hydrocarbon reservoir above and connected with a carbureting chamber, either with or without capillary, substantially as set forth.

Second, the overflow receptacle connected with the carbureting chamber, for the purpose set forth.

Third, the process of carbureting gases for illumination by the method substantially as specified.

66,069.—JOHN A. BASSETT, Salem, Mass.—*Carbureting Gases for Heating and Illuminating.*—June 25, 1867.—The blast of air upward through the annular chamber around the nozzle of the axial pipe, draws air through the latter and ejects a spray against the dome. The surplus liquid returns by a pipe and the air passes to the holder of carbureted air. Atmospheric air may be admitted directly in the spray chamber.

Claim.—First, the process of charging gases with the vapor of atomized hydrocarbon fluids for illuminating and heating purposes, substantially as set forth.

Second, the apparatus as shown and described, with the several parts or their equivalents, when used for this purpose for carbureting air or gases for illuminating and heating purposes, in the manner substantially as set forth.

66,070.—JOHN A. BASSETT, Salem, Mass.—*Manufacture of Illuminating Gas.*—June 25, 1867.—Explained by the claim.

Claim.—First, the process herein described for the manufacture of illuminating gas, which process consists in charging a mixture of coal gas, or its equivalent, and air with the vapor of any suitable hydrocarbon liquid, substantially as described.

Second, the improved illuminating gas made substantially as set forth.

66,071.—JOHN A. BASSETT, Salem, Mass., assignor to JOHN H. IRWIN and ISAAC SIMMONS.—*Manufacture of Illuminating Gas.*—June 25, 1867.—The air flows downward into the chamber, where it follows a sinuous downward course over the succession of overflow pans and thence upward to a somewhat higher exit, so as to allow the accumulation of gas on the floor of the chamber to act as an air trap.

Claim.—First, the manufacture of an illuminating gas from the vapor of gasoline or other volatile hydrocarbon liquid, when the apparatus used is placed above the point of combustion, and so arranged that the gas is distributed to the burners by its own gravity.

Second, a series of two or more pans or receptacles for oil B B, so arranged one above another within the case A as to produce a large carbureting surface, and at the same time admit a current of air to pass automatically down over the surface of the oil in the pans, substantially as and in the manner set forth.

Third, the combination of the pipe F and case A, when so connected that the oil flowing over into the bottom of the carburetor will stop the passage of the gas into the pipe F, and thereby extinguish the lights before the oil will flow down said pipes.

Fourth, in combination with inlet for air D, the pipe G, when arranged and operated substantially as and for the purpose set forth.

66,072.—JOHN E. BLAKE, Norwich, Conn.—*Construction of Fire-arms.*—June 25, 1867.—The barrel and frame are cast in one piece, the latter being partially enclosed by the haudle. Slots and notches receive the hammer trigger, and their trunnions, and these pieces are held in position and operated by a spring, whose bent end is planted in another notch of the frame.

Claim.—The fire-arm, constructed as described, and provided with notches *e f* and *g* in the stock, arranged in relation with each other to form the bearings for the trunnions of the hammer and trigger, and for the heel of the spring, as shown and described.

66,073.—WM. G. A. BONWILL, Dover, Del.—*Shoestring Fastener.*—June 25, 1867.—The cord is looped around the hooks on alternate sides of the slit, and being rove through an eyelet on the upper edge and an outer ring, its bight is clamped between the two when the cord is strained.

Claim.—The combined fastening A I, arranged to operate substantially as and for the purpose set forth.

66,074.—GEORGE E. BURT, Harvard, Mass.—*Hay Spreader.*—June 25, 1867; antedated December 25, 1866.—By the described arrangement a positive, accelerated motion is given to the tines while they act on the hay before them, which clears them and obviates clogging; they are yet free to spring back when encountered by an obstacle. The rake balances the tedder and either or both may be used without interference one with the other. The tedder is thrown in or out of connection with an internal gear.

Claim.—First, the forks *f*, when so operated as to revolve around a common centre and at the same time to have an oscillatory motion communicated to them by the positive action of mechanism, by which their points shall be thrown forward with an accelerated motion when acting upon the hay, and be retracted when throwing off the hay, substantially in the manner set forth.

Second, so arranging the revolving shaft L that it shall pass eccentrically through the dead centre U, and receiving motion from the wheel W, through the pinion P, shall communicate it to the fork *f*, substantially in the manner set forth.

Third, the combination of the shaft L, placed eccentrically to the centre of the rotating heads *b*, with the arms *d*, shafts *a*, and forks *f*, substantially in the manner set forth.

Fourth, the balancing of the tedder by the rake, substantially as described.

66,075.—H. W. BUTTERWORTH, Philadelphia, Pa.—*Steam Drying Cylinder.*—June 25, 1867.—The hollow trunnion enters the chamber in the hollow standard through which the fluid passes. The annular packing around the trunnion is condensed by a follower actuated by an axial set screw.

Claim.—First, the standard or bearing B, with its chamber *h* and opening *f*, in combination with the tubular spindle A projecting into the said chamber, a packing ring *i*, and follower D, or its equivalent, the whole being constructed and arranged substantially as and for the purpose described.

Second, the combination of the follower D and a screw stud turning in the follower and projecting through the standard, substantially as and for the purpose set forth.

66,076.—NICHOLAS CLUTE, Schenectady, N. Y.—*Dumping Wagon.*—June 25, 1867.—In discharging, the rollers of the body work under the metallic plates of the bed frame until the tilting position is reached. Stops arrest it in its forward position and catches secure it. Crank shaft and pinions on the bed engage racks on the body to move the latter.

Claim.—The plates on the bed frame, in combination with the rollers connected to the body or movable frame, or their equivalents, substantially as described.

Also, the stops at the rear end of the movable frame, provided with catches to lock it to the bottom frame, substantially as described.

Also, in combination with the plates and rollers above claimed, the crank shaft, pinion, and rack fastened to the movable frame.

66,077.—FREDERICK W. DEVOE, New York, N. Y.—*Can and Pail for Holding Paint.*—June 25, 1867.—The hooks are soldered to the upper part of the can and turned over, so as to penetrate the wooden cover and hold it securely.

Claim.—The hooked tongues C, arranged at the upper edge of the pail or can and in relation with the cover B thereof, substantially as herein set forth, for the purpose specified.

66,078.—DANIEL ELLENWOOD, JR., Garrettsville, Ohio.—*Machine for Shrinking Tires.*—June 25, 1867.—The tire is embraced between the shoulder and flange and then clamped at points on each side between the flanges on the ends of the levers and the toothed cams thereon. The levers are moved by the right and left-hand screws, bringing the side clamps toward each other and upsetting the tire.

Claim.—First, the frame A, yoke B, and flange F, in combination with the adjustable shoulder D, for the purpose and in the manner specified.

Second, levers I, cams K, as arranged and operated by the screw H, and adjustable nut J, in combination with the frame A, shoulder D, flange F, and yoke B, for the purpose and in the manner as set forth.

Third, sections *c* and *b*, in combination with the flange F and shoulder D, for the purpose herein set forth.

66,079.—SAMUEL C. GOODSSELL, New Haven, Conn.—*Hoisting Device.*—June 25, 1867.—The cord is wound on two barrels of different diameters and its bight sustains a pulley. The barrels are connected together so as to rotate with similar speed and in opposite directions. Either of two hoisting pulleys may be connected with the drums, the one working the same with greater speed and the other with greater power.

Claim.—First, a hoisting apparatus, in which the cylindrical or conical winding drums, whether of the same or of unequal diameters, are combined with the hoisting rope and pulley and gears under the arrangement herein set forth, so that the weight shall be raised or lowered by a differential motion.

Second, the combination of the conical or cylindrical winding drums and their gears, of the hoisting rope attached to said drums under the arrangement herein described, so that when the drums are not caused to rotate by their operative mechanism the weight suspended from the said rope shall cause the locking of the gears, as set forth.

Third, the combination, in an apparatus such as described, of the winding drums or cylinders and their gears with the mechanism for rotating the same, arranged and operating as herein shown and specified.

Fourth, the combination, in an apparatus as described, of the winding cylinders and mechanism for revolving the same with the truck wheel upon which the said apparatus is mounted, under such an arrangement that by the movement of the cylinders the said wheels may be rotated and the apparatus moved in either direction, as set forth.

Fifth, the combination with the truck wheels, winding cylinders, and mechanism for revolving the same, of the clutches for throwing said wheels in and out of gear with said cylinders and driving mechanism, substantially as shown and specified.

66,080.—CHARLES HARRIMAN, New York, N. Y.—*Vacuum Pan Sugar Boiling Apparatus.*—June 25, 1867.—Attached to the vapor chamber, which is between the pan and the air pump, is a pipe containing liquid, and of a length greater than the height to which a column of water extends by atmospheric pressure. Saccharine matters carried off in the vapor are caught in this pipe without affecting the vacuum.

Claim.—The combination with an apparatus substantially of the character specified, of a Torricellian pipe or tube E connecting the receiver C, with a vessel or vessels below, essentially as and for the purpose herein set forth.

66,081.—G. W. HARRIS and WM. H. HAIGHT, New York, N. Y., assignor to WM. H. HAIGHT, same place.—*Chuck.*—June 25, 1867.—The rotation of the ring projects the jaws, and closes them upon any small article.

Claim.—The operating ring *e*, constructed with the internal screw *g* and the nut B, formed with radial grooves *e'*, in combination with the conical shell A and sliding jaws C, substantially as and for the purpose herein described.

66,082.—JOHN E. HAWKINS, Lansingburg, N. Y.—*Cracker Machine.*—June 25, 1867.—The dough is formed into a series of lengthened cylinders from which thin disks are cut, which are pressed, pricked, and stamped at a single operation upon an endless apron, from which they are delivered on to pans of sheet metal.

Claim.—First, the conducting tubes divided into two parts T and T', in combination with the knife K, working between them substantially as described.

Second, the knife K, consisting of a thin plate of sheet metal, provided with holes for the dough to pass through, in combination with a spring to throw the knife and the lever *i* and cam *v'* to move back the knife, so that the dough can again pass through the holes, substantially as described.

Third, the outside tubes or thimbles working on

the lower sections T' of the conducting tubes, and operated substantially as described.

Fourth, the docker, consisting of the plates *o p r* and *s*, the prickers *v*, stamper *W* and spiral springs *S* and *u*, all combined, constructed, and operating substantially as described, to press, prick, and stamp a row of crackers at one operation, substantially as described.

Fifth, the mechanism moved by a crank on the main driving shaft, by means of which an intermittent motion is given to the grooved rollers, the endless apron and the docker, substantially as described.

Sixth, in combination with the docker the thin plate *R*, constructed, arranged, and operating substantially as and for the purpose described.

66,083.—F. C. HESSE, Cincinnati, Ohio.—*Hot Air Furnace.*—June 25, 1867.—The fireplace is chambered in its lower section. The inner shell is perforated at top for passage of air from an annular chamber. A series of warm-air tubes of upwardly increasing diameter extend from the annular air chamber surrounding the furnace to the air chamber in the crown of the stove.

Claim.—First, the annular supply chamber *I*, provided with the dampers *f f'*, when secured to the bed plate *A*, or its equivalent, having the perforations *e*, substantially as and for the purpose specified.

Second, the casing *F* having perforations *a'*, the incline perforated plate *b* attached thereto, and the diaphragm *K'*, all in combination with the base plate *A*, with perforations *a*, the inner wall *B'* of the dead-chamber and the top plate *C*, substantially as described.

Third, the base plate *A*, walls *B B'* and top plate *C*, in combination with the fire pot *G*, perforated fire back *H*, diaphragms *K K'*, warm-air tubes *L*, casing *F*, hot-air reservoir *N*, smoke pipes *O* and *Q*, smoke stack *P* and damper *P'*, constructed and arranged substantially as and for the purpose specified.

Fourth, the hot air reservoir *N*, smoke pipe *O*, smoke stack *P*, having an opening *P'* near its bottom, and the damper *P'* for closing the same, in combination with the smoke pipe *Q*, substantially as described.

66,084.—JACOB J. HESSLER, Reading, Pa.—*Curtain Fixture.*—June 25, 1867.—The blind cord engages the sliding knob, and is kept taut by the spring.

Claim.—The sliding knob *B* working through the slot *b* of the barrel *A*, and arranged in relation with the rod *c* and spiral spring *d* contained in the said barrel, substantially as and for the purpose specified.

66,085.—WM. H. HOLLAND, Chelsea, Mass.—*Rotary Steam Engine.*—June 25, 1867.—The common shaft of the two cylinders carries a fly wheel between them. This fly wheel has cam grooves on its sides by which the piston abutment is worked. The pistons are so coupled together that one portion shall carry the other over the dead centers. A slide valve worked by a hand lever enables reversion of the engine. The steam passes through the chambered piston journals and drum.

Claim.—First, the chambered drum *E* and journals *F F*, when constructed and operating substantially as described and for the purpose set forth.

Second, the groove or depression *x x* on the drum on each side of the piston, as and for the purpose described.

Third, the arrangement of the packing on the upper portion of the abutment *D*, as described.

Fourth, the arrangement of the packing piece *w*, placed at the bottom of the abutment groove for the purpose of packing the space between the end of the abutment and the drum *E*, and also between the drum and the cylinder over the packing rings as described.

Fifth, the arrangement of the spring *o*, with the abutment *D*, drum *E* and groove or depression *x*, as and for the purpose set forth.

Sixth, the exhaust passage *p*, one or more placed in the cylinder for the purpose of relieving the abutment of the pressure of the steam just previous to its being raised to allow the piston to pass.

Seventh, the arrangement of the fly wheel or pulley, provided with cams between cylinders, as shown.

66,086.—JOHN HOSFORD, Monroeville, Ohio.—*Harness Pad.*—June 25, 1867.—The upper and under plates of the tree are secured together by screws and nuts, and clamp the edges of the pad pieces, so as to obviate sewing. The leather strap lies between the flanges of the upper plate.

Claim.—The arrangement of the upper tree *C* and flanges *a*, in combination with the lower tree *A*, when combined with the usual adjuncts to form a harness pad.

66,087.—PLATT C. INGERSOLL, Greenpoint, N. Y., assignor to himself and H. F. DOUGHERTY, same place.—*Bale Band Tightener.*—June 25, 1867.—The bight of the rope is clamped between the interlocking links so as to be tightened by the handspike to which they are pivoted.

Claim.—The clamping links or grippers *B C*, in combination with each other and with the lever *A*, substantially as herein set forth for the purpose specified.

66,088.—PLATT C. INGERSOLL, Greenpoint, N. Y., assignor to himself and HORACE F. DOUGHERTY, same place.—*Seeding Machine.*—June 25, 1867.—The rotary hopper has circumferential openings guarded by adjustable slides. The discharge holes are brought consecutively to the opening in the case, which is closed by a lever slide to put the seeding apparatus out of operation. A share precedes the furrowing wheel; the seed dropper follows, and a drag bar in the rear covers the seed.

Claim.—First, the combination of the series of adjustable slides *c* with the series of holes or openings *b*, formed in the circumference of the rotating hopper *C*, substantially as and for the purpose herein set forth.

Second, the adjustable sliding gate *C**, arranged in relation with the rotating hopper *C*, substantially as and for the purpose specified.

Third, the lever *g*, combined in relation with the sliding gate *C**, and rotating hopper *C*, substantially as and for the purpose specified.

Fourth, the transverse spurs or projections *j*, arranged in relation with the angular circumferential rib *i*, of the furrowing wheel *F*, substantially as and for the purpose specified.

Fifth, the drag-bar *D*, arranged in rear of the seed-dropping mechanism, and furnished with covering shares, constructed as described, substantially as and for the purpose specified.

Sixth, the lever *H*, and lifting cords or chains *n r*, arranged in relation with each other and with the furrowing wheel and drag bar, substantially as and for the purpose specified.

66,089.—PLATT C. INGERSOLL, Greenpoint, N. Y., assignor to himself and HORACE F. DOUGHERTY, same place.—*Preparing Cotton Seed for Planting.*—June 25, 1867.—Explained by the claims and illustration.

Claim.—First, the process of preparing cotton seed for planting by subjecting the same to a rubbing action between a corrugated and a rubbing surface, substantially as herein set forth.

Second, the corrugated rubber, in combination with the bed having a roughened surface, substantially as and for the purpose specified.

66,090.—GEORGE JACOBS, Washington, D. C.—*Burglar Alarm Lock.*—June 25, 1867.—A spring arm rests upon the verge when the bolt is projected, and the retraction of the latter raises the arm from the verge and the alarm is sounded.

Claim.—First, the employment of arms *L N O*, for the purpose of holding and letting off the alarm arrangement, substantially in the manner set forth.

Second, in combination with the above, the sliding pivot *C*, and spring *e*, substantially as and for the purpose described.

Third, the circular plate *D*, provided with deceptive holes, in combination with arms *L N O*, operating substantially as specified.

Fourth, the arrangement of bolt *A*, arms *L N O*, spring *M*, sliding pivot *C*, and plate *D*, substantially for the purpose described.

66,091.—BARTON H. JENKS, Bridesburg, Pa.—*Spindle Bearing.*—June 25, 1867.—The bolster is

spherical with upper and lower tubular projections, and its upper half is enclosed by a cap attached to the rail into which the lower part is sunk. The bolster has a limited motion in its bearings.

Claim.—The combination of the bolster cap and rail, arranged as shown and described, and constructed and operating as set forth.

66,092.—CHARLES KAISER, New York, N. Y.—*Rotary Steam Engine.*—June 25, 1867.—The semi-annular piston is pivoted to the piston wheel, allowing the packing of its rear end to the cylinder by the steam pressure, and is carried around between the inner face of the cylinder and segmental guide blocks, which are attached to one cylinder head. The revolving piston reciprocates the slide valve, which is guided between the two blocks in a diametric course. The exhaust takes place into an annular space between the two shells of the cylinder. The slide valve has a slot for the traverse of the piston shaft.

Claim.—First, the segmental piston B, moving in the cylinder A, in combination with the transversely sliding valve C, constructed and operating substantially as and for the purpose described.

Second, connecting the piston B to the piston wheel F, in such a manner that it is free to rock, substantially as and for the purpose set forth.

Third, the slide valve C, and segmental piston B, in combination with the jacket J on the cylinder, constructed and operating substantially as and for the purpose set forth.

Fourth, the cut-off K, in combination with the slide valve C, segmental revolving piston B, and cylinder A, constructed and operating substantially as and for the purpose described.

66,093.—FREDERICK LEACH, Tioga, N. Y.—*Machine for Pressing Peat.*—June 25, 1867.—The peat is placed in the receiving box, to the end of which the mold box is advanced. The moving plunger compresses the peat into the mold, and upon the retraction of the latter the fixed plunger ejects the block.

Claim.—First, the combination of the receiving box A with the mold box B, stationary plunger D, and pressing plunger C, when said mold box is operated by any suitable means, as described, and the plunger C, actuated by fluid under pressure, essentially as set forth.

Second, the combination of the rams K E, cylinders F L, pressing plunger C, mold box B, with its stationary plunger D, and receiving box, substantially as shown and described.

Third, the combination with the ram K of the cylinder and its pressing plunger, of valves controlling the supply of the operating fluid thereto from different sources or under different pressures, essentially as specified.

Fourth, the automatic operation of the mold box and pressing plungers under different heads or pressures by separate and distinct valves, geared together for operation by the mold box and pressing plunger, substantially as herein set forth.

Fifth, the valve R, constructed for operation and adjustment, essentially as shown and described.

66,094.—CHAPMAN LEE and JOSEPH PAUDLER, Washington, D. C.—*Curtain Fixture.*—June 25, 1867.—The cord wheel has a spur gear engaged by a gear wheel, which is rotated by a winch.

Claim.—First, the combination of a gear wheel and pinion with the cord wheel, for operating a window curtain roller, substantially in the manner set forth.

Second, the combination of the spring D, locking bolt C, and slide E for tightening the cord in connection with the notched plate A and cord wheel B, substantially as described.

66,095.—WILLIAM B. LODGE, Danbury, Conn.—*Fulling Stock.*—June 25, 1867.—The working edge of the beater has a cushion of rubber and works against an apron of rollers. The force of its fall is modified and its return assisted by a cord and spring. As it falls it impinges against a cam, which slightly raises it, giving it a rolling action as it strikes the material under treatment.

Claim.—First, the combination with the hammers or beaters B of the cam or friction blocks C, operat-

ing to effect the lift of the former and to suddenly release them when raised, substantially as specified.

Second, the combination, with the hammer or hammers of the mill, of an adjustable spring tension device, arranged to control their fall, essentially as herein set forth.

Third, the combination toes G, made of india-rubber or other analogous soft material, with the hammers B, substantially as specified.

Fourth, the combination with the heater B of the hot water box or bath J and the bosom H I operating on the material being fulled, substantially as specified.

66,096.—WM. B. LODGE and H. PLATNER, Danbury, Conn.—*Machine for Sizing or Planking Hat Bodies.*—June 25, 1867.—Improvement on their patent, Dec. 14, 1866. The intermediate belt of lags is the working apron; the upper and under aprons may have a different velocity or merely act as beds. A shell at the exit of the upper apron aids in discharging the work. In the arrangement for returning the work to continue the operation, a roller and board keep the felt clear of the lower apron till it is caught by the apron above. Steam is introduced between the aprons, the upper and under ones of which are counterweighted and vertically adjustable.

Claim.—First, the combination with the upper and middle aprons E F, arranged to travel as described, of the shell Q at the exit end of the upper apron, essentially as and for the purpose specified.

Second, the combination, with the aprons E and F of a guideboard R and roller S at the feed end to said aprons, travelling as described, substantially as herein set forth.

Third, in combination of endless lag aprons, appertaining with their contiguous surfaces in opposite directions, as and for the purposes specified, the arrangement of a steam pipe or coil for the introduction of steam between said aprons, essentially as specified.

Fourth, the combination with the vertically adjustable aprons F and F' of counterbalance weights, or their equivalent, to facilitate the adjustment of the same relatively to a center or fixed apron, substantially as described.

66,097.—WM. B. LODGE, Danbury, Conn., and H. PLATNER, Hudson, N. Y., assignors to themselves and F. SHALLER, Hudson, N. Y.—*Machine for Sizing Hat Bodies.*—June 25, 1867; antedated June 15, 1867.—Explained by the claims and illustration.

Claim.—First, in hat planking machines, the arrangement of three or more endless belts or aprons of lags, made to travel with their contiguous faces or surfaces in opposite directions, all at different velocities, relatively to each contiguous one, substantially as specified.

Second, the combination with an endless belt or apron E of lags having a fixed or positive motion of two or more endless lag belts or aprons F and F', arranged as specified, and so geared to operate in connection with the belt E as that they, F and F', can, during the progress of the work, be made at pleasure to travel with their surfaces adjacent to E in a reverse direction, at a reduced velocity relatively thereto, or be left free to act independently of it, substantially as described.

Third, the combination of the lag belts E and F or F', drums B and B' or B₂, at the one end of the machine, wheel P, levers U or U', and wheels Q and S or R and T for operation, essentially as and for the purposes herein specified.

Fourth, constructing the sideboards D¹ with their rails c¹ in sections, and holding or uniting them by springs or weights or screw bolts, to give the lag apron F or F¹ a vertically flexible character, substantially as herein set forth.

Fifth, the combination with a stationary arranged endless lag belt or apron E of one or more lag aprons F or F¹, arranged to travel at a reduced velocity and relatively to the belt E, as specified, and made vertically adjustable in relation thereto by means of lifting cams G G¹, or other suitable devices, essentially as specified.

Sixth, the combination with an endless lag belt or apron E, having inflexible rails or guides c, of an endless lag belt F or F¹, with its rails or guides c¹ made in sections and flexible, said aprons E and F or F¹

being arranged and operating relatively to each other, substantially as described.

66,098.—DAVID MCFARLAND, Worcester, Mass.—*Machine for Setting Card Teeth.*—June 25, 1867.—Cannot be briefly described other than substantially in the words of the claims.

Claim.—First, the combination with the clamp which feeds the wire of the following mechanism, viz., the lever D, whether adjustable or not, arranged to operate between the clamp and the operating cam so as to give to the clamp its lateral motion, and a separate and independent clamping lever or device for actuating the clamp to hold and feed the wire, substantially as set forth.

Second, the combination of the feed lever D, spring clamping lever E, and wire holding lever F with the clamp *a*, substantially as set forth.

Third, the combination with lever D of the fulcrum pin or stud *b*, collar *m*, and adjusting screw *p*, or equivalent means for making the collar adjustable, substantially as and for the purposes set forth.

Fourth, in a machine such as described, the construction and arrangement of the lever for producing the feed, substantially as described.

Fifth, the combination of the doubler plate K and crowner bar R with the doubler P and doubler bar O, made adjustable, as and for the purposes set forth.

Sixth, the combination with the wing plate T, crowner bar R, and cam block 17, of the compound or three-functioned cam V, all constructed and operating in relation to one another and to the doubler plate K, substantially as and for the purposes set forth.

Seventh, the combination with the clamp *a* of the bow or plate spring *g* and spiral spring *h*, arranged for joint operation, substantially as and for the purposes set forth.

Eighth, the combination with the perforating bar of the mechanism for operating the same, arranged as herein described, so that the said bar may be elevated before its forward motion is imparted, for the purposes stated.

Ninth, the combination with the upright dogs 42 and 43 and double inclined and grooved cam 44 of the holding box 46, substantially as and for the purposes set forth.

Tenth, the combination of the ratchet wheel 41 of the retaining dog 45, feeding dogs 42 and 43, double inclined and grooved cam 44, and holding box 46, arranged for joint operation, substantially as and for the purposes set forth.

Eleventh, the combination with the stop lever D' of the stop guard F', substantially as and for the purposes set forth.

66,099.—A. MCKENNEY, Portland, Me., and S. CARPENTER, Patten, Me.—*Boot Lacing Device.*—June 25, 1867.—The lids have fixed studs at one end for attachment to the shoe and rings at the other for the passage of the string. The stud passes through the vamp and the link lies between the leather and lining, the rings only projecting beyond the edge.

Claim.—A shoe lacing device constructed to operate substantially as set forth.

66,100.—JOHN MCMURTRY, Lexington, Ky.—*Spike.*—June 25, 1867.—The beveled end of the spike causes the shank to curve by insertion. The catch shoulder imbeds itself in the wood and prevents retraction.

Claim.—The within described spike, consisting simply of a single shank provided with a beveled or sloping end and shoulder, said shoulder and beveled end being upon the same side, as and for the purpose set forth and described.

66,101.—LOTTO P. MEYER, Bethlehem, Pa.—*Manufacture of Safety Matches.*—June 25, 1867.—Chlorate of potash, 56; gelatine, 20; powdered quartz, 24 parts, with water sufficient as a dip composition for the waxed splints. The friction surface is composed of red prussiate of potash and gelatine.

Claim.—First, the application of certain ingredients, substantially such as herein specified, for the preparation of a compound for safety matches, and for the purpose specified therein.

Second, the application of certain ingredients, substantially such as herein specified, for the prepara-

tion of special surfaces for the ignition of safety matches, and for the purpose specified within.

66,102.—ARTHUR G. MORVAN, South Bergen, N. J.—*Making Photographic Transfers.*—June 25, 1867.

—The photographic paper is dipped in sour milk and then dried. French gelatine $\frac{1}{2}$ pound is dissolved in a pint of boiling water and a solution of permanganate of potash, $\frac{1}{4}$ oz.; water, 1 quart, is added thereto. This composition is applied when cool to the face of the paper, which, after drying in a dark room, is ready to receive the photographic impression from the negative. The permanganate of potash is to prevent the coagulation of the gelatine before exposure to the light. After taking the impression, and before developing the same, the impressed side is coated with a composition of Judea bitumen, white wax, Burgundy pitch, in equal parts, dissolved in essence of lavender, then allowed to dry in the dark. For developing the picture the proof is washed in a bath of cold water, which dissolves the permanganate in those parts which have not been acted on by the light; the water carries with it the outer coating. The picture is then transferred to stone, metal, or wood.

Claim.—First, the combined process hereinbefore described for making photographic transfers by means of the several methods, preparations, applications, and compositions above described, or their equivalents.

Second, the preparation of the paper by a bath of whey or lactine as above described, when used in combination with the other elements of the process above described, or their equivalents.

Third, the preparation and application of the coating of gelatine, or its equivalent, and permanganate of potassa, for the purposes above described, whether the same is used in combination with the other elements of my entire process, or is used separately therefrom as a material to be acted on by the light, and subsequently to be dissolved and removed where it has not been so acted upon.

Fourth, the use of a paper so prepared and coated as above described in the formation of the impression thereon by the action of the light according to the usual modes.

Fifth, the preparation and the application of the second coating above described, composed of Judea bitumen, white wax, and Burgundy pitch, or their equivalents, without grease or oil, for the purposes above described, whether the same is used in combination with the other elements of my entire process, or is used separately therefrom as a material to give color to the picture on the paper, and to act as a medium for transferring it.

Sixth, the removal of both the coatings above described from the parts or spaces not acted on by the light by placing the paper so prepared and coated with the materials above described, or their equivalents, in a bath of cold water in the manner above described, and cleaning it in the manner above described, or by any equivalent method of solution and removal.

Seventh, the impressing of a photographic picture or design or printed or written matter upon stone, wood, or metal from a paper proof, made and prepared as above described, for the purpose of engraving, lithographing, etching, or preparing plates for printing such picture, design, or printed or written matter.

66,103.—A. M. OLDS, New York, N. Y.—*Spring Hinge.*—June 25, 1867; antedated June 15, 1867.—The pintle is formed on one plate by cutting slots to receive the curved parts of the other plate. This latter has two slits, leaving between them a spring plate to rest against flattened portions of the pintle and hold the hinge open or shut.

Claim.—The hinge constructed substantially as described.

66,104.—HENRY T. POTTER, Norwichtown, Conn.—*Ring Traveller for Spinning.*—June 25, 1867.—The transverse bar rotates freely within the ring and in contact with the spindle or the yarn, so as to direct the latter to the spindle at a uniform angle and tension. The end bearings of the bar are retained by an annular plate above.

Claim.—First, the transverse bar *e*, in combination

with the ring and spindle, substantially as and for the purpose specified.

Second, the annular plate *b*, arranged in relation with the transverse bar *c*, the ring and the spindle, substantially as and for the purpose specified.

66,105.—CARL H. RAMSTEN, Carlskrona, Sweden.—*Boat-Detaching Tackle.*—June 25, 1867.—The hooks of the davit fall-blocks have locking levers which rest against the sides of the blocks, and are held by levers which are simultaneously disengaged by casting off a rope to which they are both connected.

Claim.—A tackle block *D*, provided with a locking lever *E*, to a hinged or pivoted detaching hook *S* and fair leaders *I*, all arranged substantially as described and for operation in connection with or by a rope or chain *H*, substantially as specified.

66,106.—NATHAN L. REVERE, Worcester, Mass.—*Stirrup.*—June 25, 1867.—A spiral spring and case are attached respectively to the stirrup and the stirrup leather, to give an elastic bearing for the foot.

Claim.—The combination of the stirrup *E* and strap *A* of the case *B*, (having ears *c c* and a pin *b*), spiral spring *e*, piston rod *C*, and head *D*, said parts being constructed and arranged to operate in relation to each other substantially as and for the purposes set forth.

66,107.—J. STRAYER and T. HAZELHURST, South Bend, Ind.—*Bolt Cutter.*—June 25, 1867.—The cutter dies slide in radial grooves in the chuck, and are adjusted by bolts, which traverse radial slots in a rear plate and enter holes in the dies. The adjusting bolts have nuts by which they are secured.

Claim.—First, the bolts *E*, in combination with the cutters *C* and springs *G*, arranged and operated substantially as above described.

Second, the combination of the springs *G*, cutters *C*, chuck *B*, and bolts *E*, substantially in the manner and for the purposes set forth.

66,108.—RICHARD TATTERSHALL and JOHN A. BURCHARD, Beloit, Wis.—*Gate.*—June 25, 1867.—A wheel of the carriage is driven against a crank on the horizontal shaft which crosses the track. The shaft is connected by rods and cranks with a tipping segment on which the gate is supported so as to incline it to open or close by gravity, its roller running on the curve and its heel post being connected by hinges to the gate post.

Claim.—First, broadly, the oscillating circular plane *E*, for the purpose set forth.

Second, a gate constructed substantially as described, in combination with the double sliding hinge *C C B*, the oscillating circular plane *E*, lever *I*, the crank levers *L L*, rods *K K*, bell-crank levers *S S*, the pulley *H*, standard *A*, and self-fastening latch *W*, arranged and operating as and for the purpose specified.

66,109.—JAMES WALLACE, Sheridan, Pa.—*Plow.*—June 25, 1867.—The rod slips in staples beneath the beam when the handle is oscillated, and its end pushes away trash which has collected in the angle between the beam and the standard.

Claim.—The jointed rod *D D'*, used in combination with the beam and the handle *H*, as and for the purpose specified.

66,110.—H. F. WHEELER, Boston, Mass.—*Magazine Fire-arm.*—June 25, 1867.—The flanges of the metallic cartridges slide in vertical grooves in the chamber of the handle as they are raised by the rack to be presented to the bore. The barrel, enclosed in a case, is driven rearward by a spiral spring and forward by the trigger when the latter is in its contracted state, a slot in the trigger engaging a pin in the trigger lever. The trigger, when contracted, also raises the ratchet bar feeding the cartridges. When drawn to its extended state the trigger ceases to act upon the barrel and cartridge feeder and acts to free the hammer.

Claim.—First, a magazine pistol in which the cartridges are arranged in a vertical or approximately vertical chamber forming the handle, substantially as shown and described.

Second, effecting the movement of the cartridges to bring each into position to be fired by the vertical

ratchet bar *x*, carrying the cartridges transversely to itself, substantially as set forth.

Third, the flange groove or grooves and friction surface or surfaces for guiding and supporting the cartridges, substantially as described.

Fourth, the construction and arrangement of the expanding and contracting trigger lever, by which, as the resistance to the forward movement of the barrel increases, the length of the acting arm of the lever decreases, substantially as shown and described.

66,111.—T. R. WHITE and W. G. BEDFORD, Philadelphia, Pa.—*Driving Belt.*—June 25, 1867; antedated June 15, 1867.—Explained by the claim.

Claim.—A driving belt, composed of wires corrugated or bent as described and threads of cotton or other fibrous material interwoven as set forth.

66,112.—F. W. and E. T. ALBERTINE, Hanover, Conn.—*Guide for Carding Machines.*—June 25, 1867.

—By means of the divisional guide and roller the slivers are spread over the whole surface of the cylinder, preventing the tumbler, cylinder, and "fancy" from being worn in creases.

Claim.—First, the guide plate *A*, perforated and slotted substantially in the manner herein shown and described and for the purposes set forth.

Second, the combination of the roller *E* with the guide plate *A*, substantially as herein shown and for the purpose set forth.

66,113.—DAVID D. BAKER, West Alexandria, Ohio.—*Gate.*—June 25, 1867.—The gate is raised upon its post by a compound leverage. The lower lever is of the first class, and is pivoted to the gate; it abuts upon the lever of the second class, which is pivoted to the post and gate and raises the latter. The raised position is maintained by a pin in the perforated bar.

Claim.—The combination and arrangement of the levers *c d*, post *e f*, clamp hinges *x z*, and slot bar *i*, when constructed, arranged, and operating conjointly in the manner described for the purpose specified.

66,114.—FREDERICK BALLARD, Waverly, Md.—*Thill Coupling.*—June 25, 1867.—The rubber is contained in a box, which is raised by a set screw, whose point enters the rubber. The eye of the thill iron has a bushing of soft metal on the square bolt, which is held from rotation in the ears of the clip.

Claim.—First, the combination of the spring *G*, box *F*, and pressure bolt *E*, constructed and operating in the manner and for the purpose specified.

Second, the soft metal bushing *K*, provided with a square opening *k*, and used in combination with the bolt *D* and tubular eye *I'* of the thill iron, substantially as described.

66,115.—ALBRO BARBER, Port Byron, Ill.—*Picture Holder.*—June 25, 1867.—The photographs are brought in succession to the glass without being exposed. The picture in front is dropped into the lower section, exposing the one behind it, and the back one of the lower is placed in rear of the upper tier. The motion of the upper cross-piece actuates the frames by means of catches, and springs drive the frames into their proper places in the tiers.

Claim.—A holder for photographic or other pictures, in which a series of frames for the pictures is so arranged that by moving or drawing one end of the box out or in, such frames in regular order and succession will be brought in position for being viewed, substantially as described.

66,116.—JAMES T. BARNES, Hudson City, N. J.—*Caster.*—June 25, 1867.—The socket is secured by spurs in the leg of a piece of furniture. The spindle is pivoted in an arm projecting from the axle, which is supported by two wheels.

Claim.—First, the axle *A*, supporting two wheels *B*, and having secured at its center and at right angles thereto the arm *C*, supporting the shaft *D*, constructed as described for the purpose specified.

Second, the securing of the socket or sheath *E*, in the leg or bottom of the article to which the caster is applied, by means of the spurs *d d*, projecting laterally from the cylindrical part *a*, and fitted in the hole *c*, which receives said part *a*, substantially as shown and described.

66,117.—E. BECKER, Cincinnati, Ohio.—*Roofing*.—June 25, 1867.—The upper edge of a lower section is bent upward, and the lower edge of the upper sheet is doubled over above and upon it.

Claim.—The curved edge and doubled-over edge of the two overlapping edges of the metallic plates A, substantially as and for the purposes described.

66,118.—GEORGE BELL, Martinsburg, W. Va., assignor to himself and JONATHAN STRINE, same place.—*Blacksmith's Striker*.—June 25, 1867.—The axis of the hammer is pivoted to the summit of an upright gate which slides in guides, and is adjustable in its supporting standard by means of rack and pinion. The hammer is depressed by a treadle and chain, whose length is proportioned to the height of the gate. The hammer rebounds against a spring, and is raised by another spring after striking the blow.

Claim.—The combination of the spring R, adjusting device V, frame V, hammer and lugs C J, chain K, and treadle L, all constructed and arranged as described.

66,119.—JOSEPH BESSO, Philadelphia, Pa.—*Extracting Grease and Oils from Animal and Vegetable Substances*.—June 26, 1867.—The suint of wool, and the grease and oil of bones, seeds, &c., are extracted. The wool, for instance, is placed in the retorts and exposed to a stream of bisulphuret of carbon, which carries off the fatty matters to the alembic. Steam, following the same course, vaporizes the bisulphuret of carbon, which is condensed and returned to the reservoir, leaving the adipose matters to be utilized.

Claim.—First, the improved apparatus consisting of the reservoir A, the force pump B, the retorts C C', the alembic D, the condensing vessels E E', the receiving vessels F F' P', the gasometer G, and the steam pipe h, combined, arranged, and operating substantially as and for the purpose herein described.

Second, the force pump B, in combination with the reservoir A, and the retorts C C', arranged and operating as and for the purpose herein set forth.

Third, the gasometer G, in combination with the pipe g, and the retorts C C', arranged as and for the purposes specified.

66,120.—THOMAS BIGELOW, Elkhart, Ind.—*Tinners' Rule*.—June 25, 1867.—The scale is made in three sections, connected by hinges. They are graduated for circumferences and diameters for vessels of given capacities, and for cylinders and cans with or without flaring sides. The applications cannot be briefly recapitulated.

Claim.—The arrangement and construction of a rule comprising a system of scales, in the manner as herein set forth for the purpose specified.

66,121.—CHARLES H. BLANCHARD, Boston, Mass.—*Machine for Making Starch, Paste, Size, &c.*—June 25, 1867.—Within each cylindrical vessel is a revolving shaft armed with stirrers and a brush, revolving above a perforated diaphragm. The bottom of each tank is made convex, and connects with a pipe and a spout through which the paste is delivered to the cooking vessel.

Claim.—First, the combination of the perforated diaphragms O O of the mixing tanks with the revolving brushes K K K, substantially as described and for the purpose set forth.

Second, the device, or its mechanical equivalents, for giving the shafts I I of the stirrers their reciprocating motion, substantially as described and for the purpose set forth.

Third, the combination and arrangement of the hollow steam-heated cooking rolls S S, substantially as described and for the purpose set forth.

Fourth, the combination and arrangement of the cooking tank R, the rolls S S, and the scrapers T T, substantially as described and for the purpose set forth.

Fifth, the general construction, combination, and arrangement of the several parts of the machine, substantially as described and for the purpose set forth.

66,122.—FRANK BLECKA, Elgin, Ill.—*Churn*.—June 25, 1867.—On the trunnion of the churn is attached a gear wheel, attached to the frame. As the

churn rotates, the pinions on the beater shafts receive a planetary motion around the spur wheel.

Claim.—Agitators C C', pinions L L'', and wheel T, when used in combination with a rotating case, substantially as and for the purpose set forth.

66,123.—HENRY BOURN, Mendon, Mich.—*Combined Seeder and Fertilizer*.—June 25, 1867.—Explained by the claims and illustration.

Claim.—First, in combination with the driving bevel gear wheel M, the shaft J, provided with the bevel pinion L and crank wheels I and S, for the purpose of operating the agitating mechanism in both hoppers from the same shaft, substantially as set forth.

Second, the slide F, provided with the brushes K K, and moving the same across the escape orifice in the bottom of the hopper, and for the purpose set forth.

Third, the triangular slide P, placed in the open bottom of the hopper and nearly filling the area of the same and provided with the spikes Q, as and for the purposes set forth.

Fourth, hanging one side of the hopper upon lings or other joints so that the area of the hopper bottom may be increased or diminished in the manner and for the purposes set forth.

Fifth, the seat T, adjustable forwards and backwards, as set forth, in combination with the main frame A and hoppers D O, so that the weight of the driver may be caused to balance the machine, as set forth.

66,124.—ELIAS BROCK, Ellenville, N. Y.—*Machine for Unhairing Hides*.—June 25, 1867.—A pair of rollers draw the hide over the knife cylinder, which rotates in an opposite direction, an apron holding the hide down upon the cylinder.

Claim.—First, the combination of the pair of feed rollers D E with the knife cylinder B of an unhairing machine, substantially as herein shown and described and for the purpose set forth.

Second, arranging the guide roller F, knife cylinder B, and feed rollers D E with each other and with the frame A of the machine, substantially in the manner herein shown and described, so that the hides or leather shall be drawn over the knife cylinder B in a direction opposite to that in which the surface of the said knife cylinder is moving.

Third, the combination of the roller I with the frame G, to which the apron H is attached, substantially as herein shown and described and for the purpose set forth.

Fourth, arranging the gearing K L M N O P R, substantially in the manner herein shown and described, for the purpose of communicating motion from the knife cylinder B to the feed rollers D E.

66,125.—F. J. BURCHAM, Racine, Wis.—*Machine for Softening or Dressing Leather or Skins*.—June 25, 1867.—The leather is attached by spring hooks, or equivalent, to the frame and is stretched alternately in different directions. The crank is revolved and the side frames are moved out and in by the pitmans, levers and connecting rods actuated from the central shaft and four-throw crank.

Claim.—First, the combination of the quadruple crank C, pitman D, levers E, and connecting rods G with each other and with the stretching frame to which the skin is attached, substantially as herein shown and described and for the purpose set forth.

Second, the stretching frame H, constructed and operated substantially as herein shown and described and for the purpose set forth.

Third, the stretching frame N, constructed and operated substantially as herein shown and described and for the purpose set forth.

Fourth, the clamp I, constructed and arranged substantially as herein shown and described and for the purpose set forth.

Fifth, the clamp K, constructed and arranged substantially as herein shown and described, when used for the purpose of attaching skins to a stretching frame.

Sixth, the clamp L, constructed substantially as herein shown and described, when used for the purpose of attaching skins to a stretching frame.

Seventh, the double spring-hook M, constructed substantially as herein shown and described and for the purpose set forth.

66,126.—WILLIAM J. BURGE, Atchison, Kansas.—*Knife Cleaner.*—June 25, 1867.—The handle is shod with felt and the cavity contains scouring powder.

Claim.—In a knife cleaner, the combination of the handle A, having a cavity D closed by a stopper C, and the rubbing surface or layer B, arranged, constructed, and operating in the manner as shown and described and for the purpose set forth.

66,127.—FREDERICK CATLIN, Watertown, Conn.—*Funnel.*—June 25, 1867.—The cup has a removable strainer at its upper end and an additional one above its valve chamber. A disk on the stand rests on the jug mouth, the nozzle running loosely therethrough to allow escape of air from the vessel.

Claim.—The construction and arrangement of the funnel A, having detachable throat B, strainers E F, valve C, and stand D, substantially as described, for the purpose specified.

66,128.—GEORGE W. CHAMBERS and ISHAM WASHAM, Talladega, Ala.—*Cotton Cultivator.*—June 25, 1867.—The forward journal bearing of the rotary choppers is in a transversely-sliding bar which, by a lever, disconnects the bevel pinion from its driving wheel.

Claim.—The arrangement of the lever *d* and the sliding cross-piece G to engage and disengage the bevel gear *b b*, in the manner and for the purpose herein specified.

66,129.—PETER CHANDLER, Olney, Ill.—*Portable Fence.*—June 25, 1867.—The rectangular corners are connected by notches in the projecting rails of one panel, engaging grooves of the other. The ends of the panels in the straight part of the fence lap past each other on the foundation bar, and are supported by brace pieces from the same, held by traversing pins at top.

Claim.—First, the pin *b* in combination with the braces B and battens C, substantially as and for the purpose described.

Second, in combination with the elements of the above arrangement of the battens D E, the former being provided with the notches *d d'* and retaining pin *d'*, and the latter with slotted projections *e e'*, as and for the purpose set forth.

66,130.—JAMES B. CLARK, Plantsville, Conn.—*Manufacture of Blanks for Carriage Thill Shackles.*—June 25, 1867.—The blank is stamped into form between the dies at a single operation.

Claim.—First, the carriage shaft shackle blank so formed between dies that the body *b* of the blank is curved, substantially as herein shown and described.

Second, the dies A and B for making the said blank when so constructed and arranged as to form the rounded corners and the curved body of the said blank, substantially as herein shown and described.

66,131.—ICHABOD W. DAWSON, Newark, N. J.—*Frame for Stretching Wet Leather.*—June 25, 1867.—The frame is extensible laterally, and while being extended with the hide tacked to it the resting bar around which the middle of the hide is folded is moved longitudinally forward.

Claim.—The combination and arrangement of the longitudinal bars A and B, cross bars C and D, inclined pivoted bar E, and inclined stationary bar *b*² with each other, substantially as herein shown and described and for the purpose set forth.

66,132.—JOHN DENHARD, Reading, Pa.—*Transferring Cars from one Track to Another.*—June 25, 1867.—The off wheels of the car on the side track climb upon the stationary inclined plane to surmount the off rail, and all the wheels descend the movable inclines as they assume their places on the main track. The converse action takes place when going in the other direction.

Claim.—The rails A A' of the main track and the rails B B' of a turn out or siding in combination with the stationary inclined bar *e* and the movable bars D D', the whole being constructed substantially in the manner and for the purpose described.

66,133.—R. W. DOWNMAN, Georgetown, D. C.—*Drain Plow.*—June 25, 1867.—The double mold board is followed by a double conical pressure roller.

Claim.—The attachment of the double cone roller B, as herein described, to the ordinary drain plow, in the manner and for the purposes above stated.

66,134.—JOHN EARNSHAW, East Greenwich, R. I.—*Kaleidoscope.*—June 25, 1867.—One end is adapted for transparent objects as in the ordinary instrument, and the other for opaque objects, for the purpose of reproducing designs in a multiplicity of forms for patterns. The object marks in proximity to the object glass are used in designing. The case has receptacles for pictures, which also add to the exterior finish.

Claim.—First, constructing a kaleidoscope that both its ends may be used, as described.

Second, the object glass provided with lines G, substantially as described and for the purpose set forth.

Third, covering the object glass, Fig. 1, with figured paper or fabric, as and for the purpose described.

Fourth, the object glass, Fig. 2, provided with hole D in its covering, to adapt it for use as the eye-glass, substantially as described.

Fifth, the windows E, arranged substantially as and for the purpose set forth.

Sixth, the detached framework carrying the object glass, Fig. 1, as and for the purpose described.

Seventh, as an article of manufacture the design paper adapted for use in conjunction with a kaleidoscope, as herein described and for the purpose set forth.

Eighth, in combination with a kaleidoscope the pictures or designs and slotted receptacles therefor, substantially as described and for the purpose set forth.

66,135.—JONATHAN EMERY, Cedar Falls, Iowa.—*Harvester.*—June 25, 1867.—The cut grain falls upon a laterally traversing carrier, is raised in an inclined direction between the latter and an upper carrier and deposited in a receiver, from whence it is taken by binders who sit in a revolving stand taking the gavels successively and depositing the sheaves upon the ground. The sickle is reciprocated from the main driving wheel by means of a rocking crank shaft and pitman rods, which secure a position to the pitman nearly in a plane with the sickle.

Claim.—First, the flexible swinging curtain H, arranged in the relation to the binders' station and to the endless conveyor G, and endless compressing apron F, substantially as and for the purpose set forth.

Second, the rotating platform K for supporting one or more binders in combination with a receptacle E, into which the cut grain is delivered, substantially as described.

Third, the combination of the rotating binders' station and the endless conveyor G and endless compressing apron F, substantially in the manner and for the purpose described.

Fourth, the arrangement of the gears, chains, and cranks for operating the aprons F G and the sickle Q, directly from the main supporting axle and wheel B B², substantially as shown and described.

Fifth, the arrangement of the pivots of the arms P P on each side of the driving wheel B' and below the axle, in combination with the latch lever *p*, rock shaft *r*, arms *r' v*, and link *u*, arranged and operating as described and shown.

Sixth, a rotating binders' station in combination with a harvester.

66,136.—BENJAMIN F. FARRAR, Springfield, Mass., assignor to himself and D. B. WESSON, same place.—*Safety Railroad Switch.*—June 25, 1867.—The engine approaching on either of the converging tracks acts on the inner one of the two parallel hinged sections to shift the switch into proper connection.

Claim.—A railroad switch so constructed and arranged that if left in a wrong position, the wheels of a passing train will return the rails temporarily to their proper position and the train continue upon the main track, substantially as herein set forth.

66,137.—THOMAS M. and AMBROSE G. FELL, Brooklyn, N. Y., assignors to themselves and WILLIAM BELL, New York, N. Y.—*Manufacture of White Lead.*—June 25, 1867.—Chloride of lead (such as is described in their patent of April 11, 1867) is reduced with soda and water into a thin mass by

stirring. Carbonic acid gas is forced in, forming a bicarbonate of soda, which reacts on the chloride to form carbonate of lead. The chloride of sodium is washed away.

Claim.—The treatment of chloride of lead in the manner and for the purpose substantially as herein described.

66,138.—THOMAS M. and AMBROSE G. FELL, Brooklyn, N. Y., assignors to WILLIAM BELL, New York, N. Y.—*Manufacture of White Lead.*—June 25, 1867.—152 parts sulphate of lead and 100 parts carbonate of baryta are stirred with water to a paste which is heated to 160° Fah., producing sulphate of baryta and liberating carbonic acid, which unites with the lead to form a carbonate.

Claim.—The treatment of salts of lead other than carbonates, and the carbonate of baryta, in the manner and for the purpose substantially as described.

66,139.—THOMAS M. and AMBROSE G. FELL, Brooklyn, N. Y., assignors to themselves and WILLIAM BELL, New York, N. Y.—*Manufacture of White Lead.*—June 25, 1867; antedated April 11, 1867.—Oxide of lead is converted into the chloride by heating or boiling with chloride of sodium, and the resulting chloride of lead is formed into a chloro-sulphate by treating it with sulphuric acid, forming a white product, suitable for use as a pigment.

Claim.—The treatment of chloride of lead in the manner and for the purpose substantially as herein described.

66,140.—THOMAS M. and AMBROSE G. FELL, Brooklyn, N. Y., assignors to themselves and WILLIAM BELL, New York, N. Y.—*Treating Lead Salts for the Manufacture of White Lead.*—June 25, 1867; antedated April 11, 1867.—A hot saturated solution of chloride of sodium or its equivalent is mixed with oxide of lead reduced to the consistency of paste by means of water and heated to the boiling point. The chloride of lead thus formed is washed and is ready for use as a pigment.

Claim.—The treatment of oxide of lead with the chloride of sodium or its equivalent, substantially as described for the purpose of producing a superior chloride or any oxy-chloride of lead.

66,141.—LUTHER W. FELT, Keene, N. H.—*Machine for Cutting Corks.*—June 25, 1867.—The blank is placed on top of the rising post and brought against the cutters, and the lever connected to the post is raised simultaneously, which raises the reciprocating collar and draws in the cutters, whose arms pass through slots in the said collar. When the cork is severed the central rod issues from the post and drives the cork up into the tubular cutter shaft.

Claim.—First, the cutter bars F F, having the stops F' F', in combination with the fixed collar l, the reciprocating collar s', the slots t t, ring s, and clamp g, attached to the rod P, and the beveled projections x x, all constructed and operating substantially as herein described and for the purpose set forth.

Second, the reciprocating rod g, in combination with the levers e and d, for discharging the cork when cut from the cutters, substantially as herein described and set forth.

66,142.—J. B. FOISSIER, New York, N. Y.—*Amalgamator.*—June 25, 1867.—The pulp is poured into the hopper and then falls successively from pan to pan through the whole vertical series, which consists of alternate circular revolving pans attached to the shaft, and annular pans attached to the casing. Each pan is filled with mercury, and beneath each is a stirrer which operates on the one beneath it.

Claim.—First, the arrangement of the circular revolving and annular stationary pans, the same being constructed as described, so that the water containing the ore may fall from top to bottom of the apparatus in a zigzag line, and be thus distributed over the whole surface of the mercury, as set forth.

Second, the stirrers L, when secured to the under side of the pans G and H, and when they are constructed and operate substantially as and for the purpose herein shown and described.

Third, an amalgamator made and operating substantially as herein shown and described.

66,143.—WILLIAM P. FRENCH, Washington, Iowa.—*Band Cutter for Threshing Machine.*—June 25, 1867.—The upper and under rotary cutters are adjustable vertically and longitudinally to suit the size of the sheaf.

Claim.—The double adjustability caused by the means substantially herein set forth.

66,144.—DANIEL GILBERT, Carbondale, Ill.—*Shovel Plow.*—June 25, 1867.—The standard is stepped in the sole bar, and the two are united by an inclined bar which rests in a groove of the share above.

Claim.—First, forming the shovel or plow plate F with a groove or notch in the under side of its upper part to fit upon the bar E, substantially as herein shown and described and for the purpose set forth.

Second, the combination and arrangement of the bar E, with the upright C, and horizontal or ground bar D, substantially as herein shown and described and for the purpose set forth.

66,145.—JOEL E. GILES and CHARLES S. McROBERT, Mead's Mills, Mich.—*Potato Digger.*—June 25, 1867.—The axle is bent into a crank form at each end and so connected to the frame that the latter may be raised by its oscillation, which is accomplished by a lever proceeding upward therefrom, and connected by a chain to the rear bar of the frame. The screen is shaken laterally by connection with the axle.

Claim.—First, the digger H and screen J, constructed substantially as herein shown and described, in combination with each other and with the frame A, as and for the purpose set forth.

Second, the combination of the axle C, lever E, and chain F, with each other and with the frame A, substantially as herein shown and described, for the purpose set forth.

Third, operating the screen J from the drive wheel or wheels D, by means of the bevel gear wheel N, wheel O, shaft P, wheel S, and arm U, substantially as herein shown and described.

66,146.—ANDREW GOODYEAR, Springport, Mich.—*Wood Turning Lathe.*—June 25, 1867.—The roughing cylinder has molding-shaped cutters and rotates in a frame hinged to the lathe bed. The smoothing cutters are on a slide rest and are brought in contact with the hub when the latter is rotating with increased velocity.

Claim.—First, the combination in one machine for turning wagon hubs of the sets of cutters, one set of which may be brought into action for roughing out the hub and a second set then brought into action for the purpose of finishing the hub, the mechanism thereof being constructed and arranged to operate substantially as set forth.

Second, the combination of the yoke from D, hinged to the main frame A, roughening cylinder C, arm a, rod r², spring s, said parts being respectively constructed and arranged substantially as described.

Third, so arranging the operating mechanism of the two sets of cutters that the roughening cutters shall revolve at a high speed at the same time that the hub subjected to its action revolves slowly, and the adjustable finishing cutter fixed upon slides shall act upon the hub when made to revolve at an increased speed, substantially in the manner set forth.

66,147.—CHARLES H. GOULD, New York, N. Y.—*Billiard Cue.*—June 25, 1867.—A nut of hard rubber capped with soft rubber is screwed on the cue.

Claim.—In combination with a billiard cue I, the use or employment of a tip formed of hard and soft rubber, substantially as and for the purpose herein fully described.

66,148.—H. C. HARDY, Muncie, Ind.—*Table.*—June 25, 1867.—When the flap is lifted the weights extend the supporter; the latter may be withdrawn by the crank and cord.

Claim.—The weights D D and the levers e e, in combination with the supporters C C, arranged and operating substantially as and for the purposes herein described.

66,149.—EDWARD S. HARRIS and SYLVANUS S. ROBINSON, Morrison, Ill.—*Apparatus for Drawing and Weighing Liquids.*—June 25, 1867.—The gate of

the faucet is connected to a scale upon which the receiving vessel is placed, so that the falling of the latter, owing to the flow of the liquid, shall close the faucet.

Claim.—First, the faucet A and gate B, when so arranged in combination with one another and with a trigger and other connecting mechanism that the gate shall be closed automatically when the trigger is tripped, substantially as and for the purpose set forth.

Second, the faucet A, gate B, bow C, and spring D, in combination with the trigger E, lever F, stop G, and spring H, arranged to operate substantially as set forth.

66,150.—GEORGE HAVELL, Newark, N. J.—*Bag Hinge.*—June 25, 1867.—The sleeve of the outer leaf is slipped and secured upon the hub of the inner one, and the ends of the jaw frames are secured to them respectively, one shutting within the other.

Claim.—First, the metallic ornamental plate B, having either an opening or stem in its end for connecting it to the bar C, which bar is provided with a cylindrical head *d*, or band, as described, so that when thus connected to the frame A' they form a neat and substantial hinge, as specified.

Second, the bar C and plate B, constructed substantially as herein described and used for the purposes specified.

66,151.—GEORGE HEATH, Little Falls, N. Y.—*Canal Lock.*—June 25, 1867.—The water is admitted to the lower level through valves in front of the gate instead of through gate or passages in the walls. With this improvement the tumble or the swinging gate may be used.

Claim.—The mode substantially as herein described of filling canal locks.

66,152.—JOSEPH HUBBELL, Zanesville, Ohio.—*Head Block for Saw Mills.*—June 25, 1867.—The hand lever is connected to the sliding bar, to which adjustable blocks are affixed. These blocks have inclined slots traversed by the friction rollers attached to the push bars, which are pivoted to the pawls operating the racks.

Claim.—The slotted plates *d d*, made fast on the setting bar *a*, in combination with the friction rollers *i i* on the end of the pushing bars *g g*, the pawl *m* with the rack *h*, constructed, arranged and operating as and for the purposes herein described.

66,153.—JOHN H. IRWIN, Chicago, Ill.—*Apparatus for Carbureting Air.*—June 25, 1867.—Above the lamp chimneys are pipes which conduct heated air to the carbureting chamber above, whence it flows down the central pipe to supply the burners. The two carbureter chambers have heavier and lighter hydro-carbons respectively, the latter being used to start the apparatus and then stopped off.

Claim.—First, the combination of a carbureting device with a chandelier, bracket, or a portable lamp, when arranged and operating substantially as described.

Second, in combination with a chandelier, bracket, or portable lamp, two carbureting vessels to contain two different grades of hydro-carbon oil, substantially as and for the purposes specified.

66,154.—CALEB LEE, Sandy, Ohio, assignor to himself and JOSHUA LEE, same place.—*Harvester.*—June 25, 1867.—The crank shaft rotates in bearings attached to the drag bar, and the latter is jointed on the transverse driving shaft and the brace rod, the latter being jointed on the said driving shaft. These connections allow vertical movement or oscillation in the drag bar.

Claim.—The combination and arrangement of the frame A, drag bar I, having the bearings J J for the crank shaft II, and provided with double joints K, jointed brace L, shoe M, and crank lever N, all constructed and operated in the manner and for the purpose set forth.

66,155.—JOHN T. LEGG, Lewis county, Mo.—*Gang Plow.*—June 25, 1867.—The rear ends of the plow beams and the outer corners of the mold boards are connected to bell crank levers for vertical adjustment. The tongue is hooked to the frame of the plow

beams, and has a strap confining it to the end of a short tongue of the upper frame.

Claim.—First, the plows A A', beams *e e'*, rods F F' and G G', the compound lever H H', lever handles K K', and ratchets M M', arranged, combined and operating for the purpose and in the manner substantially as described.

Second, the lever *n n'* and ratchet *m m'*, arranged, combined and operating for the purpose and in the manner described.

Third, the stay chains P P', the beams E E', the tongue Q, the strap R, and the stiffening pole S, arranged, combined and operating in the manner and for the purpose as heretofore described.

66,156.—KELLOGG H. LOOMIS, Cincinnati, Ohio, assignor to CORNELIUS VAN BRUNT, Fishkill, N. Y.—*Valves of Steam Engine.*—June 25, 1867.—The plug valves are operated by cams on the governor rod, by rods passing through cylinders containing springs, which keep said rods in contact with the cams. The upper cam operating the induction and cut-off valves is adjustably eccentric and conical in form, so that the raising of the rod decreases the throw of the valve.

Claim.—First, the case or seat B, constructed as described, and arranged within a conical opening in its frame, and provided with a tapering plug valve C, said valve being provided with a transverse hub at its center and with longitudinal slots on each side of said hub, the steam openings being uniform at their intersection, but made flaring from this point outwards and inwards, as specified, the whole being arranged as and for the purposes set forth.

Second, the arrangement of the conical spiral cams L and I upon the vertical governor shaft, in combination with the tapering plug valves J' J', for regulating the flow of steam to and from the cylinders in the manner herein specified.

Third, the valve seat B, with central supports *b b* bearing upon the cones *f f*, when arranged in combination with the valve C, in the manner and for the purposes specified.

66,157.—F. LUNKENHEIMER, Cincinnati, Ohio.—*Steam Engine Oil Cup.*—June 25, 1867.—The bolt is attached to the bottom of the cup and the cap of the latter screws on the head of the bolt. Air is admitted by raising the cap; the flow of melted tallow is governed by the stop cock.

Claim.—First, the hand wheel nut and cap formed of the parts marked A A' and A'', arranged and combined substantially as described.

Second, the screw bolt B attached to the bottom of the chamber C, by which the cup and parts attached to the cup are confined, substantially as shown and described.

66,158.—E. C. MALTYB and EDWARD SMITH, Northford, Conn.—*Confection.*—June 25, 1867.—Grated kernel of the cocoa-nut 60 parts is mixed with sugar 20 parts and the composition dried.

Claim.—A new and useful confection, composed of the meat of cocoa-nut prepared in the manner substantially as herein set forth.

66,159.—CHELTON MATHENY, Greensburg, Ind.—*Ditching Machine.*—June 25, 1867.—The earth is taken up in circumferential recess between the sectional rim plates of the wheel, being bound therein by the radial spades which are projected to engage and retracted to free the earth by fixed cams upon the frame. The inclined scraper removes the earth from the recess and deposits it beside the path of the machine. The excavator frame is adjustable on the wheel frame.

Claim.—First, in a ditching machine the revolving excavating wheel D, armed with two circumferential cutters J J' and a series of radial knives F, the latter being automatically advanced and retracted by the cams H and I, as and for the purpose herein described and set forth.

Second, the inclined scraper L l, when used in combination with the wheel D, knives F, cams H I, and cutters J J', for the wheel of the excavated earth in the manner explained.

Third, the pair of revolving cutters or coulters M, operating as described and for the purpose set forth, when used in combination with the aforesaid wheel D J J', knives F, and cams H and I.

Fourth, in combination with the wheel D J J', knives F, and cams H I, the shovel or scoop N, for the object herein explained and set forth.

66,160.—W. W. MAUGHLIN, Baltimore, Md.—*Sash Fastener.*—June 25, 1867.—The latch has an offset underneath the sash bead to bring it to the surface of the casing inside the sash.

Claim.—First, the latch or lever A, provided with the offset c arranged to work underneath the sash bead and in such manner as to avoid the cutting away or defacing of the jamb or casing outside of said bead, substantially as described.

Second, the latch or lever A, provided with the offset c and lugs or clamp a a', arranged and operating as described.

66,161.—HENRY McDONOUGH, New York, N. Y.—*Damper in Steam Boilers.*—June 25, 1867.—The front and rear flues have dampers by which the calorific current may be forced to traverse and re-traverse the tubes of the generator. The dampers are connected together by chains passing through the flues to secure a simultaneous action.

Claim.—The valves D and E, arranged and operating substantially as herein shown and described, in combination with a tubular steam boiler for the purposes specified.

Also, the valves E, opened and closed by means of the weight d and chains a a' operated from the valve D, by the rod G, as herein set forth for the purpose specified.

Also, the partition plate C' in combination with the valves for the purpose set forth.

66,162.—M. MCENERNY, Birmingham, Conn.—*Washing Machine.*—June 25, 1867.—The treadle gives a rotary motion to one disk against which the clothes are pressed by the other disk; the latter is adjusted by the hand lever.

Claim.—First, the combination and arrangement of the vertically arranged plates or disks E E' fitting one within the other, one plate having a lateral adjustment, the other plate having a rotary motion, all substantially as herein shown and described.

Second, the hopper h, in combination with the disk or plate E', for inserting the clothes in the machine, substantially as described.

Third, the soap device constructed as described, consisting of the projecting pocket f in the disk E, cap f', and set screw g, in combination with the disk E', as herein set forth for the purpose specified.

Fourth, the treadle device constructed as described, arranged to operate with the disks E E' and lever F, as herein set forth for the purpose specified.

Fifth, the combination of the lever F with the disk or plate E, substantially as and for the purpose described.

Sixth, the combination of the removable tub K with the disks E E' and the tub A, substantially as and for the purpose herein shown and described.

66,163.—SAMUEL MILLS and J. R. McIRVIN, Clinton, Ill., assignors to JAMES J. ROBINSON, same place.—*Wheelerights' Machine.*—June 25, 1867.—The hub is held to a notch by an adjustable lever arm and the spokes scribed to a circle by a pin on a slide gauge. For dishing, the hub is held between two conical blocks which enter its socket, and the spokes rest in the recess of an arm of the adjustable gauge.

Claim.—The stock A, with the notch c, adjustable arm D, and graduated end b, slide B, provided with pin a and pointer K, arm G, and slotted plate F, arranged to operate substantially as herein set forth for the purpose specified.

66,164.—JOHN D. MUNSON, Tyre, N. Y.—*Sheep Rack.*—June 25, 1867.—The hay rack and grain trough with their supporting frame are so connected that the parts are detachable for stowage or transportation.

Claim.—First, the combination of the pivoted slot frames or racks C and D, with frames A and B, substantially as herein shown and described and for the purposes set forth.

Second, the combination of the division boards or frames E and F, with the frames A and B, of the rack, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the hinged boards G I

and H J, with the frames A and B, and with the division boards or frames E and F, substantially as herein shown and described and for the purpose set forth.

66,165.—J. W. NEAL and W. H. STARTZMAN, Big Lock, Va., assignors by mesne assignments to J. W. NEAL, Big Lock, Va., and HOWARD MUNNICK-HUYSEN, Baltimore, Md.—*Weighing Apparatus.*—June 25, 1867.—The article to be weighed is placed in the scoop which depresses the beam and rotates the shaft connected by belt thereto. The cam is brought in contact with the weighted cord and forces it further from the centre as the weight in the scoop is increased. The indicator finger on the shaft shows the weight upon the dial.

Claim.—The cam lever A, cord E, and weight f, connected to the shaft D, when used in combination with the beam B, and belt C, all the parts being arranged as specified.

66,166.—JOHN F. NEWHALL, Waltham, Mass.—*Needle Case.*—June 25, 1867.—The needles are stuck on a ribbon which winds on a shaft within the casing.

Claim.—The needle case constructed as described, consisting of the slotted cylindrical case B, in which the spindle D, is pivoted, whose outer end is provided with the conical knob E, the needle flannel F, and strip G, as herein set forth.

66,167.—JAMES M. NOBLE, Delhi, Iowa.—*Washing Machine.*—June 25, 1867.—The suds box rocks on rollers and the beater slips back and forth on the false bottom. Chambers beneath the bottom alternately receive and deliver water.

Claim.—First, the construction of the beater box B, containing the false bottom D, over which gravitating beater F, slides substantially as described, for the purpose specified.

Second, the combination and arrangement of the beater box B, false bottom D, beater F, and double water receptacle E, as herein set forth for the purpose specified.

66,168.—ALBERT OBER, Beverly, Mass., assignor to himself, JOHN T. OBER and SAMUEL F. OBER, same place.—*Toilet Glass.*—June 25, 1867.—The upper glass is supported by hinged sections in position to reflect a view of the back hair upon the glass placed in front of the person.

Claim.—The two mirrors H I, in combination with the series of folding frames C D E F, and when necessary the supporting frame G, hinging to the series of folding frames and attached to a box A, or any suitable base, all arranged substantially as and for the purpose set forth.

66,169.—H. W. PARSONS and L. L. WOOSTER, Whitney's Point, N. Y.—*Attachment for Spading Forks and Shovels.*—June 25, 1867.—The loop is used as a fulcrum in lifting the soil, and the handle is then rotated to deposit the spadeful of earth.

Claim.—The loop D, and the pin and collar C, with the spade or fork, as and for the purpose specified.

66,170.—HUDLESON PATTERSON, Augusta, Mich.—*Track Raiser for Railways.*—June 25, 1867.—The foot is placed on the foundation beneath the rail, and the sliding plate raised with the rail by the rotation of the screw.

Claim.—The arrangement of the pointed sliding shoe F, upon the end of the screw D, between the uprights A A, having a curved base C, and used for elevating railroad tracks in the manner as specified.

66,171.—J. B. POWELL and S. H. EVERETT, Macedon, N. Y.—*Gate.*—June 25, 1867.—A pinion attached to the bent pintle of the gate is rotated by the oscillation of the segment rack which is pivoted on the top of the post and moved by rods within reach of a traveler, without dismounting.

Claim.—The combination of the pivoting rod C, having a crank formed upon its upper part, and a pinion wheel c', attached to its upper end, the toothed and pivoted plate D, connecting rods G, and operating levers H, with each other, with the gate A, and posts B and F, substantially as herein shown and described and for the purpose set forth.

66,172.—ADRIAN RAISE, Waterbury, Conn., assignor to SCOVILLE MANUFACTURING COMPANY, same place.—*Machine for making Butt Hinges*.—June 25, 1867.—A single bending die is connected with co-operative machinery, and the blanks automatically and consecutively delivered by a hopper to the front of the die. The blank is first pressed on the edge to turn it up, and then by another movement the turn is continued until the knuckle is completed.

Claim.—The combination of the single bending die, the clamping gauge, the cams, the rock shafts and their arms, the pitman, the feeding apparatus, and the pushing slides, or the equivalents of them or either of them, the said combination being organized substantially as described.

66,173.—THOMAS S. ROBINSON, New York, N. Y.—*Handle Attachment for Blacking Boxes*.—June 25, 1867.—A handle of sheet metal is so pivoted to the bottom that it can be turned under the box or project therefrom.

Claim.—The handle B, pivoted at C, to the bottom *a*, or top b, when constructed, arranged, and operating as herein set forth.

66,174.—EDWARD H. ROE, Jersey City, N. J.—*Hand-saw*.—June 25, 1867.—The pressure of the screw on the back of the blade strains it and removes lateral kinks from the edge.

Claim.—The application of a screw or its equivalent to a back saw, substantially in the manner and for the purpose set forth.

66,175.—FRANCIS JOSEPH SCHELLMANN, Syracuse, N. Y., assignor to himself and THEODORE THURBER, Auburn, N. Y.—*Sad Iron Handle*.—June 25, 1867.—The wooden handle having a deflecting plate to protect the hand, and a spring catch for attachment, is thrust on the horizontal backwardly projecting pin of the handle stem.

Claim.—First, the shank A, as constructed in combination with the spring catch *a*, to hold the handle D on, and allow it to be easily removed for heating, substantially as and for the purpose herein set forth.

Second, the turned handle D, spring catch *a*, shield E, and shank C, as herein described, in combination with a flat or sad iron, substantially as set forth.

66,176.—JUDSON SCHULTZ, Ellenville, N. Y.—*Machine for Unhairing Hides*.—June 25, 1867.—Explained by the claims and illustration.

Claim.—First, the combination of the apron or belt E, wound upon or passing around the rollers G and H, with the knife cylinder B, substantially as herein shown and described, for the purpose set forth.

Second, the combination of the ratchet I, pawl J, pawl lever K, and rack L, with the journals of the apron or belt rollers G and H, for the purpose of holding or tightening the belt or apron F, and shifting its position, substantially as herein shown and described.

Third, arranging the apron or belt F, the knife cylinder B, and feed rollers D and E, with each other, substantially in the manner herein shown and described, so that the hides or leather may be fed to the knife cylinder B, in which the said knife cylinder is moving.

Fourth, arranging the gearing N O P R in the manner herein shown and described, so that the feed rollers D and E may be driven at a less velocity than the knife cylinder B, as and for the purpose herein set forth.

66,177.—JOHN V. H. SECOR, New York, N. Y., assignor to himself and JAMES D. SECOR, same place.—*Wrench*.—June 25, 1865.—The shank has ratchet teeth, presented in different directions. The socket of the movable jaw is oblique, and it is tipped by the spring to engage its edges with the ratchet teeth to fasten it in position; screws in the cheeks of the jaw traverse slots in the sides of the shank.

Claim.—The sliding jaw D, provided with the inclined or oblique opening *a*, and having the spring E attached, and the screws F passing through the sides of the jaw into the grooves *f*, in the sides of the shank A, in combination with the racks *e e*, in the rear and front sides of the shank, substantially as and for the purposes set forth.

66,178.—HENRY SIDLE, Minneapolis, Minn.—*Churn*.—June 25, 1867.—The radial arms of the dasher are triangular in section. The dasher is oscillated by a bevel segmental rack actuated by a lever, which engages a bevel pinion on the shaft.

Claim.—The arrangement of the box A, provided with ribs on its inner side, dasher B, with its arms C C, as constructed, supports D D, with wheel F and vertical handle H, for operating cog G on end of dasher shaft, in the manner and for the purposes specified.

66,179.—HENRY T. SMITH, Brooklyn, N. Y.—*Step Ladder*.—June 25, 1867.—The extension parts are connected by straps to the ordinary parts, and are sustained to any adjustment by traverse pins.

Claim.—The combination of the extension parts G and J and guide straps H I K L with the ordinary parts A and B of a step ladder, substantially in the manner herein shown and described, and for the purpose set forth.

66,180.—JOEL J. SMITH, Barnesville, Ohio.—*Sheep Feeding Rack*.—June 25, 1867.—The bottom boards are pivoted, and are upset to discharge offal. The troughs may be raised out of reach of the sheep. The pivoted boards above may be arranged to direct the feed centrally or to divide it to the troughs.

Claim.—First, the pivoted bottom B B, in combination with a sheep rack, in manner substantially as and for the purposes described.

Second, the combination of the rack and adjustable troughs, in manner substantially as herein shown and described.

Third, the troughs C, adjustable by the bell cranks and lever arrangements, in manner and operating substantially as above set forth and described.

Fourth; the pivoted shield H, in combination with troughs C, in manner and operating substantially as and for the purposes described.

66,181.—L. SMITH, Strongsville, Ohio.—*Washing Machine*.—June 25, 1867.—A series of beaters, grooved at the end, are connected to a compound crank shaft, and reciprocate on the inclined bottom. The beaters may be thrown back out of the sub-box when desired.

Claim.—First, the series of beaters B, as arranged in relation to the spring-board G, rib H, and springs J, in combination with the inclined bottom, and operating conjointly, substantially as and for the purpose set forth.

Second, the elastic cushion Q and block P, arranged in relation to the links D and spring M and crank, and applied as and for the purpose set forth.

66,182.—LUCIEN B. SMITH, Kent, Ohio.—*Wire Fence*.—June 25, 1867.—The hubs are armed with points, and are sleeved upon the wires. They are prevented from slipping out of place by the short bends in the wire.

Claim.—The construction of a wire fence provided with rotary spools *e e*, having radial spurs *d d*, and supported by cast-iron posts A, arranged as and for the purpose described.

66,183.—DANIEL B. SPENNING, Brooklyn, N. Y.—*Fruit and Poultry Box*.—June 25, 1867.—The sides, top, and ends of the box are secured by staples, eyes, and hooks, to contain fruit, &c., and the parts fold upon each other for transportation.

Claim.—First, the manner of connecting the cover to the back C' of the box by means of staples *e e* and slotted plates *g g*, substantially as herein shown and described.

Second, a folding box, when made of the pieces A B B C C' D and E, all being hinged, connected, and fastened substantially in the manner herein shown and described.

66,184.—CALEB S. STEARNS, Marlboro', Mass., assignor to himself and W. E. C. WORCESTER, same place.—*Machine for Trimming Heels of Boots and Shoes*.—June 25, 1867.—The rotating table has upright frames, each having bearings for a plate carrying the heel, which rotates in contrary direction to the knife. The heel is unclamped automatically, to admit of removal when carried back from the knife.

Claim.—The revolving table F, with its swinging

frames T, operated by mechanism substantially as described for traversing the heels to and from the knife, and for holding them in position while being trimmed, substantially as set forth.

Also, the shafts E, with their gears D, revolved by the toothed portions *b b'* of the annular ring C, in combination with the pins *s s*, and their plates U V, or other suitable mechanism for producing the required revolution of the heels, substantially in the manner set forth.

Also, the incline 10, for raising the plates U, which support the heels for the purpose of holding them firmly in position between said plates U and yielding pressure plates V, substantially as set forth.

66,185.—R. H. ST. JOHN, Bellefontaine, Ohio, assignor to J. W. RUSSELL and D. S. COVERT, New York City.—*Marking Attachment for Sewing Machines.*—June 25, 1867.—The marker is attached to the presser foot, and is operated by the needle bar, which in its descent strikes against the dog, which marks the cloth in a line parallel with the stitches.

Claim.—The spindle E, having dog or foot piece K, marker H, spring M, screw J, holder B, and presser foot A, when constructed and arranged as herein set forth for the purpose specified.

66,186.—JAMES F. SWINNERTON, Marion, Ohio. *Horse Rake.*—June 25, 1867.—The machine is steadied and controlled by handles attached to the rear of the shaft; the draft is applied to the hook and pivoting pin jointly. The hay is collected on the rack and drawn thereon to the stack.

Claim.—The combination of the plate or socket L, hook M, and ring N with each other and with the tongue K and frame F G, substantially as herein shown and described and for the purpose set forth.

66,187.—CHARLES M. TANNER, Mentor, Ohio.—*Extension Scaffold.*—June 25, 1867.—After the platform has been raised by the ropes of the lower windlass, the upper one is drawn tight to steady it. The hinged side-frames are swung out 90° to act as braces.

Claim.—First, the windlass A, guy ropes A' and A², in combination with the platform H, operating substantially as and for the purpose specified.

Second, the swing braces D¹, hinged to and in combination with the main frame, as described, and operating as and for the purpose set forth.

66,188.—H. S. TOWNSEND, Greenvale, Ill.—*Seed and Grain Sieve.*—June 25, 1867.—The sieve is supported by longitudinal wires beneath and extends beyond the end of the casing; an inclined board beneath the sieve returns the grain and directs it on to the usual grain board.

Claim.—First, extending the screen D of a grain or seed separator or threshing machine beyond the ordinary grain shoe; and supporting its outer end by an additional shoe E, substantially as and for the purpose herein shown and described.

Second, the application of the wire braces *c c* below the netting of a wire screen D, for the purposes set forth, and substantially as herein shown and described.

66,189.—EBENEZER TUTTLE, Canaan, Me.—*Water Wheel.*—June 25, 1867.—The wheel rotates in a horizontal plane and discharges outwardly. The gate slides vertically, rotates with the wheel, and has a series of horizontal projections on its lower edge, which enter spaces between the brackets to adjust the capacity of the wheel. Water is admitted below a circular disk beneath the seat of the wheel to support the latter.

Claim.—The regulator C and disk D, arranged in relation to the gate G and wheel A, substantially as and for the purpose set forth and described.

66,190.—JOHN VANDERCAR, Brooklyn, N. Y., assignor to T. S. SPERRY, same place.—*Feed Bag.*—June 25, 1867; antedated June 20, 1867.—Between the wooden bottom and the cloth top is an intervening section of wire gauze. The edge of the cloth top is folded down inside and furnished with a rubber drawing.

Claim.—The internal bag E, extending downward and inward from the top of the structure, and provided with the spring *e*, arranged to operate relatively

to the internal bag E, and to the perforated exterior casing B, substantially as and for the purpose herein set forth.

66,190.—JOSEPH WALL, New York, N. Y.—*Signal Lamp.*—June 25, 1867.—The box has a disk, which rests on a similar disk of the stand. The disks are perforated near the periphery with vertical holes, a pin entering the holes to fix the box to any adjustment in a horizontal plane. The annular cases around the lamps have sections of different colored glasses for signaling.

Claim.—The box A, having cases B fitted in it, provided with different colored glasses *a b c* and an opaque or dark section *d*, and enclosing lamps or lights, the cases being placed before openings in the box, and all arranged substantially as and for the purpose specified.

Also, the placing of the box A on a revolving stand, constructed and arranged substantially as and for the purpose set forth.

66,192.—W. WALLICK, Philadelphia, Pa., assignor to himself, S. F. PRINCE, and H. K. SMITH, same place.—*Machine for Feeding Nail Plates.*—June 25, 1867.—The plates are automatically withdrawn from the receptacle and fed to the machine. The devices are cited in the claims.

Claim.—First, the nippers L, constructed substantially as described, in combination with the devices herein set forth, or the equivalent to the same, whereby the reversing and reciprocating and vertical vibrating motion are imparted to the said nippers, as and for the purpose herein set forth.

Second, the said nippers L, having the above specified movements, in combination with a bed plate F, by which the nippers are carried, and with the devices herein described, or their equivalents, by which the said bed plate and its nippers are advanced at uniform intervals, for the purpose described.

Third, the recessed brackets S S, or their equivalents, for holding the strips to be converted into nails, in combination with the sliding frame T and its shoulder and the mechanism described, or its equivalent, for operating the frame and causing the latter to move the lowest of the strips within the range of the nippers, as set forth.

Fourth, the nippers, constructed substantially as described and connected to the spindle J, in combination with the cam-like plate P, hung to the said spindle and operated by the moving bed plate through the mechanism described, or its equivalent, so that the said plate P may open the jaws of the nippers and permit the same to be self-closed, in the manner and for the purpose specified.

Fifth, the segmental pulley I, carried by the moving bed F, and arranged to operate the spindle J through the medium of straps *q* and *q'*, or their equivalents, in combination with the vibrating plate H and its pointed projection.

66,193.—NORMAN W. WHEELER, Brooklyn, N. Y.—*Flexible Coupling.*—June 25, 1867.—A modification of the gimbal joint, in which the wear of the parts is compensated for by a means of taking up the lost motion; the abutting faces of the semi-circular clamps being filed and refitted to bring the chock pieces against the trunnions.

Claim.—First, the combination of the coupling heads B B, chock pieces *f f f f*, and clamp ring D D, substantially as and for the purposes described.

Second, in combination with the above, dividing and constructing the chock pieces *f f f f* and *f² f² f²*, substantially as and for the purpose described.

66,194.—NORMAN W. WHEELER, Brooklyn, N. Y.—*Surface Condenser.*—June 25, 1867.—The pressure of the water in the annular space withdraws the plunger against the pressure of its spring and opens an annular orifice in the nozzle, through which the cold water is ejected against the condensing surface.

Claim.—The combination of the above described discharge nozzle with a surface condenser.

66,195.—HIRAM M. WHITE, Olney, Ill.—*Washing Machine.*—June 25, 1867.—Hooks on the frame of the machine engage staples in the sides of the tub. The pressure on the upper roll is adjusted by the screw bolt, whose head bears upon the spring.

Claim.—First, the roller washing machine B C D F, provided with attaching devices to secure it within a common wash tub, substantially as described.

Second, in connection with the above, the pressure device F G H J, in combination with the rolls D and frame B V, as and for the purpose specified.

66,196.—AUGUSTUS WILLIAMS, Sebec, Me.—*Planting Hoe.*—June 25, 1867.—On the back of the blade is a box, from which the seed is discharged when the trigger is pulled.

Claim.—A planting hoe, composed of the parts herein shown and described, when combined and arranged to operate substantially as and for the purposes set forth.

66,197.—F. A. WILLIAMS, Cloverville, N. Y.—*Supporter for Elevated Railways.*—June 25, 1867.—The sleepers are supported on a row of central columns, each of which is founded on a base piece; side supports of wrought iron are also planted in the base piece, and branching above are notched into the sleeper to sustain it.

Claim.—The construction of the posts A, consisting of a combination of the bed plate D, central post C, side supports E, and braces F with the sleeper B, all made substantially as and for the purpose herein shown and described.

66,198.—CORNELIUS L. WILLIS, Washington, D. C.—*Door Stop and Latch.*—June 25, 1867.—The edge of the door passes the spring catch and impinges against the yielding stop. The latter is a pin projected by a spiral spring.

Claim.—The yielding stop, as constructed, in combination with a spring catch or hook, operating in the manner substantially as herein described, for the purpose set forth.

66,199.—WILLIAM V. V. WILSON, Savannah, Ga.—*Pill Machine.*—June 25, 1867; antedated June 21, 1867.—The side bars of the frame which form tracks for the rubber board are vertically adjustable, so as to determine the distance apart of the corrugated faces.

Claim.—The adjustable rails C, in combination with the board A and rubber B, substantially as and for the purpose described.

66,200.—ISRAEL WING, Earlville, Iowa.—*Sulky Plow.*—June 25, 1867.—The beams project forward to form the tongue, and are hinged to the axletree. The inner standards are carried up in form of handles, their attachment allowing of movement by the operator.

Claim.—First, the combination of the inclined tongues C with each other, with the double tree D and axle B, substantially in the manner herein shown and described and for the purpose set forth.

Second, the combination of the plow standards G and H, bars I and chains K with each other and with the tongues C, substantially in the manner herein shown and described and for the purpose set forth.

66,201.—C. W. STAFFORD, Saybrook, Conn.—*Pavement.*—June 25, 1867; antedated March 27, 1867.—The blocks have gains on their vertical faces, which are occupied by wooden keys and a number of associated blocks and banded together by an iron strap.

Claim.—First, the constructing of sections of pavement, composed of metallic bands, grooved blocks of wood and keys, substantially as and for the purpose set forth and described.

Second, a pavement made up of sections of wooden blocks, substantially as described for the purpose specified.

66,202.—HENRY VALENTINE SCATTERGOOD, Albany, N. Y.—*Cotton Gin.*—June 25, 1867.—The teeth are needle-pointed, and set obliquely to the radial lines of the ginning cylinder, which is composed of segments of rings, which admit of separate removal. The cotton is doffed by a brush cylinder, and received by and condensed between two smooth cylinders, which make it into a bat, and allow the dust to pass off.

Claim.—First, a ginning cylinder, formed with circular ribs or projections, containing or supporting the teeth, said ribs or projections being elevated above the other portion of the surface of the ginning cylinder, and thus leaving grooves for the reception of the guards, substantially as specified.

Second, forming the ginning cylinder of a series of rings, between which rings or segment of rings containing teeth are secured, substantially as specified.

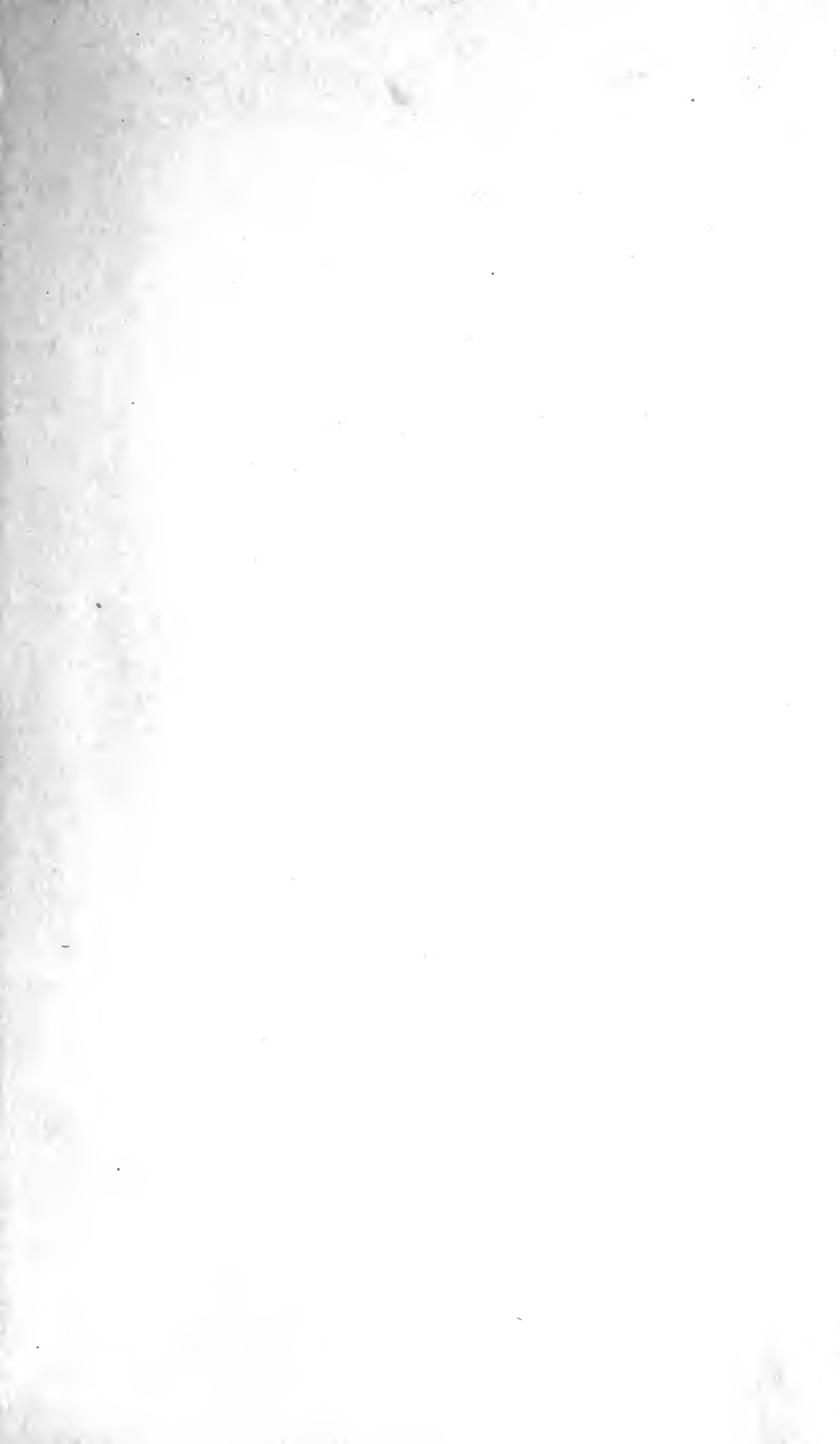
Third, in combination with a cylinder carrying circular ranges of needle-pointed teeth, the guards R, formed with openings to their upper ends, as and for the purposes specified.

Fourth, attaching the delivering or doffing roller upon arms extending from the axis of the perforated condensing roller or cylinder, so that said delivery roller is allowed to raise and accommodate the thickness of the bat, and is kept properly in contact with the condensing cylinder as set forth.

Fifth, in combination with the condensing roller or rollers, formed with smooth perforated surfaces, the screen V and brush blower B for conveying the cotton to the condenser, as specified.

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